SOLICITATION, OFFER AND AWARD	1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE OF PAGES
			1 of 68

2. CONTRACT NUMBER	3. SOLICITATION NUMBER	4. TYPE OF SOLICITATION	5. DATE ISSUED	6. REQUISITION/PURCHASE NUMBER
DE-EM0003760	DE-SOL-0006331	☐ SEALED BID (IFB) ☒ NEGOTIATED (RFP)	10/14/2014	15EM001881

7. ISSUED BY	CODE	8. ADDRESS OFFER TO (If other than Item 7)
EMCBC U.S. Department of Energy EM Consolidated Business Center 250 E. 5th Street, Suite 500 Cincinnati OH 45202	03001	Reference Provision L.16, Time, Date, and Place Offers and Proposal Information Are Due

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and Refer to provision L.30 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if hand carried, in the depository located in Refer to provision L.16 until 1600 ET (Hour) local time 12/23/2014 (Date)

CAUTION: LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE (NO COLLECT CALLS) AREA CODE	NUMBER	EXT.	C. E-MAIL ADDRESS
	CAROL S. JENNINGS	865	574-5563		jenningscs@emor.doe.gov

11. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
		PART I - THE SCHEDULE				PART II - CONTRACT CLAUSES	
☒	A	SOLICITATION/CONTRACT FORM	1	☒	I	CONTRACT CLAUSES	54-67
☒	B	SUPPLIES OR SERVICES AND PRICES/COSTS	4-14			PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.	
☒	C	DESCRIPTION/SPECS./WORK STATEMENT	15	☒	J	LIST OF ATTACHMENTS	68
☒	D	PACKAGING AND MARKING	16			PART IV - REPRESENTATIONS AND INSTRUCTIONS	
☒	E	INSPECTION AND ACCEPTANCE	17	☒	K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
☒	F	DELIVERIES OR PERFORMANCE	18-19				
☒	G	CONTRACT ADMINISTRATION DATA	20-23	☒	L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
☒	H	SPECIAL CONTRACT REQUIREMENTS	24-53	☒	M	EVALUATION FACTORS FOR AWARD	

OFFER *(Must be fully completed by offeror)*

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within 240 calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232.8)	10 CALENDAR DAYS (%)	20 CALENDAR DAYS (%)	30 CALENDAR DAYS (%)	CALENDAR DAYS (%)
	NET 30			

14. ACKNOWLEDGEMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE
	000001	11/25/2014	000003	12/15/2014
	000002	12/04/2014	000004	12/16/2014

15A. NAME AND ADDRESS OF OFFEROR	CODE	FACILITY	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)
North Wind Solutions, LLC 320 North Cedar Bluff Road, Suite 220 Knoxville, TN 37923-4524	6ZU55	11817	John M. Bukowski President

15B. TELEPHONE NUMBER AREA CODE	NUMBER	EXT.	15C. CHECK IF REMITTANCE ADDRESS ☒ IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE.	17. SIGNATURE	18. OFFER DATE
	(865) 705-9804			John M. Bukowski	6/18/2015

AWARD *(To be completed by government)*

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION
	$123,891,699.00	See Schedule

22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:	23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM
☐ 10 U.S.C. 2304 (c) ( ) ☐ 41 U.S.C. 253 (c) ( )		

24. ADMINISTERED BY (If other than Item 7)	CODE	25. PAYMENT WILL BE MADE BY	CODE
See Schedule G	00518	See Schedule G	00512

26. NAME OF CONTRACTING OFFICER (Type or print)	27. UNITED STATES OF AMERICA (Signature of Contracting Officer)	28. AWARD DATE
Michael Kaszyca Jr		6-18-2015

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

AUTHORIZED FOR LOCAL REPRODUCTION
Previous edition is unusable

STANDARD FORM 33 (Rev. 9-97)
Prescribed by GSA - FAR (48 CFR) 53.214(c)

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Tax ID Number: 80-0651341 DUNS Number: 079150498 Transuranic Waste Processing Center (TWPC) Operations Contract Award Payment: OR for Oak Ridge/OSTI U.S. Department of Energy Oak Ridge Financial Service Center P.O. Box 6017 Oak Ridge TN 37831				
00001	CLIN 1 - Transition Obligated Amount: $528,528.00 Accounting Info: Fund: 01250 Appr Year: 2015 Allottee: 30 Report Entity: 471999 Object Class: 25102 Program: 1111564 Project: 0001121 WFO: 0000000 Local Use: 0000000 Funded: $528,528.00				528,528.00
00002	CLIN 2 - Project Management and Facility Maintenance Line item value is:$45,711,509.00 Incrementally Funded Amount: $0.00 Accounting Info: 0 Fund: 00000 Appr Year: 2015 Allottee: 00 Report Entity: 000000 Object Class: 00000 Program: 0000000 Project: 0000000 WFO: 0000000 Local Use: 0000000 Funded: $0.00				45,711,509.00
00003	CLIN 3 - Waste Processing Operations Line item value is:$27,971,690.00 Incrementally Funded Amount: $0.00 Accounting Info: 0 Fund: 00000 Appr Year: 0000 Allottee: 00 Report Entity: 000000 Object Class: 00000 Program: 0000000 Project: 0000000 WFO: 0000000 Local Use: 0000000 Funded: $0.00				27,971,690.00
00004	CLIN 4 - Container Management & Loading				20,000,000.00
00005	CLIN 5 - Option Period 1 - NFS Soils CH Amount: $2,199,875.00(Option Line Item)				2,199,875.00
00006	CLIN 6 - Option Period 1 - S&M (Warm Standby) Continued ...				8,531,728.00

NAME OF OFFEROR OR CONTRACTOR
NORTH WIND SOLUTIONS, LLC

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Amount: $8,531,728.00(Option Line Item)				
00007	CLIN 7 - Option Period 1 - Facility Decontamination & Downgrading Amount: $12,402,995.00(Option Line Item)				12,402,995.00
00008	CLIN 8 - Option Period 1 - S&M (Cold Standby) Amount: $6,545,375.00(Option Line Item)				6,545,375.00

U.S. DEPARTMENT OF ENERGY
OAK RIDGE OFFICE

CONTRACT DE-EM0003760
TRANSURANIC WASTE PROCESSING CENTER (TWPC) CONTRACT

CONFORMED COPY (MODIFICATION 0028)

JULY 21, 2017

CONTENTS

ACRONYMS

AAAP	Accelerated Access Authorization Program
ACO	Administrative Contracting Officer
ANSI/EIA	American National Standards Institute/Electronics Industries Alliance
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
CAGE	commercial and government entity
CH	contact-handled
CLIN	Contract Line Item
CTM	Contract Technical Monitor
CO	Contracting Officer
COR	Contracting Officer's Representative
CPAF	Cost-Plus-Award-Fee
CPARS	Contractor Performance Assessment Reporting System
CPP	Central Characterization Project
CS	Contract Specialist
CSRS	Civil Service Retirement System
CWBS	Corporate Work Breakdown Structure
DCAA	Defense Contract Audit Agency
DEAR	DOE Acquisition Regulation
DNFSB	Defense Nuclear Facilities Safety Board
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOL	U.S. Department of Labor
DPLH	Direct Productive Labor Hours
ECAS	Environmental Cost Analysis
ECES	Environmental cost Element Structure
EEPOICPA	Energy Employees Occupational Illness Compensation Program Act of 2011
EM	Environmental Management
EMCBC	EM Consolidated Business Center
EPA	U.S. Environmental Protection Agency
ES&H	environment, safety, and health
ESH&Q	Environmental, Safety, Health, and Quality
ESS	Electronic Submission System
FAR	Federal Acquisition Regulation

FCCOM	Facilities Capital Cost of Money
FCPA	Federal Compensation Program Act
FDO	Fee Determining Official
FERS	Federal Employees Retirement Systems
FFP	Firm-Fixed-Price
FLSA	Fair Labor Standards Act of 1938
FOCI	Foreign Ownership, Control, or Influence
FPRA	Forward Pricing Rage Agreement
FTE	full-time equivalent
FTR	Federal Travel Regulation
FY	Fiscal Year
FYWP	Fiscal Year Work Plan
G&A	General and Administrative
GAO	Government Accountability Office
HRP	Human Reliability Program
HQ	Headquarters
IGCE	Independent Government Cost Estimate
JC3	Joint Cyber Coordination Center
KPP	key performance parameter
LLC	Limited Liability Corporation
LSSO	Limited Site Specific Only
M	Million
NAICS	North American Industry Classification System
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act of 1969
NFS	Nuclear Fuel Services
NOV/NOAV	notice of violation/alleged violation
OCI	Organizational Conflict of Interest
OREM	Oak Ridge Office of Environmental Management
ORNL	Oak Ridge National Laboratory
ORO	Oak Ridge Office
PAAA	Price-Anderson Amendments Act of 2005
PARS II	Project Assessment and Reporting System
PDF	Portable Document Format
PEMP	Performance Evaluation and Measurement Plan

PII	Personally Identifiable Information
PWS	Performance Work Statement
QA	Quality Assurance
QAP	Quality Assurance Program
RFP	Request for Proposal
RH	remote-handled
S&M	surveillance and maintenance
SAM	System for Award Management
SBA	Small Business Administration
SEB	Source Evaluation Board
SF	Standard Form
TOEP	Total Overall Evaluated Price
TRU	transuranic
TWPC	Transuranic Waste Processing Center
U.S.	United States
VIPERS	Vendor Inquiry Payment Electronic Reporting System
WBS	Work Breakdown Structure
WD	wage determination
WIPP	Waste Isolation Pilot Plant
WSHP	Worker Safety and Health Program

SECTION A -
SOLICITATION/CONTRACT FORM (SF33)

PART I - THE SCHEDULE

SECTION B -
SUPPLIES OR SERVICES/PRICES

B.1 TYPE OF CONTRACT AND ITEMS BEING ACQUIRED

This is a hybrid contract with Firm-Fixed-Price (FFP) and Cost-Plus-Award-Fee (CPAF) Contract Line Items (CLINs), as well as an Indefinite Delivery/Indefinite Quantity (IDIQ) CLIN (CLIN 4), for the purpose of safely and compliantly managing and operating the Transuranic (TRU) Waste Processing Center (TWPC) Category II nuclear facility in support of processing Environmental Management (EM) legacy TRU waste. In addition, the Contractor shall perform surveillance and maintenance (S&M) activities and provide support to the Central Characterization Project (CCP) for final certification and disposition of TRU soil and debris waste to the Waste Isolation Pilot Plant (WIPP). Further, the United States (U.S.) Department of Energy (DOE) requires processing of other remote-handled (RH)/contact-handled (CH) TRU waste originating from the Oak Ridge National Laboratory (ORNL). Additionally, Nuclear Fuel Services (NFS) soils will be certified by CCP on-site as the TWPC schedule allows. Any secondary waste generated from the overall TWPC waste operations will be managed safely and compliantly for disposition. The complete scope of work/requirements is contained in Section J, Attachment A, Performance Work Statement (PWS). **NOTE:** Clause Titles in contract Sections B-I that contain a CLIN reference are only applicable to work performed under that CLIN; if there is no CLIN reference, the clause applies to all CLINs.

B.2 COST/PRICE SCHEDULE

I. TRANSITION PERIOD						
CLIN #	Description	CLIN Type	Quantity	Unit of Measure	CLIN Value	
1	Transition - PWS J-A 1	FFP	53	Days	$573,528	
II. CORE REQUIREMENTS – BASE PERIOD						
CLIN #	Description	CLIN Type	Quantity	Unit of Measure	CLIN Value	
2	**Project Management and Facility Maintenance – PWS J-A 2**				**Unit Rate**	**Total Price**
2AA	"Year 1" (12/11/15 – 10/26/2016) J-A 2.1 through J-A 2.5	FFP	10.5	Months	$1,556,232.48/Month	($16,340,441)
2AB	"Year 2" (10/27/16 – 10/26/17) J-A 2.1 through J-A 2.8	FFP	12	Months	$1,919,036/Month	($23,028,432)
2AC	"Year 3" (10/27/17 – 10/26/18) J-A 2.1 through J-A 2.8	FFP	12	Months	$1,719,104/Month	($20,629,248)
2AD	Safety Basis Changes (J-A 2.6) 12/11/15 – 10/26/2016	FFP	10.5	Months	$206,553.90/Month	($2,168,816)
2AE	Programmatic Rigor (J-A 2.7) 12/11/15 – 10/26/2016	FFP	10.5	Months	$133,758.67/Month	($1,404,466)
2AF	Security (J-A 2.8) 12/11/15 – 10/26/2016	FFP	10.5	Months	$54,990.29/Month	($577,398)
2AG	Personnel Changes- Key Personnel, SCA Employees, Non-SCA Employees Stepdown	FFP	10.5	Months	$155,506/Month	($1,632,813)
2AH	Limited Access Gate Installation (J-A 2.9)	FFP	6	Months	$35,664/Month	($213,984)
2AJ	Fiber Optic Cable Installation (J-A 2.10)	FFP	2	Months	$55,335.50/Month	($110,671)
2AK	Removal of Excess Material (J-A 2.11)	FFP	1	Month	$96,426/Month	($96,426)

2AL	Bi-Annual Electrical Preventative Maintenance (J-A 2.12) Year 1	FFP	1	Month	$117,838/Month	($117,838)
2AM	Bi-Annual Electrical Preventative Maintenance (J-A 2.12) Year 3	FFP	1	Month	$116,675/Month	($116,675)
2AN	SWSA-5 Glovebox Design (J-A 2.13) Payment at 50% and Completion	FFP	2	Each	$72,517/Each	($145,034)
2AP	SWSA-5 Glovebox Installation (J-A 2.13) Year 1	FFP	3	Months	$95,758/Month	($287,274)
2AQ	SWSA-5 Glovebox Installation (J-A 2.13) Year 2	FFP	2	Months	$125,566/Month	($251,132)
2AR	SWSA-5 Glovebox Testing (J-A 2.13) Payment upon Completion	FFP	1	Each	$45,000/Each	($45,000)
2AS	Shipment of NFS Soils- At Start of Shipping	FFP	1	Job	$12,145/Job	($12,145)
2AT	Shipment of NFS Soils- At Completion of Shipping	FFP	1	Job	$25,000/Job	($25,000)
2AU	PAR Arm Shear Pin Design & Testing (J-A 2.5 8-A)	FFP	2	Months	$12,106.50/Month	($24,213)
2AV	Initial PAR Arm Shear Pin Replacement-Following Design & Testing (J-A 2.5 8-B)	FFP	1	Job	$14,416/Job	($14,416)
2AW	Planned/ Unplanned PAR Arm Shear Pin Replacements* (J-A 2.5 8-B & C) Year 2	FFP	2	Jobs	$14,417/Job	($28,834)
2AX	Planned/ Unplanned PAR Arm Shear Pin	FFP	3	Jobs	$14,813/Job	($44,439)

	Replacements* (J-A 2.5 8-B & C) Year 3					
2AY	PAR Arm Wrist Build Outs* (J-A 2.5 8-D) Year 2	FFP	2	Each	$39,101/Each	($78,202)
2AZ	PAR Arm Wrist Build Outs* Year 3	FFP	2	Each	$40,176/Each	($80,352)
2BA	Initial PAR Arm Wrist Build & Replacement During Hot Cell Outage (J-A 2.5 8-D)	FFP	1	Job	$55,875/Job	($55,875)
2BB	PAR Arm Wrist Replacements* (J-A 2.5 8-D) Year 2	FFP	2	Jobs	$7,113/Job	($14,226)
2BC	PAR Arm Wrist Replacements* (J-A 2.5 8-D) Year 3	FFP	2	Jobs	$7,309/Job	($14,618)
2BD	CCP Sampling Event* (J-A 2.3 Item 10) Year 2	FFP	12	Each	$10,000/Each	($120,000)
2BE	CCP Sampling Event* (J-A 2.3 Item 10) Year 3	FFP	8	Each	$10,000/Each	($80,000)
2BF	Hot Cell Outage (J-A 2.5 Item 9)	FFP	2	Months	$81,250/Month	($162,500)
2BG	Dunnage Pucks and Seal Protector for NS-15 and NS-30 (includes costs for the design, test, procure-ment, QA, install, and training to use the seal protector and dunnage pucks)	FFP	1	Job	$20,787/Each	($20,787)
2BH	Water Outage (all costs associated with UTB imposed water outage to fix water main leak for 2016)	FFP	1	Job	$10,175/Each	($10,175)
2BJ	Records Management – Phase 1 Year 2 (J-A 2.1 item 21.a)	FFP	6	Months	$39,490.17/Month	($236,941)

2BK	Additional CH Waste Processing Year 2 (Jun – Aug 2017)	FFP	3	Months	$124,689.67/Month	($374,069)
2BL	RESERVED					
2BM	Computer-based Firewall Upgrade	FFP	1	Job	$49,086/Each	($49,086)
2BN	DOE O 151.1D Implementation Years 2 & 3	FFP	14	Months	$19,335.86/Month	($270,702)
				Total CLIN 2 FFP	**~~$68,611,526~~$68,882,228**	
***Estimated Quantities: FAR Clause 52.211-18 Variation Estimated Quantities applies.**						

CLIN #	Description	CLIN Type	Quantity	Unit of Measure	CLIN Value ($/month)
3	Waste Processing Operations – PWS J-A 3	CPAF	34.5	Months	"Year 1" (12/11/15 – 10/26/16): Estimated Cost: $9,503,523 ($905,907.43/month) Max. Avail. AF: $285,106 ($27,152.95/month) Total CPAF: $9,788,629 ($932,250.38/month) "Year 2" (10/27/16 – 10/26/17): Estimated Cost: $15,756,779 $1,313,065/month) Max. Avail. AF: $452,841 ($37,736.75/month) Total CPAF: $16,209,620 ($1,350,802/month) "Year 3" (10/27/17 – 10/26/18): Estimated Cost: $9,950,221 ($829,185.08/month) Max. Avail. AF: $298,507 ($24,875.58/month) Total CPAF: $10,248,728 ($854,060.67/month)
				Total CLIN 3 CPAF	**Estimated Cost: $35,210,523** **Max. Avail. AF: $1,036,454** **Total CPAF:$36,246,977** **NOTE: The base fee is $0.**

CLIN #	Description	CLIN Type	Quantity	Unit of Measure	CLIN Value (IDIQ Ceiling Value)
4	Container Management & Loading – PWS J-A.4	FFP IDIQ	To Be Issued via Task Orders	N/A	$20,000,000

			(Ref. H.45, Task Ordering Procedure)		
Total CLIN 4 IDIQ Ceiling					**$20,000,000**

III. OPTIONAL REQUIREMENTS					
CLIN #	Description	CLIN Type	Quantity	Unit of Measure	CLIN Value
5	Option Period 1 - NFS Soils CH *Includes Project Management/Facility Maintenance (PM/FM) (NTE 2100 drums) – PWS J-A 5	FFP	2100	Drums	$1,047.56/drum
				Total CLIN 5 FFP	**$2,199,876**
CLIN #	Description	CLIN Type	Quantity	Unit of Measure	CLIN Value
6	Option Period 1 - S&M (Warm Standby) *Includes PM/FM Costs – PWS J-A 6	FFP	24	Months	"Year 4" (10/27/18 – 10/26/19): $4,218,146 ($351,512/month) "Year 5" (10/27/19 – 10/26/20): $4,313,582 ($359,465/month)
				Total CLIN 6 FFP	**$8,531,728**
CLIN #	Description	CLIN Type	Quantity	Unit of Measure	CLIN Value
7	Option Period 1 - Facility Decontamination & Downgrading *Includes PM/FM costs – PWS J-A 7	FFP	24	Months	"Year 4" (10/27/18 – 10/26/19): $9,090,260 ($757,522/month) "Year 5" (10/27/19 – 10/26/20): $3,312,735 ($276,061/month)
				Total CLIN 7 FFP	**$12,402,995**
CLIN #	Description	CLIN Type	Quantity	Unit of Measure	CLIN Value
8	Option Period 1 - S&M (Cold Standby)	FFP	24	Months	"Year 4" (10/27/18 – 10/26/19): $3,232,640 ($269,387/month) "Year 5" (10/27/19 – 10/26/20): $3,312,735

	*Includes PM/FM costs – PWS J-A 8				($276,061/month)
Total CLIN 8 FFP					**$6,545,375**
(A) TOTAL POTENTIAL FFP (CLINS 1 & 2) ~~(IF ALL OPTIONS ARE EXERCISED)~~					**~~$69,185,054~~ $69,455,756**
(B) TOTAL IDIQ CEILING (CLIN 4)					**$20,000,000**
(C) TOTAL CPAF (CLIN 3)					**$36,246,977**
(D) UNEXERCISED OPTIONS (CLINS 5-8)					**$29,679,974**
(E) TOTAL POTENTIAL CONTRACT VALUE (A+B+C+D) (IF ALL OPTIONS ARE EXERCISED, INCLUDING IDIQ CEILING VALUE FOR CLIN 4)					**~~$155,112,005~~ $155,382,707**

B.3 LIMITATION OF GOVERNMENT'S OBLIGATION – CLINS 1, 2, & 4-8

(a) This contract's CLINs 1, 2, & 4-8 contain Federal Acquisition Regulation fixed prices and contract terms and conditions, with the exceptions that these CLINs may be incrementally funded; and if a CLIN is incrementally funded as set forth in the contract, in the event of termination before it is fully funded the Government's maximum liability for the CLIN will be the lower of the amount of funds allotted to the CLIN or the amount payable to the Contractor per the Termination for Convenience (Fixed-Price) clause of this contract. For each CLIN there is

(1) a fixed price;

(2) a specified scope of work that corresponds to the fixed price;

(3) an anticipated funding schedule that corresponds to the fixed price and the specified scope of work (the parties contemplate that the Government will allot some funds upon execution of the contract);

(4) a Government maximum obligation to the Contractor equal to the funds allotted to the contract for the CLINs;

(5) if the Government incrementally allots funds, both a fixed price for the services the allotted funds cover and a maximum Government obligation, including any termination obligations, to the Contractor equal to the allotted funds; and

(6) an obligation that the Government will pay the Contractor only for the work the Contractor performed: for which funds were allotted; and based only on the fixed price for the services the allotted funds covered (established when the funds were allotted) and the portion of the services performed, not the costs the Contractor may actually incur.

(b) For each CLIN

(1) the Government's maximum obligation, including any termination obligations and obligations under change orders, equitable adjustments, or unilateral or bilateral contract modifications, at any time is always less than or equal to the total amount of funds allotted by the Government to the contract for the CLIN and the total amount of funds allotted by the Government to the contract for the CLIN is the fixed price of the work for which the funds are allotted;

(2) the Contractor explicitly agrees the fixed price in the contract reflects (that is, includes or encompasses any additional amount) and any subsequent negotiated fixed price reflects for each of the fixed-price CLINs included in this contract:

i. any additional complexities, challenges, and risks (including all risks, costs or otherwise, associated with any potential termination for convenience. Or other risks as articulated in this clause) to which the Contractor is subject due to the incremental funding arrangement established in this clause; and

ii. the specific risk that in the event of termination of an incrementally funded CLIN before the CLIN is fully funded, the Contractor could receive less than the amount the Termination for Convenience (Fixed-Price) clause of this contract would usually permit, that is, the Government is only obligated to provide to the contractor the lower of the amount of the allotted funds or the amount as determined under the Termination for Convenience (Fixed-Price) clause.

(3) the Contractor is not authorized to continue work beyond the point at which the total amount payable by the Government, which is the price of the services the allotted funds cover, equals the total amount allotted to the contract for the services;

(4) if additional funds become available and the Government still has a need for the services in the contract, the Government will allot funds periodically to the CLIN, the Contractor will continue performance and will provide a specified and fixed amount of work for the additional funds allotted, and the Government will pay the Contractor based on the price of the fixed amount work. The Government will not pay the Contractor based on the costs the Contractor incurs in performing the work; and

(5) the Contractor agrees to provide the specified fixed amount of work for the fixed price identified in the contract's Section B, Supplies or services and prices/costs, and in accordance with the delivery schedule identified in the contract's Section F, Deliveries or performance, provided the Government provides the funding per or earlier than the Planned Funding Schedule in paragraph (n) of this clause. At any time, the cumulative amount of funds allotted is the fixed price for the cumulative fixed amount of work identified with the funds.

(c) For each CLIN

(1) The fixed price (of both the entire CLIN and of the current cumulative amount of funds allotted to the CLIN at any time during contract performance) is not subject to any adjustment on the basis of the Contractor's cost experience;

(2) The contract places the maximum risk and full responsibility on the Contractor for all costs and resulting profit or loss; and

(3) If the Government meets the entire Planned Funding Schedule,

i. the cumulative amount of funds allotted will equal the CLIN's fixed price and

ii. the Contractor shall provide the entire scope of work the contract requires for the CLIN.

(d) The fixed price for each CLIN is listed in Section B of this contract.

(e) The Planned Funding Schedule for each CLIN is in paragraph (n) of this clause. The sum of the planned funding for each CLIN equals the fixed price of the CLIN.

(f) The Actual Funding Schedule for each CLIN is in paragraph (o) of this clause. It specifies the actual amount of funds allotted and presently available for payment by the Government separately for CLINs 1, 2, & 4-8 and the specific work to be performed for the funds allotted.

(1) The Contractor may submit an invoice under a CLIN only after the Government has allotted funds to the CLIN and the Contractor has provided services in accordance with the terms and conditions of the contract. The Contractor may submit an invoice for only the lower of the two preceding amounts, that is, the lower of

i. the amount of allotted funds for the specified work (which is the amount of the fixed price of the specified work) or

ii. the amount equal to the portion of the fixed price for the specified work the Contractor has earned by providing a portion of the fixed work.

(g) If during the course of this contract the Government is allotting funds to a CLIN per or earlier than the Planned Funding Schedule, this contract to that point will be considered a simple fixed-price contract for that CLIN regardless of the rate at which the Contractor is, or is not, earning amounts payable, and

(1) The Government's and the Contractor's obligations under the contract for the CLIN—with the exception that the Government's obligation for the CLIN is limited to the total amount of funds allotted by the Government to the CLIN and similarly the Contractor is not authorized to continue work beyond the point at which the total amount payable by the Government equals the total amount allotted—will be as if the CLIN were both fixed price and fully funded at time of contract execution, that is, the Contractor agrees that: it will perform the work of the contract for that CLIN; and neither the fixed-price for the CLIN nor any other term or condition of the contract will be affected due to the CLIN's being incrementally funded.

i. The Contractor agrees, for example, if the Government allots funds to a CLIN per or earlier than all of the funding dates in the Planned Funding Schedule for the CLIN, the Government has met all of its obligations just as if the CLIN were fully funded as of the time of contract execution and the Contractor retains all of its obligations as if the CLIN were fully funded as of the time of contract execution, while at the same time the Contractor is not authorized to continue work beyond the point at which the total amount payable by the Government equals the total amount allotted to the contract; consequently, if the Contactor earns amounts payable at any time in performing work for the CLIN that exceed the total amount of funds allotted by the Government to the contract for the CLIN.

A. it (not the Government) will be liable for those excess amounts payable,

B. it will remain liable for its obligations under every term or condition of the contract and

C. if it fulfills all of its obligations for that CLIN and the Government allots funds to the CLIN equal to the CLIN's fixed price, the Government will pay it the fixed price for the CLIN and no more.

ii. The Contractor also agrees, for example, if the Government allots funds to a CLIN by the first funding date in the Planned Funding Schedule, the Government has met all of its obligations up to that point in the contract as if the CLIN were fully funded (that is, as if progress payments based on cost had been agreed to and had been made, or milestone payments had agreed to and been made, etc.) and the Contractor retains all of its obligations up to that point (such as meeting delivery schedules, maintaining quality, etc.) as if the CLIN were fully funded; consequently, if the Government subsequently terminates the CLIN it will pay the Contractor the lower of the following two amounts: the amount allotted by the Government to the CLIN; or the amount payable per the Termination for Convenience (Fixed-Price) clause of this contract.

(h) The Contractor shall notify the Contracting Officer in writing whenever it has reason to believe that the total amount payable by the Government, which is the portion of the price of the services the allotted funded cover that the Contractor has earned, for the CLIN in the next 60 days, when added to all amounts payable previously earned, will exceed 75 percent of the total amount allotted to the CLIN by the Government.

(1) The notification is for the Government's planning purposes only and does not change any obligation of either the Government or the Contractor.

(2) The Contractor is not authorized to continue work beyond the point at which the total amount payable by the Government equals the total amount allotted to the CLIN.

(3) The Government may require the Contractor to continue performance of that CLIN for as long as the Government allots funds for that CLIN sufficient to cover the amount payable for that CLIN.

(i) If the Government does not allot funds to a CLIN per or earlier than its Planned Funding Schedule, the Contractor will be entitled to an equitable adjustment and

(1) the Government's maximum obligation, including any termination obligation, to reimburse the Contractor remains limited to the total amount of funds allotted by the Government to the contract for that CLIN;

(2) the Contractor is not authorized to continue work beyond the point at which the total amount payable by the Government, equals the total amount allotted to the contract;

(3) if the Government subsequently terminates the CLIN, it will pay the Contractor the lower of the following two amounts: the total amount of funds allotted by the Government to the contract for the CLIN; or the amount payable per the Termination for Convenience (Fixed-Price) clause of this contract.

(j) Except as required by either other provisions of this contract specifically citing and stated to be an exception to this clause, or by, among other things, terminations, change orders, equitable adjustments, or unilateral or bilateral contract modifications specifically citing and stated to be an exception to this clause, for either CLIN-

(1) The Government is not obligated to reimburse the Contractor in excess of the total amount allotted by the Government to this contract for the CLIN; and

(2) The Contractor is not obligated to continue performance under this contract related to the CLIN in excess of the amount allotted to the contract (which is also both the maximum amount payable and the price of the services the allotted funds cover) by the Government until the CO notifies the Contractor in writing that the amount allotted by the Government has been increased and specifies an increased amount, which shall then constitute the total amount allotted by the Government to the CLIN.

(k) No notice, communication, or representation in any form, including, among other things, change orders, equitable adjustments, or unilateral or bilateral contract modifications, other than that specified in this clause, or from any person other than the Contracting Officer, shall affect the amount allotted by the Government to this contract for a CLIN, which will remain at all times the Government's maximum liability for a CLIN. In the absence of the specified notice, the Government is not obligated to reimburse the Contractor for any amounts payable earned for a CLIN in excess of the total amount allotted by the Government to this contract for a CLIN.

(l) Change orders, equitable adjustments, unilateral or bilateral contract modifications, or similar actions shall not be considered increases in the Government's maximum liability or

authorizations to the Contractor to exceed the amount allotted by the Government for a CLIN unless they contain a statement increasing the amount allotted.

(m) Nothing in this clause shall affect the right of the Government to terminate this contract for convenience or default.

(n) Planned Funding Schedule (**NOTE:** If a FFP task order under CLIN 4 is incrementally funded, the task order will include the details required below specific to that task order.).

CLIN 1 – Transition

Date	Funds To Be Allotted	Work To Be Accomplished	Cumulative Funds To Be Allotted	Cumulative Work To Be Accomplished
June 18, 2015	$528,528	All CLIN 1 requirements.	$528,528	All CLIN 1 requirements.
December 3, 2015	$45,000	All CLIN 1 requirements	$573,528	All CLIN 1 requirements.

CLIN 2 – Project Management and Facility Maintenance

Date	Funds To Be Allotted	Work To Be Accomplished	Cumulative Funds To Be Allotted	Cumulative Work To Be Accomplished
December 3, 2015	$4,668,696	All CLIN 2 requirements	$4,668,696	All CLIN 2 requirements
January 4, 2016	$1,500,000	All CLIN 2 requirements	$6,168,969	All CLIN 2 requirements
February 26, 2016	$4,500,000	All CLIN 2 requirements	$10,668,969	All CLIN 2 requirements
May 4, 2016	$4,000,000	All CLIN 2 requirements	$14,668,969	All CLIN 2 requirements
July 12, 2016	$9,454,051	All CLIN 2 requirements	$24,122,747	All CLIN 2 requirements
September 26, 2016	$4,600,000	All CLIN 2 requirements	$28,722,747	All CLIN 2 requirements
September 26, 2016	$37,145	SubCLINs 2AS & 2AT ONLY	$28,759,892	SubCLINs 2AS & 2AT ONLY
November 4, 2016	$3,000,000	All CLIN 2 requirements	$31,759,892	All CLIN 2 requirements
February 27, 2017	$8,500,000	All CLIN 2 requirements	$40,259,892	All CLIN 2 requirements
April 27, 2017	$5,000,000	All CLIN 2 requirements	$45,259,892	All CLIN 2 requirements

CLIN 5 – Option for NFS Soils CH

Date	Funds To Be Allotted	Work To Be Accomplished	Cumulative Funds To Be Allotted	Cumulative Work To Be Accomplished

CLIN 6 – Option for S&M (Warm Standby)

Date	Funds To Be Allotted	Work To Be Accomplished	Cumulative Funds To Be Allotted	Cumulative Work To Be Accomplished

CLIN 7 – Option for Facility Decontamination & Downgrading

Date	Funds To Be Allotted	Work To Be Accomplished	Cumulative Funds To Be Allotted	Cumulative Work To Be Accomplished

CLIN 8 – Option for S&M (Cold Standby)

Date	Funds To Be Allotted	Work To Be Accomplished	Cumulative Funds To Be Allotted	Cumulative Work To Be Accomplished

(o) Actual Funding Schedule (**NOTE:** If a FFP task order under CLIN 4 is incrementally funded, the task order will include the details required below specific to that task order.).

CLIN 1 – Transition

Date	Funds To Be Allotted	Work To Be Accomplished	Cumulative Funds To Be Allotted	Cumulative Work To Be Accomplished
June 18, 2015	$528,528	All CLIN 1 requirements.	$528,528	All CLIN 1 requirements.
December 3, 2015	$45,000	All CLIN 1 requirements	$573,528	All CLIN 1 requirements.

CLIN 2 – Project Management and Facility Maintenance

Date	Funds To Be Allotted	Work To Be Accomplished	Cumulative Funds To Be Allotted	Cumulative Work To Be Accomplished
December 3, 2015	$4,668,696	All CLIN 2 requirements	$4,668,696	All CLIN 2 requirements
January 4, 2016	$1,500,000	All CLIN 2 requirements	$6,168,969	All CLIN 2 requirements
February 26, 2016	$4,500,000	All CLIN 2 requirements	$10,668,969	All CLIN 2 requirements
May 4, 2016	$4,000,000	All CLIN 2 requirements	$14,668,969	All CLIN 2 requirements
July 12, 2016	$9,454,051	All CLIN 2 requirements	$24,122,747	All CLIN 2 requirements
September 26, 2016	$4,600,000	All CLIN 2 requirements	$28,722,747	All CLIN 2 requirements
September 26, 2016	$37,145	SubCLINs 2AS & 2AT ONLY	$28,759,892	SubCLINs 2AS & 2AT ONLY
November 4, 2016	$3,000,000	All CLIN 2 requirements	$31,759,892	All CLIN 2 requirements
February 27, 2017	$8,500,000	All CLIN 2 requirements	$40,259,892	All CLIN 2 requirements
April 27, 2017	$5,000,000	All CLIN 2 requirements	$45,259,892	All CLIN 2 requirements

CLIN 5 – Option for NFS Soils CH

Date	Funds To Be Allotted	Work To Be Accomplished	Cumulative Funds To Be Allotted	Cumulative Work To Be Accomplished

CLIN 6 – Option for S&M (Warm Standby)

Date	Funds To Be Allotted	Work To Be Accomplished	Cumulative Funds To Be Allotted	Cumulative Work To Be Accomplished

CLIN 7 – Option for Facility Decontamination & Downgrading

Date	Funds To Be Allotted	Work To Be Accomplished	Cumulative Funds To Be Allotted	Cumulative Work To Be Accomplished

CLIN 8 – Option for S&M (Cold Standby)

Date	Funds To Be Allotted	Work To Be Accomplished	Cumulative Funds To Be Allotted	Cumulative Work To Be Accomplished

B.4 OBLIGATION OF FUNDS - CLIN 3

Pursuant to FAR 52.232-22, *Limitation of Funds*, total funds in the amount of $21,288,100.55 have been allotted for obligation to CLIN 3 and are available for payment of services provided under CLIN 3 from the effective date of this contract through October 26, 2017.

B.5 ALLOWABILITY OF SUBCONTRACTOR FEE – CLIN 3

(a) If a company is part of a teaming arrangement as described in FAR Subpart 9.6, Contractor Team Arrangements, it shall share the total available fee of the contract with the other companies of the team in accordance with the teaming arrangement agreement. The FAR 31.205-26(e) restrictions on profit/fee regarding sales or transfers between any divisions, subdivisions, subsidiaries, or affiliates of the "contractor" shall apply to both the Contractor Team Arrangement and to the individual companies of the Contractor Team Arrangement. Additionally, separate, additional fee is not an allowable cost under this contract for subcontractors, suppliers, or lower-tier subcontractors that are wholly-owned by any team member, majority-owned by any team member, or affiliates of any team member.

(b) The fee restriction in paragraph (a) does not apply to members of the contractor's team that are: (1) small business(es); (2) protégé firms as part of an approved Mentor-Protégé relationship under the Section H Clause, Mentor-Protégé Program; or (3) subcontractors under a competitively awarded firm-fixed-price or firm-fixed-unit-price subcontract.

(c) For the purposes of this clause, the term company shall include universities and non-profit organizations.

B.6 REMITTANCE ADDRESS

Reference Standard Form (SF) 33 Block 15C.

North Wind Solutions, LLC
TRU Waste Processing Center
100 WIPP Road
Lenoir City, Tennessee 37771

SECTION C -
DESCRIPTION/SPECIFICATIONS

C.1 DOE-C-1001 SCOPE OF WORK

The Contractor shall perform, pursuant to the Performance Work Statement (PWS), Attachment A, listed in Section J.

C.2 DOE-C-1007 REPORTS

Reports shall be prepared and submitted in accordance with Attachment B located in Section J, and as specified in other clauses in the contract.

SECTION D -
PACKAGING AND MARKING

D.1 HQ-D-1001 PACKAGING (APR 1984)

Preservation, packaging, and packing for shipment or mailing of all work deliverable hereunder shall be in accordance with good commercial practice and adequate to ensure acceptance by common carrier and safe transportation at the most economical rates. This clause does not apply to the processing and shipment of waste.

D.2 MARKING (APR 2014)

(p) Each deliverable package of drawings, reports or other data shall be accompanied by a letter or other document that:

(1) Identifies the contract number under which the item is being delivered.

(2) Identifies the report or other deliverable data item required by the specification or the statement of work.

(3) Indicates whether the Contractor considers the requirement fully or partially satisfied.

(q) Preservation, marking, and packing for shipment or mailing of all data delivered hereunder shall be in accordance with good commercial practice and comply with U.S. Postal Service and/or generally accepted common carrier standards.

(r) All required reports, plans, and other documents shall be submitted to DOE electronically, and upon request by the DOE CO or the DOE COR, in hard copy form, in accordance with the requirements in Section G. Submittals shall be in Portable Document Format (PDF) or Microsoft Office 2007 (or newer) file formats. If it appears that another electronic data format is more appropriate for the type of document being submitted, the Contractor shall contact the CO to determine whether the format is acceptable before submitting it.

D.3 SECURITY REQUIREMENTS

The Contractor shall comply with the security requirements for identifying, marking, storing, mailing, and shipping official use only materials as prescribed by DOE O 471.3 Admin Change 1, Identifying and Protecting Official Use Only Information (Section J, Attachment D).

SECTION E -
INSPECTION AND ACCEPTANCE

E.1 52.246-4 INSPECTION OF SERVICES - FIXED-PRICE (AUG 1996) – CLINs 1, 2, & 4-8

E.2 52.246-5 INSPECTION OF SERVICES - COST-REIMBURSEMENT (APR 1984) – CLIN 3

E.3 DOE-E-1001 INSPECTION AND ACCEPTANCE

Inspection and acceptance of all items under this Contract shall be accomplished by the Contracting Officer, the Contracting Officer's Representative (COR), or any other duly authorized Government representative identified by the Contracting Officer. The Contractor will be notified in writing or by a copy of the delegation of authority if a different representative is designated.

E.4 INSPECTION AND REGULATORY AGENCIES

Work performed under this Contract is subject to inspection by State and Federal Government Regulatory agencies including those described below.

Permission has been granted by the DOE to allow Federal and State occupational health and safety officials to enter DOE installations, without delay and at reasonable times, to conduct routine safety and health investigations. Permission also extends to safety and health investigations based on reports of unsafe conditions.

The Contractor shall cooperate with regulatory agencies and shall provide personnel to accompany the agency inspection or review teams. Contractor personnel shall be knowledgeable concerning the work being inspected, and participate in responding to all requests for information, inspection or review findings by regulatory agencies.

SECTION F -
DELIVERIES OR PERFORMANCE

F.1 52.242-15 STOP-WORK ORDER (AUG 1989) - CLINs 1, 2, & 4-8

F.2 52.242-15 STOP-WORK ORDER (AUG 1989) ALT I (APR 1984) – CLIN 3

F.3 52.242-17 GOVERNMENT DELAY OF WORK (APR 1984) - CLINs 1, 2, & 4-8

F.4 DOE-F-1002 PLACE OF PERFORMANCE – SERVICES.

The services specified by this contract shall be performed at the following location or as otherwise directed by the CO:

TRU Waste Processing Center
100 WIPP Road
Lenoir City, TN 37771

F.5 PERIOD OF PERFORMANCE

The contract period of performance shall not exceed five years (60 months) as follows:

Core Requirements:

CLIN 1

Transition Period - October 19, 2015 through December 10, 2015 (53 days)

CLINs 2 and 3

Base Period – December 11, 2015 through October 26, 2018 (34.5 months)

CLIN 4

The task order ordering period for CLIN 4 shall be from December 11, 2015 through October 26, 2018 (34.5 months). Each task order issued by the CO will identify a specific period of performance. Issuance of task orders will not occur beyond the current contract expiration date. Performance of all task orders issued before the end of the contract period of performance shall not exceed 12 months beyond the contract period of performance.

Optional Requirements:

CLIN 5

From the date the optional requirement is exercised by the CO to the end of the base period of performance from CLINs 2, 3, and 4 (not to exceed 34.5 months, with a start date no earlier than the Base Period start date for CLINs 2, 3, and 4 of December 11, 2015).

CLIN 6

Option Period – October 27, 2018 through October 26, 2020 (24 months)

CLIN 7

Option Period – October 27, 2018 through October 26, 2020 (24 months)

CLIN 8

Option Period – October 27, 2018 through October 26, 2020 (24 months)

The option for CLIN 5 may be exercised during the either the transition period or the base period with all work under CLIN 5 to be completed by the end of the base period of performance for CLINs 2, 3, and 4. The contract includes one option period for CLINs 6 through 8 that may be exercised unilaterally in accordance with FAR 52.217-9, *Option to Extend the Term of the Contract*.

SECTION G -
CONTRACT ADMINISTRATION DATA

G.1 DOE-G-1001 BILLING INSTRUCTIONS

Contractors shall submit vouchers electronically through the Oak Ridge Financial Service Center's Vendor Inquiry Payment Electronic Reporting System (VIPERS). VIPERS allows vendors to submit vouchers, attach supporting documentation and check the payment status of any voucher submitted to the DOE. Submitting electronically provides benefits to vendors by:

- Reducing the cost of paper and postage.
- Allowing supporting documentation to be attached and routed with the voucher to program and approving officials.
- Immediately interfacing vouchers to DOE's accounting system saving several days of mail and manual processing time.
- Decreasing potential errors caused by manual input.
- Facilitating the prompt payment of vouchers.

To obtain access to and to use VIPERS, please visit the web page at https://vipers.oro.doe.gov.

Detailed instructions on how to enroll and use the system are provided on the web page. Please do not send a paper copy of a voucher that has been submitted electronically.

The Contractor shall submit separate invoices/vouchers for the FFP and CPAF CLINs.

For FFP CLINs 1, 2, 4, 5, 6, 7, and 8, the Contractor shall submit vouchers (Standard Form 1034) in accordance with FAR 52.232-1, *Payments*.

Payment will be made by the Government to the Contractor no more than twice monthly based on receipt of a proper invoice/voucher and satisfactory contract performance.

For CPAF CLIN 3, the voucher must include a statement of cost and supporting documentation for services rendered (Reference Section J, Attachment E, Statement of Costs). This statement shall include, as a minimum, a breakout by cost or price element and task order (if applicable) of all services actually provided by the Contractor, both for the current billing period and cumulatively for the entire contract.

(1) Statement of Cost.

The following instructions are provided for use by the Contractor in the preparation and submission of the Statement of Cost:

i. Statement of Cost must be completed in accordance with the Contractor's cost accounting system.

ii. Costs claimed must be only those recorded costs authorized for billing by the payment provisions of the contract.

iii. Indirect costs claimed must reflect the rates approved for billing purposes by the CO.

iv. The Direct Productive Labor Hours (DPLH) incurred during the current billing period must be shown and the DPLH Summary completed, if applicable.

v. The total fee billed, retainage amount, and available fee must be shown.

vi. If task orders are issued under this contract, the Contractor must prepare a Statement of Cost for each task order work assignment and a summary for the total invoiced cost.

(2) Supporting Documentation.

Direct costs (e.g., labor, equipment, travel, supplies, etc.) claimed for reimbursement on the Statement of Cost must be adequately supported. The level of detail provided must clearly indicate where the funds were expended. For example, support for labor costs must include the labor category (e.g., program manager, senior engineer, technician, etc.) the hourly rate, the labor cost per category, and any claimed overtime; equipment costs must be supported by a list of the equipment purchased, along with the item's cost; supporting data for travel must include the destination of the trip, number and labor category of travelers, transportation costs, per diem costs, and purpose of the trip; and supplies should be categorized by the nature of the items (e.g., office, lab, computer, etc.) and the dollar amount per category.

Any cost sharing or in-kind contributions incurred by the Contractor and/or third party during the billing period must be included.

Indirect rates used for billings must be clearly indicated, as well as their basis of application. When the cognizant Administrative CO (ACO) or auditor approves a change in the billing rates, include a copy of the approval.

All claimed subcontractor costs must be supported by submitting the same detail as outlined herein.

The amount of award fee earned by the Contractor for CLIN 3, if any, shall be unilaterally determined by the Fee Determining Official (FDO) in accordance with the Performance Evaluation and Measurement Plan (PEMP). Upon the FDO’s determination, the ACO shall notify the Contractor in writing regarding the amount of award fee earned, if any, and the Contractor shall submit an invoice to the Government for this amount.

Work associated with NFS Soils Shipments, whether under CLIN 2 (SubCLINs 2AS & 2AT) or CLIN 3 will be billed against the funds specifically identified in the funding section of the contract which is a distinct line of accounting for this work at the CLIN level. SubCLINs 2AS & 2AT are fully funded whereas CLIN 3 has funding in the amount of $162,855 of which only $125,653 is currently authorized under Modification 0015. When these SubCLINs (2AS & 2AT) or associated costs (CLIN 3) are submitted, in order for the invoice to be considered proper, the correct line of accounting must be tied to the invoiced amount.

G.2 DOE-G-1005 OBSERVANCE OF LEGAL HOLIDAYS

(a) The on-site Government personnel observe the following holidays:

- New Year's Day
- Martin Luther King, Jr.'s Birthday
- President's Day
- Memorial Day
- Independence Day
- Labor Day
- Columbus Day
- Veterans Day
- Thanksgiving Day
- Christmas Day

- Any other day designated by Federal statute, Executive order, or the President's proclamation.

(b) When any holiday falls on a Saturday, the preceding Friday is observed. When any holiday falls on a Sunday, the following Monday is observed. Observance of such days by Government personnel shall not by itself be cause for an additional period of performance or entitlement of compensation except as set forth within the contract.

G.3 DOE-G-1007 CONTRACTING OFFICER'S REPRESENTATIVE

The COR will be designated in writing by the CO and will represent the CO in the technical phases of the work in accordance with DEAR Clause 952.242-70, *Technical Direction*, in Section I. A copy of this designation letter shall be furnished to the Contractor. The COR is not authorized to change any of the terms and conditions of this contract. Changes to this contract will be made only by the CO by properly written modification(s) to the contract. Specific duties and responsibilities of the COR are those delegated in the COR Delegation for this contract.

The COR(s) for the purpose of monitoring and coordinating the technical requirements of this contract is:

William “Bill” G. McMillan
Federal Project Director, ORNL
Oak Ridge Office of Environmental Management, EM-92
200 Administration Road
Oak Ridge, TN 37831
(865) 576-9900
Email: bill.mcmillan@orem.doe.gov

G.4 DOE-G-1009 CONTRACTOR'S PROGRAM MANAGER

(a) The contractor shall designate a Program Manager who will be the Contractor's authorized supervisor for technical and administrative performance of all work hereunder. The Program Manager shall provide the single point of contact between the Contractor and the COR under this contract.

(b) The Program Manager shall receive and execute, on behalf of the Contractor, such technical directions as the COR may issue within the terms and conditions of the contract.

G.5 DOE-G-1010 NON-SUPERVISION OF CONTRACTOR EMPLOYEES ON GOVERNMENT FACILITIES

The Government shall not exercise any supervision or control over Contractor employees performing services under this contract. The Contractor's employees shall be held accountable solely to the Contractor's management, who in turn is responsible for contract performance to the Government.

G.6 CORRESPONDENCE PROCEDURES

To promote timely and effective administration, correspondence submitted under this contract shall include the contract number and shall be subject to the following procedures:

(a) Technical Correspondence. Technical correspondence (as used herein, this term excludes technical correspondence where patent or technical data issues are involved and correspondence which proposes or otherwise involves waivers, deviations, or modifications to the requirements, terms, or conditions of this contract) shall be addressed to the DOE COR, with an information copy of the correspondence to the DOE CO (see below paragraph [c]) and

to the cognizant Government Contract Administration Office (if other than DOE) designated in Block 24 of the Contract Form (Solicitation, Offer, and Award Standard Form 33) of this contract or if a Standard Form 26 is used (Award/Contract) the Government Contract Administration Office designated in block 6 of this contract.

(b) Other Correspondence.

(1) If no Government Contract Administration Office is designated on the Contract Form of this contract, all correspondence, other than technical correspondence, shall be addressed to the DOE CO, with information copies of the correspondence to the DOE COR, and to the DOE Patent Counsel (where patent or technical data issues are involved).

(2) If a Government Contract Administration Office is designated on the contract form of this contract, all administrative correspondence, other than technical correspondence, shall be addressed to the Government Contract Administration Office so designated, with information copies of the correspondence to the DOE CO, DOE COR, and to the DOE Patent Counsel (where patent or technical data issues are involved).

(c) The DOE CO for the contract is located at the address in (d) below and is as follows:

Contracting Officer: Matthew Hancsarik
Telephone Number: 865-241-5883
Email: matthew.hancsarik@orem.doe.gov

The Contractor shall use the DOE CO as the focal point for all matters regarding this contract except technical matters (see (a) above for definition of technical matters).

(d) DOE CO Address. The CO address is as follows:

Contracting Officer (Do not use name of Contracting Officer)
ATTN: DE-EM0003760
U.S. Department of Energy
Procurement and Contracts Division, FM-741
200 Administration Rd.
Oak Ridge, TN 37830

(e) Patent Correspondence. The DOE SC Integrated Support Center-Oak Ridge (ISC-OR)acting through the Assistant Chief Counsel for Intellectual Property & Technology Transfer, 200 Administration Road, Oak Ridge, Tennessee 37831, is hereby designated to represent the CO in administering the Patent and Data Clauses in this contract. Correspondence concerning patent and technical data issues shall be sent to the address above in care of Emily Schneider, Assistant Chief Counsel for Intellectual Property & Technology Transfer.

(f) Subject Line(s). All correspondence shall contain a subject line commencing with the contract number as illustrated below:

"SUBJECT: CONTRACT NO. DE-EM0003760"

(Insert subject topic after contract number, e.g., "Request for Subcontract Consent").

(g) Electronic Media for Reports/Plans Documents. All required reports, plans, and other documents shall be submitted to DOE electronically, and upon request by the DOE CO or the DOE COR, in hard copy form. The Contractor shall prepare the requested reports and documents via site standard software and provide a copy on diskette or Compact Disk (CD-R, CD-RW) as required by the size of the document. The data shall be in a format that will allow conversion to PDF or HTML for potential posting on the Internet, Intranet, or in an electronic library. If other software is used, the documents shall be scanned and then provided on diskette or Compact Disk. Electronic data shall be available within five business days of the DOE request.

G.7. DOE-G-1006 INDIVIDUALS AUTHORIZED TO ISSUE ORDERS

The following personnel are authorized to issue task orders under this contract:

The DOE Contracting Officer listed in paragraph (c) of clause G.6., CORRESPONDENCE PROCEDURES."

SECTION H -
SPECIAL CONTRACT REQUIREMENTS

H.1 DOE-H-1001 OMBUDSMAN

(a) An ombudsman has been appointed to hear and facilitate the resolution of concerns from Offerors, potential Offerors, and contractors during the pre-award and post-award phases of this acquisition. When requested, the ombudsman will maintain strict confidentiality as to the source of the concern. The existence of the ombudsman is not to diminish the authority of the CO, the Source Evaluation Board (SEB), or the selection official. Further, the ombudsman does not participate in the evaluation of proposals, the source selection process, or the adjudication of formal contract disputes. Therefore, before consulting with an ombudsman, interested parties must first address their concerns, issues, disagreements, and/or recommendations to the CO for resolution.

(b) If resolution cannot be made by the CO, interested parties may contact the installation ombudsman, Karen Shears, karen.shears@orem.doe.gov, 865-241-6411. Concerns, issues, disagreements, and recommendations which cannot be resolved at the Contracting Activity may be referred to the DOE Headquarters (HQ) ombudsman, Michael Raizen, michael.raizen@hq.doe.gov, 202-287-1512. Do not contact the ombudsman to request copies of the solicitation, verify offer due date, or clarify technical requirements. Such inquiries shall be directed to the CO or as specified elsewhere in this document.

H.2 DOE-H-1004 NO THIRD PARTY BENEFICIARIES

This Contract is for the exclusive benefit and convenience of the parties hereto. Nothing contained herein shall be construed as granting, vesting, creating, or conferring any right of action or any other right or benefit upon past, present, or future employees of the Contractor, or upon any other third party. This provision is not intended to limit or impair the rights which any person may have under applicable Federal statutes.

H.3 DOE-H-1011 DEPARTMENT OF LABOR WAGE DETERMINATIONS

In the performance of this contract the Contractor shall comply with the requirements of the U.S. Department of Labor (DOL) Wage Determination(s) located in Section J, Attachment F.

H.4 WORK FORCE RESTRUCTURING

Notwithstanding any other provision in this Contract, when the Contractor determines that a reduction of force is necessary, the contractor shall notify the CO in writing at least 30 calendar days in advance of employees being laid off. Information to be provided will include the number of impacted employees along with a list of impacted job classifications.

H.5 DOE-H-1025 CONTRACTOR INTERFACE WITH OTHER CONTRACTORS AND/OR GOVERNMENT EMPLOYEES

The Government may award contracts for on-site work or services to additional contractors. The Contractor shall cooperate fully with all other on site DOE Contractors, and with Government employees, and carefully fit its own work to such other work as may be directed by the CO or a duly authorized representative. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other Contractor or by a Government employee.

H.6 DOE-H-1028 DIVERSITY PROGRAM

(a) The Contractor shall develop and implement a Diversity Program in support of the DOE Diversity Initiative. A Diversity Plan covering the full period of performance (base and option periods) shall be submitted to the CO for approval within 60 calendar days of the transition period start date. Once the Diversity Plan is approved by the CO, the Contractor shall implement the Diversity Plan within 30 calendar days of its approval by the CO.

(b) The Contractor's Diversity Plan shall address, at a minimum, the Contractor's approach to ensure an effective Diversity Program (including addressing applicable Affirmative Action and Equal Employment Opportunity regulations) to include: (1) a statement of the Contractor's policies and practices; (2) planned initiatives and activities which demonstrate a commitment to a Diversity program including recruitment strategies for hiring a diverse work force. The Contractor's Diversity Plan shall also address, as a minimum, the Contractor's approach for promoting diversity through (1) the Contractor's work force, (2) educational outreach, including a mentor/protégé program, (3) stakeholder involvement and outreach; (4) subcontracting, and (5) economic development.

(c) An annual Diversity Report shall be submitted pursuant to Section J, Attachment B, *Reporting Requirements*. This report shall provide a list of accomplishments achieved both internally and externally and projected developments during the current reporting period. The report shall also list any proposed changes to the Diversity Plan which shall be subject to CO approval.

(d) Failure on the part of the Contractor to develop and implement a Diversity Plan as required in this clause shall constitute a breach of this contract.

H.7 GOVERNMENT-OWNED PROPERTY AND EQUIPMENT RESPONSIBILITIES FOR CONTRACT TRANSITION PERIOD

All real and personal property currently accountable to the incumbent Contractor for contract performance will be provided to the Contractor. During the contract transition period, an inventory record of such property in the DOE Facilities Information Management System and incumbent Contractor's personal property databases will be provided to the Contractor. Specifically, the following property acceptance requirements will be implemented:

(a) The Contractor must perform a joint wall-to-wall physical inventory with the incumbent Contractor(s) of all accountable high-risk and sensitive property during the transition period and accept full accountability for the high-risk and sensitive property at the end of transition.

(b) The Contractor must accept, at the end of transition, transfer of accountability for the remaining government-owned real and personal property not covered under paragraph (a), based on existing inventory records, on an "as-is, where-is" basis, or perform a wall-to-wall inventory within the transition period of the Contract. Any discrepancies from the existing inventory records shall be reported to the CO in writing. As the formal inventories are completed, the Contractor shall assume responsibility and liability for subsequent losses and damages in accordance with the Government property clauses of this contract. If the physical inventory is not accomplished within the allotted time frame, the previous Contractor's records will become the inventory baseline.

H.8 DOE-H-1031 CONTRACTOR PRESS RELEASES

The DOE policy and procedure on news releases requires that all Contractor press releases be reviewed and approved by DOE prior to issuance. Therefore, the Contractor shall, at least ten (10) business days prior to the planned issue date, submit a draft copy to the CO of any planned press releases related to work performed under this contract. The CO will then obtain necessary reviews and clearances and provide the

Contractor with the results of such reviews prior to the planned issue date.

H.9 DOE-H-1032 RELEASE OF INFORMATION

Any proposed public release of information including publications, exhibits, or audiovisual productions pertaining to the effort/items called for in this contract shall be submitted at least 10 business days prior to the planned issue date for approval. Proposed releases are to be submitted to the following address, with a copy provided to the CO.

Office of Public Affairs, EM-92
U.S. Department of Energy
Oak Ridge Office
P.O. Box 2001
Oak Ridge, TN 37831

H.10 DOE-H-1033 PERMITS AND LICENSES

Within 60 calendar days of the transition period start date, the Contractor shall submit to the DOE COR a list of environment, safety, and health approvals that, in the Contractor's opinion, shall be required to complete the work under this contract. This list shall include, at a minimum, the topic of the approval being sought, the approving authority, and the expected submit/approval schedule. The Contractor shall notify the COR as specific items are added or removed from the list and processed through their approval cycles.

The Contractor shall include and enforce this clause in its first-tier subcontracts.

H.11 DOE-H-1035 NATIONAL ENVIRONMENTAL POLICY ACT - PRIOR APPROVALS

The National Environmental Policy Act of 1969 (NEPA) requires that all Federal agencies consider the impacts of their projects on the human environment. As part of the DOE's NEPA requirements, the Contractor shall be required to supply to the DOE certain environmental information. DOE funds may only be expended by the Contractor on the preliminary design of the RH Storage pad to be located at the TWPC, if necessary, or on other activities in a manner consistent with 40 CFR 1506.1, until DOE notifies the Contractor that all NEPA requirements have been satisfied. In the event that the Contractor expends its own or third party funds on activities not authorized by this provision, such expenditures are entirely at the Contractor's risk that DOE's NEPA analysis will support such activities.

H.12 DOE-H-1036 DEFENSE NUCLEAR FACILITIES SAFETY BOARD

The Contractor shall conduct activities in accordance with those DOE commitments to the Defense Nuclear Facilities Safety Board (DNFSB) which are contained in implementation plans and other DOE correspondence to the DNFSB. The Contractor shall support preparation of DOE responses to DNFSB issues and recommendations which affect or can affect Contract work. Based on the CO’s direction, the Contractor shall fully cooperate with the DNFSB and provide access to such work areas, personnel, and information as necessary. The Contractor shall maintain a document process consistent with the DOE manual on interface with the DNFSB. The Contractor shall be accountable for ensuring that subcontractors adhere to these requirements.

H.13 DOE-H-1037 NUCLEAR FACILITIES OPERATIONS

(a) The activities under this Contract include the operation of nuclear facilities. The Contractor recognizes that such operations involve the risk of a nuclear incident which, while the chances

are remote, could adversely affect the public health and safety as well as the environment. Therefore, the Contractor shall exercise a degree of care commensurate with the risk involved.

(b) As used in this clause, the term "Nuclear Materials" is a collective term which includes source material, Special Nuclear Material, and those other materials to which, by direction of DOE, the provisions of DOE's orders or directives regarding the control of Nuclear Materials, which have been or may be furnished to the Contractor by DOE, apply. The Contractor shall accept existing procedures and, in a manner satisfactory to the CO, propose revised, as appropriate, accounting and measurement procedures, maintain current records and institute appropriate control measures for Nuclear Materials in its possession commensurate with the national security and DOE policy. The Contractor shall make such reports and permit such inspections as DOE may require with reference to nuclear materials. The Contractor shall take all reasonable steps and precautions to protect such materials against theft and misappropriations and to minimize all losses of such materials.

(c) Transfers of Nuclear Materials shall only be made with the prior written approval of the CO, or authorized designee. Nuclear Materials in the Contractor's possession, custody, or control shall be used only for furtherance of the work under this contract. The Contractor shall be responsible for the control of such Nuclear Materials in accordance with applicable DOE orders and directives regarding the control of Nuclear Materials, which have been or may be issued to the Contractor by DOE, and shall make a part of each purchase order, subcontract, and other commitment involving the use of Nuclear Materials for which the Contractor has accountability, which it enters into under this contract, appropriate terms and conditions for the use of Nuclear Materials and the responsibilities of the subcontractor or vendor regarding control of Nuclear Materials. In the case of fixed-price purchase orders, subcontracts, or other commitments involving the use of Nuclear Materials for which the Contractor has accountability, the terms and conditions with respect to Nuclear Materials shall also identify who has the financial responsibilities, if any, regarding such items as losses, scrap recovery, product recovery, and disposal.

H.14 DOE-H-1040 LOBBYING RESTRICTIONS (APPROPRIATIONS ACT 2014)

The Contractor agrees that none of the funds obligated on this award shall be expended, directly or indirectly, to influence congressional action on any legislation or appropriation matters pending before Congress, other than to communicate to Members of Congress as described in 18 U.S.C. § 1913. This restriction is in addition to those prescribed elsewhere in statute and regulation.

H.15 DOE-H-1053 PERFORMANCE REQUIREMENTS (JUNE 2011)

(a) Sections B through J of the contract set forth various performance and end state requirements. As part of its Proposal dated December 23, 2014, the Contractor has proposed commitments towards achieving those performance and end state requirements. Identified below in paragraphs (b) and (c) are performance commitments proposed by the Contractor. These performance commitments will be included in the performance criteria for earning fee in accordance with the clause entitled "DOE-H-1054 PERFORMANCE EVALUATION AND MEASUREMENT PLAN – AWARD FEE PROCESS FOR CLIN 3." Pursuant to the clause "INTEGRATED CONTRACTOR WORK CONTROL SYSTEMS AND REPORTING REQUIREMENTS," the Contract Baseline should reflect the performance commitments below.

(b) Basic Contract Period

None

(c) Option Periods

None

H.16 DOE-H-1054 PERFORMANCE EVALUATION AND MEASUREMENT PLAN (JUNE 2011) – AWARD FEE PROCESS FOR CLIN 3

(a) The determination of performance-based fee earned shall be based upon a PEMP (Section J, Attachment K), which includes the performance criteria for earning performance-based fee and the distribution of performance-based fee as provided in paragraph (d) below. The CO will prepare and issue the PEMP unilaterally 30 calendar days prior to the start of the base period for CLIN 3. The Government may unilaterally revise the PEMP prior to the start of any evaluation period. The CO will notify the Contractor in writing of such changes before the relevant evaluation period begins. After an evaluation period has begun, changes may only be made by mutual agreement of the parties.

(b) Key performance commitments proposed by the Contractor and accepted by the Government are incorporated into Section H clause entitled "Performance Requirements" and will be included in the performance criteria in the PEMP. If the Contractor fails to make progress towards successful execution or achievement of these key proposal commitments the Government may exercise any of its rights and remedies under the contract.

(c) Each evaluation period will be 12 months in length (with the exception of the first period, which will be 10.5 months from the effective date of the base period). The Government will evaluate the Contractor's performance to determine the amount of award fee earned by the Contractor during the period. The Contractor may submit a self-evaluation of performance for each evaluation period under consideration. The self-evaluation shall not exceed 15 total pages, shall be submitted within 15 business days after the close of the evaluation period, and will be considered by the Government in its evaluation. The Government's FDO will determine the award fee amounts earned based on the Contractor's performance in accordance with the PEMP.

(d) The Contractor can earn award fee from a minimum of zero dollars ($0) to the maximum available award fee stated in clause B.2, Cost/Price Schedule.

(e) The PEMP will identify the fee-bearing activities and establish the method of award fee determination.

(f) While it is recognized that the basis for determination of the fee shall be the evaluation by the Government in accordance with this clause and the PEMP, the FDO may also consider any information available to him or her which relates to the Contractor's performance of contract requirements, regardless of whether or not those requirements are specifically identified. To the extent the Contractor does not perform those requirements; the FDO may reduce the fee determination. In the event that the Contractor's performance is considered unacceptable in any area of contract performance, even if no weight or fee is specifically assigned to the particular performance area, the FDO may at his/her sole discretion determine the Contractor's overall performance to be unacceptable, and accordingly may withhold the entire performance fee for the evaluation period.

(g) The Government will advise the Contractor in writing of the evaluation results. The Government will make payment based on the FDO's determination and the Contractor's invoice for the amount of earned fee (ref. G.1, DOE-G-1001, *Billing Instructions*).

(h) The CO may direct the withholding of earned award fee payments until a reserve is set aside in an amount that the CO considers necessary to protect the Government's interest relative to

an orderly and timely closeout of the contract. This reserve shall not exceed 15% of the contract's total available award fee or $100,000, whichever is less.

(i) The amount of award fee which can be earned in each evaluation period is limited to the amounts set forth in paragraph (l), Award Fee Availability Schedule, of this clause. Award fee which is not earned in an evaluation period cannot be reallocated to future evaluation periods.

(j)

(1) Provisional award fee payments will be made under this contract pending the determination of the amount of fee earned for an evaluation period. If applicable, provisional award fee payments will be made to the Contractor not more often than on a monthly basis. The total amount of award fee available in an evaluation period that will be provisionally paid is the lesser of 80% of the available award fee for that evaluation period or the amount of award fee earned as a result of the prior period's evaluation score.

(2) Provisional award fee payments will be superseded by the final award fee evaluation for that period. If provisional payments exceed the amount of award fee that would be earned as a result of the final evaluation score, the Contractor will either credit the next payment voucher for the amount of such overpayment or refund the difference to the Government, as directed by the CO.

(3) If the CO determines that the Contractor will not achieve a level of performance commensurate with the provisional rate, payment of provisional award fee will be discontinued or reduced in such amounts as the CO deems appropriate. The CO will notify the Contractor in writing if it is determined that such discontinuance or reduction is appropriate.

(4) Provisional award fee payments will be made prior to the first award fee determination by the Government.

(5) Clause H.48, Provisional Payment of Fee, also applies.

(k) Award fee determinations are unilateral decisions made solely at the discretion of the Government. Award fee determinations may have an impact on the Government's exercise of the next available option period and adverse performance/award fee scores could affect the determination whether to exercise the next available option period.

(l) Award Fee Availability Schedule: The following table specifies the award fee available and award fee earned for each evaluation period. Each evaluation period will be 12 months in length, with the exception of the first period (10.5 months). At the end of each evaluation period and following the final fee determination, the "Total Award Fee Available" and "Total Award Fee Earned" will be specified by contract modification.

Award Fee Evaluation Period	Maximum Available Award Fee	Total Award Fee Earned
1 (December 11, 2015 to October 26, 2016)	$285,106	$265,149
2 (October 27, 2016 to October 26, 2017)	$452,841	$TBD
3 (October 27, 2017 to October 26, 2018)	$298,507	$TBD
TOTALS*	**$1,036,454**	**$265,149**

* The Total for the Maximum Available Award Fee shall be equal to the total for CLIN 3 in Clause B.2, Cost/Price Schedule.

H.17 DOE-H-1056 CONTRACTOR ACCEPTANCE OF NOTICES OF VIOLATION OR ALLEGED VIOLATIONS, FINES, AND PENALTIES (JULY 2011)

(a) The Contractor shall accept, in its own name, notices of violation(s) or alleged violations (NOVs/NOAVs) issued by federal or state regulators to the Contractor resulting from the Contractor's performance of work under this contract, without regard to liability. The allowability of the costs associated with fines and penalties shall be subject to other provisions of this contract.

(b) After providing DOE advance written notice, the Contractor shall conduct negotiations with regulators regarding NOVs/NOAVs and fine and penalties. However, the Contractor shall not make any commitments or offers to regulators that would bind the Government, including monetary obligations, without first obtaining written approval from the CO. Failure to obtain advance written approval from the CO may result in otherwise allowable costs being declared unallowable and/or the Contractor being liable for any excess costs to the Government associated with or resulting from such offers/commitments.

(c) The Contractor shall notify the CO promptly when it receives service from the regulators of NOVs/NOAVs and fines and penalties.

H.18 DOE-H-1061 KEY PERSONNEL (JULY 2011)

(a) Introduction.

Key Personnel are considered essential to the success of all work being performed under this contract. This Clause provides specific requirements, in addition to the requirements of the clause in Section I entitled, "DEAR 952.215-70 *Key Personnel*," for the Key Personnel Team, requirements for changes to Key Personnel, reductions in available fee for changes to Key Personnel, and identification of all Key Personnel for this Contract.

(b) Key Personnel Team Requirements.

The CO and designated COR(s) shall have direct access to the Key Personnel. All Key Personnel shall be permanently assigned to the position. In addition to the definition contained in the Section I Clause entitled, "DEAR 952.215-70, *Key Personnel,*" Key Person(s) are considered managerial personnel.

(c) Definitions.

For the purposes of this Clause, Changes to Key Personnel is defined as:

(i) any change to the position assignment of a current Key Person under the contract, except for a person who acts for short periods of time, in the place of a Key Person during his or her absence the total time of which shall not exceed 30 working days during any given year; (ii) utilizing the services of a new substitute Key Person for assignment to the contract; or (iii) assigning a current Key Person for work outside the Contract.

(d) Contract Price/Fee Reductions for Changes to Key Personnel. (**NOTE:** Since this is a hybrid contract consisting of both FFP and CPAF CLINs, the CO retains the sole authority for determining the allocation of the reductions to Price/Fee among the various CLINs and in accordance with the below requirements.)

(1) Notwithstanding approval by the CO, any time the Program Manager (the initial Program Manager or any substitution approved by the CO) is changed for any reason within two (2)

years of being placed in the position, Available Price/Fee described in Section B, may be reduced by $200,000 for each and every occurrence of a change.

(2) Notwithstanding approval by the CO, any time a Key Person other than the Program Manager (any initial Key Person or any substitution approved by the CO) is changed for any reason within two (2) years of being placed in the position, Available Price/Fee described in Section B, may be reduced by $100,000 for each and every occurrence of a change.

(3) The Contractor may request in writing that the CO consider waiving all or part of a reduction in Price/Fee. Such written request shall include the factual basis for the request. The CO shall have the unilateral discretion to make the determination to waive all or part of the reduction in Price/Fee.

(e) Key Personnel for this Contract.

The Key Personnel for this contract are identified below. This list will be amended during the course of the contract to change Key Personnel as approved by the CO.

Key Personnel			
Name	**Position**	**Email**	**Phone**
Linda Beach	Program Manager	linda.beach@truproject.com	(865) 574-2853
Frederick Heacker	Waste Operations Manager	Fred.heacker@truproject.com	(865) 574-2900
Raymond Peters	Environmental, Safety, Health, and Quality Manager	ray.peters@truproject.com	(865) 574-1324

(f) Additional Key Personnel

(1) The Additional Key Personnel were added by modification to the contract to ensure continuity of operations.

(2) These personnel are subject to Contract Price/Fee Reductions for Changes to Additional Key Personnel.

i. Notwithstanding approval by the CO, any time one of the Additional Key Personnel is changed for any reason, except an act of god or death, within three (3) years of being placed in the position, Available Price/Fee described in Section B, will be reduced by the pro-rated monthly amount for the remaining duration of the base period according the rates identified below for each and every occurrence of a change. Any reduction will begin the month following departure of the employee which for purposes of this reduction will be from the 27th of a month to the 26th of the following month. For example, the employee's last day is January 12, 2017, the Government will take a reduction from January 27, 2017-October 26, 2017 at the Year 2 rate for 9 months and 12 months at Year 3 rate.

ii. The Contractor may request in writing that the CO consider waiving all or part of a reduction in Price/Fee. Such written request shall include the factual basis for the request and a cost/benefit analysis for the change in key personnel. This request can, and when possible should, be made before the Contractor makes the change in

key personnel. The CO shall have the discretion to make the determination to waive all or part of the reduction in Price/Fee.

Additional Key Personnel				
Key Personnel Title	**Name**	**Year 1 Monthly Price Adjustment**	**Year 2 Monthly Price Adjustment**	**Year 3 Monthly Price Adjustment**
Engineering Lead	Gene Livesey	$7,058	$7,241	$7,440
Facility Manager	Quincy Carter	$9,594	$9,842	$10,113
Facility Security Officer	Troy Ayers	$4,481	$4,597	$4,724
Facility Superintendent/Facility Manager (Backup)	Dave Kaveshan	$8,637	$8,861	$9,104
Health & Safety Manager	Sam Burns	$4,952	$5,080	$5,220
Maintenance Manager	Patrick Chadwell	$6,739	$6,914	$7,104
~~Radiological Control Manager~~ Departed effective November 27, 2016 (SubCLINs 2AB (11 Months) and 2AC (12 Months) reduced in Modification 0022)	~~Mike Littleton~~	~~$1,845~~	~~$1,893~~	~~$1,945~~
Warehouse Supervisor	Cameron Brown	$3,253	$3,337	$3,429

H.19 DOE-H-1063 PERFORMANCE GUARANTEE AGREEMENT (JULY 2011)

The Contractor's parent organization(s) or all member organizations if the Contractor is a joint venture, limited liability company, or other similar entity, shall guarantee performance of the contract as evidenced by the Performance Guarantee Agreement incorporated in the contract in Section J, Attachment N, *Performance Guarantee Agreement*.

If the Contractor is a joint venture, Limited Liability Corporation (LLC), or other similar entity where more than one organization is involved, the parent(s) or all member organizations shall assume joint and severable liability for the performance of the contract. In the event any of the signatories to the Performance Guarantee Agreement enters into proceedings related to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish written notification of the bankruptcy to the CO.

H.20 DOE-H-1068 WORK STOPPAGE AND SHUTDOWN AUTHORIZATION (JULY 2011)

(a) Imminent Health and Safety Hazard is a given condition or situation which, if not immediately corrected, could result in a serious injury or death, including exposure to radiation and toxic/hazardous chemicals. Imminent Danger in relation to the facility safety envelope is a condition, situation, or proposed activity which, if not terminated, could cause, prevent mitigation of, or seriously increase the risk of (1) nuclear criticality, (2) radiation exposure, (3) fire/explosion, and/or (4) toxic hazardous chemical exposure.

(b) Work Stoppage. In the event of an Imminent Health and Safety Hazard, identified by facility line management or operators or facility health and safety personnel overseeing facility

operations, or other individuals, the individual or group identifying the imminent hazard situation shall immediately take actions to eliminate or mitigate the hazard (i.e., by directing the operator/implementer of the activity or process causing the imminent hazard to stop work, or by initiating emergency response actions or other actions) to protect the health and safety of the workers and the public, and to protect DOE Facilities and the environment. In the event an imminent health and safety hazard is identified, the individual or group identifying the hazard should coordinate with an appropriate Contractor official, who will direct the shutdown or other actions, as required. Such mitigating action should subsequently be coordinated with the DOE and Contractor management. The suspension or stop-work order should be promptly confirmed in writing by the CO.

(c) Shutdown. In the event of an imminent danger in relation to the facility safety envelope or a non-Imminent Health and Safety Hazard identified by facility line managers, facility operators, health and safety personnel overseeing facility operations, or other individuals, the individual or group identifying the potential health and safety hazard may recommend facility shutdown in addition to any immediate actions needed to mitigate the situation. However, the recommendation must be coordinated with Contractor management, and the DOE Site Manager. Any written direction to suspend operations shall be issued by the CO, pursuant to the Clause entitled, "FAR 52.242-15, *Stop-Work Order*."

(d) Facility Representatives. DOE personnel designated as Facility Representatives provide the technical/safety oversight of operations. The Facility Representative has the authority to "stop work," which applies to the shutdown of an entire plant, activity, or job. This stop-work authority will be used for an operation of a facility which is performing work the Facility Representative believes:

(1) Poses an imminent danger to health and safety of workers or the public if allowed to continue;

(2) Could adversely affect the safe operation of, or could cause serious damage to the facility if allowed to continue; or

(3) Could result in the release of radiological or chemical hazards to the environment in excess of regulatory limits.

(e) The Contractor shall flow-down this clause to all subcontractors at all tiers.

H.21 DOE-H-1069 TRANSITION TO FOLLOW-ON CONTRACT (JULY 2011)

The Contractor recognizes that the work and services covered by this contract are vital to the DOE mission and must be maintained without interruption, both at the commencement and the expiration of this contract. The Contractor shall meet full performance requirements from the start date of the base contract period. The Transition period shall be 53 days. Office space will not be provided by the Government during the transition period. The Contractor shall support, at a minimum, a weekly meeting with the preceding Contractor and Government representatives to discuss/identify problems or areas requiring attention during this transition period. Further:

(a) At the expiration of the contract term or any earlier termination thereof, the Contractor shall cooperate with a successor Contractor or the Government by allowing its employees to interview for possible employment. For those employees who accept employment with the successor contractor, such employees shall be released in coordinated manner with the successor contractor. The Contractor shall cooperate with the successor Contractor and Government with regard to the termination or transfer arrangements for such employees to assure maximum protection of employee service credits and fringe benefits.

(b) Within 15 business days after the transition period start date, the Contractor and the outgoing Contractor shall jointly prepare a mutual detailed plan for the phase-out and phase-in of operations. This plan shall specify a training and orientation program to cover each phase of the scope of work covered by the contract. A proposed date by which the Contractor will assume responsibility from the outgoing contractor for such work shall be established. The outgoing Contractor will maintain full responsibility for such work until assumption thereof by the Contractor. Execution of the proposed plan or any part thereof shall be accomplished in accordance with the CO's direction and approval.

(c) This clause shall apply to subcontracts as approved by the CO.

H.22 REPORT AND APPROVAL REQUIREMENTS FOR CONFERENCE RELATED ACTIVITIES – CLIN 3

The contractor is required to report and obtain approval from the CO before incurring any costs associated with conference related activities, when the conference costs are to be reimbursed by the Government. Conference expenses are defined as follows:

Conference expenses are defined as all direct and indirect conference costs paid by the Government, whether paid directly by agencies or reimbursed by agencies to contractors, travelers or others associated with the conference, but do not include funds paid under Federal grants to grantees. Conference expenses include any associated authorized travel and per diem expenses, rental of rooms for official business, audiovisual use, light refreshments, registration fees, ground transportation, and other expenses as defined by the Federal Travel Regulations (FTRs). All outlays for conference preparation and planning should be included, but employee time for conference preparation should not be included. The FTR provides some examples of direct and indirect conference costs included within conference expenses (see 41 CFR 301-74.2). Conference expenses should be net of any fees or revenue received by the agency or contractor through the conference.

H.23 ORO-H-1001 WORKER SAFETY AND HEALTH PROGRAM (JAN 2007)

(a) The contractor shall comply with all applicable safety and health requirements set forth in 10 CFR 851, *Worker Safety and Health Program*. The contractor shall develop, implement, and maintain a written Worker Safety and Health Program (WSHP) which shall describe the contractor's method for complying with and implementing the applicable requirements of 10 CFR 851. The WSHP shall be submitted to and approved by the CO. The approved WSHP shall be implemented prior to the start of the base period of performance. In performance of the work, the Contractor shall provide a safe and healthful workplace and must comply with its approved WSHP and all applicable federal and state environmental, health, and safety regulations. The Contractor shall take all reasonable precautions to protect the environment, health, and safety of its employees, DOE personnel, and members of the public. When more than one Contractor works in a shared workplace, the Contractor shall coordinate with the other Contractors to ensure roles, responsibilities, and worker safety and health provisions are clearly delineated. The Contractor shall participate in all emergency response drills and exercises.

(b) The Contractor shall take all necessary and reasonable steps to minimize the impact of its work on DOE functions and employees, and immediately report all job-related injuries and/or illnesses which occur in any DOE Facility to the COR. Upon request, the Contractor shall provide a copy of occupational safety and health self-assessments and/or inspections of work sites for job hazards for its DOE facilities to the COR.

(c) The CO may notify the contractor, in writing, of any noncompliance with the terms of this clause, plus the corrective action to be taken. After receipt of such notice, the contractor shall immediately take such corrective action.

(d) In the event that the contractor fails to comply with the terms and conditions of this clause, the CO may, without prejudice to any other legal or contractual rights, issue a stop work order halting all or any part of the work. Thereafter, a start order for resumption of the work may be issued at the discretion of the CO. The Contractor shall not be entitled to an equitable adjustment of the contract amount or extension of the performance schedule on any stop work order issued under this special contract requirement.

H.24 ORO-H-1002 SAFEGUARDS AND SECURITY AWARENESS PROGRAM (JAN 2007)

The contractor shall establish and maintain a Safeguards and Security Awareness Program acceptable to the COR, which satisfies the requirements of the following directives:

DOE O 470.4B, Admin Change 1, Safeguards and Security Program

The Contractor shall appoint a Safeguards Security Awareness Coordinator who will be responsible for ensuring all employees, cleared and uncleared, who are assigned to a DOE Facility or who are performing work involving access to classified facilities, classified information, or special nuclear materials are informed of their security responsibilities. Any subcontracts in support of this work shall require subcontractors to comply with the contractor's Safeguards and Security Awareness Program.

H.25 ORO-H-1003 SECURITY QUALIFICATIONS (JAN 2006)

(a) The Contractor may be required to perform work in designated security areas or work with documents or information which may require an access authorization (clearance). Additionally, the scope of their work may require enrollment into the Human Reliability Program (HRP). The Contractor shall ensure that all personnel assigned under this contract and working with classified data possess a DOE “Q” or “L” access authorization (clearance) matching the classification level of the data and information the employee will be required to work on in the performance of their assigned tasks.

(b) In the case of those individuals that do not require a “Q” or “L” they will possess, if required, as a minimum a Limited Site Specific Only (LSSO) badge and meet all access authorization requirements per HSPD-12, DOE N 206.4, and local procedures. For employees requiring DOE “Q” or “L” security clearances and/or LSSO badge, the Contractor shall not employ anyone who is not a citizen of the United States. (Clearance-Access authorizations are granted by the DOE pursuant to 10 CFR 710.) Security Badges must be worn properly at all times while working at any of the DOE and NNSA facilities.

(c) Clearances will be provided and paid for by DOE. The request for clearance and renewal of clearances must be justified based on actual job performance requirements. The CO, in coordination with the appropriate federal security representative, may waive the clearance requirement for personnel not involved with classified information while the appropriate access authorizations or badges are being processed, or for personnel associated with the program for short periods of time, such as consultants. In these cases, security requirements regarding these circumstances will be followed. The Contractor, on a case-by-case basis, will provide its own cleared escorts as needed. The COR or Contract Technical Monitor (CTM) will approve contractor personnel for escort privileges and provide escort training.

(d) The Contractor shall be required to conduct pre-employment investigative screening of prospective employees in order to ensure trustworthiness and reliability for all individuals who do not possess a DOE “Q” access authorization. For these individuals, the Contractor shall provide certification to the COR that an investigative screening has been completed prior to

employment. The certification shall include, as a minimum, verification of personal identity, previous employment and education, and the results of a credit and law enforcement check. **NOTE:** This requirement is not applicable to incumbent employees who already meet the requirements of this clause through their employment under the predecessor contract.

(e) Requests for access authorization shall not be submitted until the contract has been awarded, and a favorable Foreign Ownership, Control, or Influence (FOCI) determination must be rendered by DOE before an access authorization will be granted, reinstated, continued, extended, or transferred for the contractor's applicant employment. Upon contract award, the Contractor is encouraged to use the DOE Accelerated Access Authorization Program (AAAP) to obtain an Interim "Q" access authorization. The request for AAAP shall include the certified results of the pre-employment investigative screening of the prospective employee and a local federal review prior to approved submission under AAAP.

(f) The Contractor shall turn in badges for employees: (1) who are no longer working on the contract; (2) who no longer require access; (3) when their badge expires; or (4) when the contract expires or is terminated. Badges shall be returned to the individual handling security terminations. Notification of employment terminations supporting this contract will be made in writing to the CO and COR/CTM.

(g) In addition to the possible requirement of holding an access authorization, individuals, if the work position is identified as requiring enrollment in the HRP and/or maintaining currency under certain program requirements (e.g., annual HRP training) must be willing to comply with all regulatory requirements to be granted access under the HRP federal rules and local procedures.

H.26 ORO-H-1004 INSURANCE (FEB 2000)

(a) Except as provided in subparagraph (b) immediately following, the Contractor shall provide and maintain:

TYPE OF INSURANCE	AMOUNT
Worker's Compensation	$100,000
Employer's Liability	$100,000
Comprehensive General Liability (Bodily Injury)	$500,000 per occurrence
Comprehensive Automobile Liability (Bodily Injury)	$200,000 per person and $500,000 per occurrence
Comprehensive Automobile Liability (Property Damage)	$20,000 per occurrence

(e) The Contractor may, with the approval of the CO, maintain a self-insurance program; provided that, with respect to worker's compensation, the Contractor is qualified pursuant to statutory authority.

H.27 QUALITY ASSURANCE FOR WORK AFFECTING NUCLEAR SAFETY

The Contractor shall implement a COR-approved Quality Assurance (QA) Program (QAP) in accordance with the current revision of the EM Quality Assurance Program, EM-QA-001, prior to commencement of work affecting nuclear safety. The EM QAP provides the basis to achieve quality across the EM Complex for all mission-related work while providing a consistent approach to QA.

EM requires that American Society of Mechanical Engineers (ASME) NQA-1-2008, *Quality Assurance Requirements for Nuclear Facility Applications*, and addenda through 2009 be implemented as part of the Contractor's QA Program for work affecting nuclear safety. The required portions of NQA-1 to be implemented include: Introduction, Part I, and as applicable portions of Part II. NQA-1 Parts III and IV are to be used as guidance for the Contractor's QAP and implementing procedures.

Contractors have three options for complying with this contract requirement:

(a) Develop and submit for COR approval a new QAP;

(b) Adopt the prior Contractor's COR-approved QAP; or

(c) Modify the prior Contractor's COR-approved QAP and submit it for DOE approval.

Development of a new QAP, or adoption of an existing or modified version of a QAP from a prior contractor, does not alter a contractor's legal obligation to comply with 10 CFR 830, other regulations affecting QA and DOE O 414.1D.

The Contractor's QAP shall describe the overall implementation of the EM QA requirements and shall be applied to all work performed by the Contractor (e.g., research, design/engineering, construction, operation, budget, mission, safety, and health). Specifically, the contractor’s QAP shall also describe the supply chain for electronic subcomponents, require procurement of sub-components only from original equipment manufacturers or original equipment manufacturer authorized distributors, and require electronic subcomponents be procured from vendors with a documented successful history with the supplier.

The Contractor shall develop and implement a comprehensive Issues Management System for the identification, assignment of significance category, and processing of nuclear safety-related issues identified within the Contractor's organization. The significance assigned to the issues shall be the basis for all actions taken by the contractor in correcting the issue from initial causal analysis, reviews for reporting to DOE, through completion of Effectiveness Reviews if required based on the seriousness of the issue.

The Contractor shall, at a minimum, annually review and update as appropriate, their QAP. The review and any changes shall be submitted to the COR for approval. Changes shall be approved by the COR before implementation by the Contractor.

H.28 ORO-H-1008 HUMAN RESOURCE CONSIDERATIONS (MODIFIED)

(a) The Contractor shall, for purposes of vacation and severance pay only, credit those employees it hires from the predecessor contractor with length of service credit for any continuous employment. The Contractor shall not credit prior service for any other purpose.

(b) The Contractor shall provide incumbent employees a comparable pay and benefits package that provides for a market-based retirement and medical benefit program competitive to their industry. Non-incumbent employees will be provided a market-based pay and benefits package and consistent with the Service Contract Act, if applicable. The Contractor shall develop and implement welfare benefit programs that meet the tests of allowability and reasonableness established by FAR 31.205-6.

H.29 EMERGENCY CLAUSE

(a) The DOE Oak Ridge Office of Environmental Management (OREM) Manager or designee shall have sole discretion to determine when an emergency situation exists at the Oak Ridge site. In the event that either the DOE-Oak Ridge Office (ORO) Manager or designee determines such an emergency exists, the applicable DOE Manager or designee will have the authority to direct any and all activities of the Contractor and subcontractors necessary to resolve the emergency situation. The applicable DOE Manager or designee may direct the activities of the Contractor and subcontractors throughout the duration of the emergency.

(b) The Contractor shall include this Clause in all subcontracts at any tier for work performed at the Oak Ridge site.

H.30 ENVIRONMENTAL PERMITS

(a) This paragraph addresses three permit scenarios, where the Contractor is the sole permittee; where the Contractor and DOE are joint permittees; and where multiple contractors are permittees.

(1) Contractor as Sole Permittee. To the extent permitted by law and subject to other applicable provisions of the contract that impose responsibilities on DOE, and provisions of law that impose responsibilities on DOE or third parties, the Contractor shall be responsible for obtaining in its own name, shall sign, and shall be solely responsible for compliance with all permits, authorizations and approvals from federal, state, and local regulatory agencies which are necessary for the performance of the work required of the Contractor under this contract. Under this permit scenario, the Contractor shall make no commitments or set precedents that are detrimental to DOE or other contractors. The Contractor shall coordinate its permitting activities with DOE, and with other contractors which may be affected by the permit or precedent established therein, prior to taking the permit action.

(2) DOE as Permittee, or Contractor and DOE as Joint Permittees. Where appropriate, required by law, or required by applicable regulatory agencies, DOE will sign permits as permittee, or as owner or as owner/operator with the Contractor as operator or co-operator, respectively. DOE will co-sign hazardous waste permit applications as owner/operator where required by applicable law. In this scenario, the Contractor shall coordinate its actions with DOE. DOE is responsible for timely notification to the Contractor of any issues or changes in the regulatory environment that impact or may impact contractor implementation of any permit requirement. The Contractor shall be responsible for timely notification to DOE of any issues or changes in the regulatory environment that impact or may impact contractor implementation of any permit requirement.

(3) Multiple Contractors as Permittees. Where appropriate, in situations where multiple contractors are operators or co-operators of operations requiring environmental permits, DOE will sign such permits as owner or co-operator and affected contractors shall sign as operators, or co-operators. In this scenario, the Contractor shall coordinate as appropriate with DOE and other contractors affected by the permit.

(b) Permit Applications. The Contractor shall provide to the COR for review and comment in draft form any permit applications and other regulatory materials necessary to be submitted to regulatory agencies for the purposes of obtaining a permit. Whenever reasonably possible all such materials shall be provided by the Contractor to the COR initially not later than 90 calendar days prior to the date they are to be submitted to the regulatory agency. The Contractor shall normally provide final regulatory documents to the COR at least 30 calendar days prior to the date of submittal to the regulatory agencies for DOE's final review and signature or concurrence. Special circumstances may require permits to be

submitted in a shorter time frame. As soon as the Contractor is aware of any such special circumstance, the Contractor shall provide notice to DOE as to the timeframe in which the documents will be submitted to the COR. The Contractor may submit for DOE's consideration, requests for alternate review, comment, or signature, schedules for environmental permit applications or other regulatory materials covered by this Clause. Any such requests shall be submitted by the Contractor 30 calendar days before such material would ordinarily be required to be provided to the COR. Any such schedule revision shall be effective only upon approval from the CO.

(c) Copies, Technical Information. The Contractor shall provide the COR copies of all environmental permits, authorizations, and regulatory approvals issued to the Contractor by the regulatory agencies. The COR will, upon request, make available to the Contractor access to copies of all environmental permits, authorizations, and approvals issued by the regulatory agencies to DOE that the Contractor may need to comply with under applicable law. The Contractor and the COR will provide to each other copies of all documentation, such as, letters, reports, or other such materials transmitted either to or from regulatory agencies relating to the contract work. The Contractor and the COR shall maintain all necessary technical information required to support applications for revision of DOE or other Site contractor environmental permits when such applications or revisions are related to the Contractor's operations. Upon request, the Contractor or the COR shall provide to the other access to all necessary and available technical information required to support applications for or revisions to permits or permit applications. The Contractor shall provide to the COR a certification statement relating to such technical information in the form required by the following paragraph.

(d) Certifications. The Contractor shall provide a written certification statement attesting that information DOE is requested to sign was prepared in accordance with applicable requirements. The Contractor shall include the following certification statement in the submittal of such materials to the COR:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

The certification statement shall be signed by the individual authorized to sign such certification statements submitted to federal or state regulatory agencies under the applicable regulatory program.

H.31 EMPLOYEE TRAINING

Contractor's Responsibility: The Contractor shall provide fully qualified and trained personnel from its own resources to support ORO requirements. ORO may provide training assistance at its discretion at no cost to the Contractor. The Contractor shall provide the details of all training to the COR, upon request.. Overtime costs associated with training will not be reimbursed by the Government.

Mandatory Training: The Contractor shall ensure that all employees attend safety and security training once within 30 calendar days of beginning performance on this Contract and at least once annually thereafter. Contractor shall ensure that every employee is instructed to safely and competently perform the work. The Contractor is encouraged to closely collaborate with other Oak Ridge Prime Contractors to combine/recognize similar training and qualifications.

H.32 ENERGY EMPLOYEES OCCUPATIONAL ILLNESS COMPENSATION PROGRAM ACT

The Contractor shall provide support of the Energy Employees Occupational Illness Compensation Program Act of 2011(EEOICPA) established under Title XXXVI of the National Defense Authorization Act of 2001 (Public Law 106-398). The Contractor shall provide records in support of EEOICPA claims and the claim process under the EEOICPA.

The Contractor shall:

(a) Verify employment and provide other records which contain pertinent information for compensation under the EEOICPA. The Contractor shall provide this support for itself and any named subcontractors' employees.

(b) Provide reports as directed by DOE, such as costs associated with EEOICPA.

(c) Provide an EEOICPA point-of-contact; this employee shall attend meetings, as requested by the DOE-ORO.

(d) Locate, retrieve and provide a minimum of 2 copies of any personnel and other program records as requested.

(e) Perform records research needed to complete the DOL claims or to locate records needed to complete the claims.

(f) Perform/coordinate records declassification activities required for the processing of claims forms.

(g) Keep Federal Compensation Program Act (FCPA) information current on EEOICPA claims activities.

(h) Ensure costs information is input to the FCPA electronic reporting system by the 10th of each month.

(i) Ensure all EEOICPA claims received are completed and returned to DOE within 45 calendar days of the date entered in the FCPA electronic reporting system.

The FCPA electronic reporting system will be provided to the Contractor by DOE.

H.33 PRIVACY ACT SYSTEMS OF RECORDS

The Contractor shall design, develop, or adopt the following systems of records on individuals to accomplish an agency function pursuant to the Section I Clause entitled, FAR 52.224-2, *Privacy Act*.

System No.	Title
DOE-5	Personnel Records of Former Contractor Employees
DOE-13	Payroll & Leave Records
DOE-14	Report of Compensation
DOE-15	Intelligence Related Access Authorization
DOE-23	Property Accountability System
DOE-28	General Training Records
DOE-33	Personnel Medical Records
DOE-35	Personnel Radiation Exposure Records

DOE-43	Personnel Security Clearance File
DOE-51	Employee and Visitor Access Control Records
DOE-53	Access Authorization for ADP Equipment

H.34 DISPOSITION OF INTELLECTUAL PROPERTY – FAILURE TO COMPLETE CONTRACT PERFORMANCE

The following requirements shall apply in the event the Contractor does not complete Contract performance for any reason:

(a) The Government may take possession of and use all technical data, including limited rights data, restricted computer software, and data and software obtained from subcontractors, licensors, and licensees, necessary to complete the work in conformance with this contract, including the right to use the data in any Government solicitations for the completion of the work contemplated under this contract. Technical data includes, but is not limited to, specifications, designs, drawings, operations manuals, flowcharts, software, databases and any other information necessary for of the completion of the work under this contract. Limited rights data and restricted computer software will be protected. The Contractor shall ensure that its subcontractors and licensors make similar rights available to the Government and its Contractors.

(b) The Contractor hereby grants to the Government an irrevocable, non-exclusive, paid-up license in and to any inventions or discoveries regardless of when conceived or actually reduced to practice by the Contractor, and any other intellectual property, including technical data, which are owned or controlled by the Contractor, at any time through completion of this contract and which are incorporated or embodied in the construction of the facilities or which are utilized in the operation or remediation of the facilities or which cover articles, materials or products manufactured at a facility: (1) to practice or to have practiced by or for the Government at the facility; and (2) to transfer such license with the transfer of that facility. The acceptance or exercise by the Government of the aforesaid rights and license shall not prevent the Government at any time from contesting the enforceability, validity or scope of, or title to, any rights or patents or other intellectual property herein licensed.

(c) The Contractor shall take all necessary steps to assign permits, authorizations, leases, and licenses in any third party intellectual property to the Government, or such other third party as the Government may designate, that are necessary for the completion of the work required under this contract.

H.35 CONFIDENTIALITY OF INFORMATION

(a) To the extent that the work under this Contract requires that the Contractor be given access to confidential or proprietary business, technical, or financial information belonging to the Government or other companies, the Contractor shall, after receipt thereof, treat such information as confidential and agree not to appropriate such information to its own use or to disclose such information to third parties unless specifically authorized by the CO in writing. The foregoing obligations, however, shall not apply to:

- Information which, at the time of receipt by the Contractor, is in the public domain;
- Information which is published after receipt thereof by the Contractor or otherwise becomes part of the public domain through no fault of the Contractor;
- Information which the Contractor can demonstrate was in its possession at the time of

receipt thereof and was not acquired directly or indirectly from the Government or other companies; and

- Information which the Contractor can demonstrate was received by it from a third party that did not require the Contractor to hold it in confidence.

(b) The Contractor shall obtain the written agreement, in a form satisfactory to the CO, of each employee permitted access, whereby the employee agrees that he or she will not discuss, divulge or disclose any such information or data to any person or entity except those persons within the Contractor's organization directly concerned with the performance of the Contract.

(c) The Contractor agrees, if requested by the CO, to sign an agreement identical, in all material respects, to the provisions of this clause, with each company supplying information to the Contractor under this Contract, and to supply a copy of such agreement to the CO.

(d) The Contractor agrees that upon request by the CO it will execute and sign a DOE-approved agreement with any party whose facilities or proprietary data it is given access to or is furnished, restricting use and disclosure of the data or the information obtained from the facilities.

(e) This clause shall flow down to all subcontracts.

H.36 COST REPORTING FOR THE ENVIRONMENTAL COST ANALYSIS SYSTEM – CLIN 3

(a) Applicability and Purpose.

The Environmental Cost Analysis System (ECAS) provides an integrated system for accumulation, integration, analysis, and corporate access to actual costs and other relevant historical information from completed projects in an accessible format. ECAS is an "internet-accessible" database that contains descriptive project information, actual cost data, and both primary and secondary project or operational parameters. ECAS does not include proprietary or business sensitive data. ECAS has been developed with the flexibility to include costs for both Capital Asset Projects and Operating Activities with defined key performance parameters for specific EM Line item and Cleanup contracts.

The Contractor shall report project data for ECAS as stated herein. The report shall consist of a digital file readable by, or converted to, files in either Microsoft Excel® or Microsoft Access®. Project narrative information shall be submitted as a Microsoft Word® document. Contractor's key performance parameters (KPPs) are achieved and reports shall be submitted within 30-days of achieving the KPP. Capital Asset Projects are required to have a closeout report at Critical Decision-4 per DOE O 413.3B. The Contractor shall provide a copy of the closeout report as a "PDF" file to EM-53, EM-53 will provide the file to the EM Consolidated Business Center (EMCBC) for inclusion in ECAS.

(b) The ECAS.

ECAS is a SQL® database with eighty five discrete data fields designed to facilitate capture of project identification and descriptive information, product-oriented Work Breakdown Structure (WBS) elements, work activities using a common EM corporate structure, cost data segregated by element of cost, primary project parameters based on the project type, and secondary project information designed to facilitate further project characterization and overall database reporting. The WBS, work activities per planning and work packages, and associated actual cost information is typically available directly from the contractor accounting system. Project identification and primary parameter information are often available from other project reporting information (e.g., key KPPs and DOE Project Assessment and Reporting System

[PARS II]). Project narratives, project parameters and secondary project characteristics are developed by personnel familiar with the work covered by the project.

Sections B.1 through B.5 of this clause define the information and format the Contractor is required to report for ECAS. Compliance with these provisions will be verified as part of the Contract Performance Baseline Validation associated with the each contract.

http://www.emcbc.doe.gov/Content/Office/ECASUsers_Manual_Rev0_3-15-10.pdf

B.1 Project Identification.

EM has implemented a Corporate WBS (CWBS) which is captured in ECAS. The CWBS standardizes the structure used to categorize like scopes of work, facilitate Analytical Building Blocks and comparative analyses and simplify budget preparation. The CWBS allows EM to interface with site-specific work breakdown structures, maintain historical costs by Program Baseline Summary, and analyze the program using multiple attributes.

B.2 Site WBS.

The site WBS structure will interface with the EM CWBS in ECAS starting at "Site WBS Level 5." This information captures data below the Project level in the WBS structure.

B.3 Work Activity.

The work activity is the lowest level at which costs are typically collected (e.g., the control account, cost account, planning package, work package, etc.). The activity is normally accompanied with a descriptor and is a standard component of accounting systems. The requirement of this section is that the contractor assigns Environmental Cost Element Structure (ECES) codes to each work activity for which costs are collected. The ECES is a comprehensive hierarchical list of elements (tasks, items, or products) required to accomplish an environmental management project. ECES levels will be applied for all activities at or below the project level or at ECAS Level "_6_Comp_T_A_Elmnt."

The American Society for Testing and Materials (ASTM) E2150, *"Standard Classification for Life-Cycle Environmental Work Elements, Environmental Cost Element Structure (ECES),"* establishes the first two levels of the cost structure. The DOE Adjunct provides more detailed elements and definitions of the ECES at Levels 3, 4, and 5 that are needed to support DOE EM projects.

B.4 Cost Data.

Cost data is entered into ECAS at the "_6_Comp_T_A_Elmnt" Level. Data should be provided at the lowest level identified in B.3. FAR Subpart 15.4 prescribes the cost and price negotiation policies and procedures for pricing negotiated prime contracts (including subcontracts) and contract modifications, including modifications to contracts awarded by sealed bidding. FAR Subpart 15.408, Table 15-2, *"Instructions for Submitting Cost/Price Proposals When Certified Cost or Pricing Data Are Required"* includes instructions applicable to data reported for ECAS. Direct cost data does not include general and administrative, or fee values.

B.4.1 Direct Cost.

- *Labor*: Typical EM projects have a large percentage of costs attributable to labor. ECAS stores summary data as either "professional" or "craft" labor. Professional labor means all Fair Labor Standards Act of 1938 (FLSA) "exempt" labor categories (i.e., Project Management, Scientist, Engineers, Project Controls,

Scheduler, Miscellaneous technical Professionals, etc.). Craft labor means FLSA non-exempt labor categories (carpenters, electricians, plumbers, pipe fitters, laborer, equipment operators, etc.). Direct labor cost includes salaries and wages, payroll taxes and insurance, fringe benefit (paid time off, health care, etc.), and other site specific labor fringe markups, Total hours and total direct cost for professional and craft labor need to be reported for ECAS.

- *Material*: Provide a consolidated priced summary of individual material quantities included in the items being used in the project, including raw materials, parts, components, assemblies, and services to be produced or performed by others. Direct costs should include material, handling and/or delivery, and sales tax.

- *Equipment*: Provide a consolidated priced summary of individual equipment costs included in the items being used in the project (pumps, motors, cranes, control panels, transformers, engineered systems, etc.) including purchase and delivery cost, or rental cost as applicable, parts, components, assemblies, sales tax where applicable, and services to be produced or performed by others during equipment installation. Direct equipment costs that are allocated to a project should reflect hourly charges (cost of ownership or lease), fuel, oil, gas, and maintenance (FOGM), etc. Operating costs shall be included in Labor cost.

- *Subcontract*: Subcontractor cost data must be accurate, complete and current as of the date of final price agreement given on the prime contractor's Certificate of Current Cost or Pricing Data. The prime contractor is responsible for updating a subcontractor's data. If a subcontractor meets the criteria as a "major" subcontractor as defined in each contract, than the subcontractor will be required to report costs to the same level of detail as the prime contractor.

B.4.2 Other Direct Cost Elements.

List all other costs not otherwise included in the categories described above (e.g., special tooling, travel, computer and consultant services, preservation, packaging and packing, spoilage and rework, and Federal excise tax on finished articles).

B.4.3 General and Administrative Expense.

"General and administrative (G&A) expense" means any management, financial, and other expense which is incurred by or allocated to a business unit and which is for the general management and administration of the business unit as a whole. G&A expense does not include those management expenses whose beneficial or causal relationship to cost objectives can be more directly measured by a base other than a cost input base representing the total activity of a business unit during a cost accounting period.

B.4.4 "Indirect" Cost Elements.

EM "project-type" work associated with specific, tangible efforts as captured in the ECAS projects is supported by numerous activities not directly associated with a given effort or project. "Indirect cost" means any cost not directly identified with a single final cost objective, but identified with two or more final cost objectives or with at least one intermediate cost objective. "Indirect cost rate" means the percentage or dollar factor that expresses the ratio of indirect expense incurred in a given period to direct labor cost, manufacturing cost, or another appropriate base for the same period (see also "final indirect cost rate").

B. 5 Non-Cost Data.

Data collected in these fields is used to identify factors that may have an effect on

costs. These can include type of facilities, contaminants, regulatory and stakeholder environments, technical issues, and other factors that may drive costs higher or lower. ECAS includes:

- Primary Parameters
- Waste Parameters
- Supplemental D&D Parameters
- Other Project Descriptors

Project narratives submitted with ECAS data should clearly explain how the reported direct and indirect costs are calculated and applied in the database.

H.37 INTEGRATED CONTRACTOR WORK CONTROL SYSTEMS AND REPORTING REQUIREMENTS

(a) The Contractor shall establish, maintain, and use a performance measurement system that accurately records and reports the Contract performance against the requirements of the Contract, accurately reflects the Contract Cost/Price in Section B of the Contract, and is consistent with DOE and EM policies and guidance. The performance measurement system shall establish performance metrics, milestones, schedules, and percentage of project completion as described in Section J, Attachment M, *Integrated Work Control Systems and Reporting Requirements.*" The performance measurement system shall employ sound performance measurement principles and provide adequate insight into potential risks to DOE relating to achievement of cost, schedule and technical performance objectives. An Earned Value Management System that is compliant with American National Standards Institute/Electronics Industries Alliance (ANSI/EIA) Standard-748, Earned Value Management Systems, is not required but encouraged.

(b) The Contractor shall assist in the performance of all applicable project reviews that may include, but are not limited to, Independent Project Reviews; quarterly project reviews; safety, security, and quality assurance assessments; and periodic reviews of project performance.

(c) The Contractor shall provide all management and technical information to:

1) Support the budget formulation activities including, but not limited to, emerging work items list; budget formulation input (including Integrated Priority List), fall limited budget update submission, budget scenario development, and budget presentations (such as public and regulatory briefings, etc.);

2) Support audits, evaluations, and external technical reviews; and

3) Support other DOE project performance assessments and information needs.

(d) All project management information developed under this Contract shall be provided electronically or be electronically accessible by DOE. In support of the OREM-wide Federal Life-cycle Baseline, the Contractor shall provide the interim and full Contract period of performance, schedule, and price information to the Government (see Section J, Attachment B, Reporting Requirements).

(e) The Contractor shall submit a Monthly Progress Performance Report (see Section J, Attachment B, *Reporting Requirements*) to the CO and COR within 5 business days following the close of the prior monthly reporting period. The report shall provide the prior month's

performance for each CLIN and an update of the performance to date. The report shall include a narrative description of scope accomplished, progress on corporate and Contract specific performance metrics, status of milestones, and deliverables, as well as an update of the project schedule.

H.38 CONSERVATION OF UTILITIES

The Contractor shall instruct Contractor employees in utilities conservation practices. The Contractor shall operate under conditions that preclude the waste of utilities. The Contractor shall use lights only in areas where and at the time when work is actually being performed except in those areas where lighting is essential for purpose of safety and security.

H.39 MODIFICATION AUTHORITY

Notwithstanding any of the other clauses of this Contract, the CO shall be the only individual authorized to:

(a) Accept nonconforming work,

(b) Waive any requirement of this Contract, or

(c) Modify any term or condition of this Contract.

H.40 PRICE-ANDERSON AMENDMENTS ACT OF 2005 NON-COMPLIANCE

The Contractor shall establish an internal Price-Anderson Amendments Act of 2005 (PAAA) noncompliance identification, tracking, and corrective action system and shall provide access to and fully support DOE reviews of the system. The Contractor shall also implement a PAAA reporting process which meets applicable DOE standards. The Contractor shall be accountable for ensuring that subcontractors adhere to these requirements.

H.41 PROTECTION OF PERSONALLY IDENTIFIABLE INFORMATION

(a) Definitions.

(1) Personally Identifiable Information (PII): Any information about an individual maintained by DOE or its contractors, (e.g. medical, education, financial, criminal or other employment history and information, etc.), which can be used to distinguish or trace an individual's identity, (e.g. name, social security numbers, date and place of birth, mother's maiden name, biometric records, etc.), and any other personal information which is linked or linkable to an individual.

(2) PII Incident: Any suspected or confirmed cyber security or physical security incident involving PII.

(b) Requirements.

(1) All suspected or confirmed cyber security and physical security incidents involving PII shall be reported to the DOE Joint Cyber Coordination Center (JC3) within 45 minutes of discovering the incident. Reports to the JC3 may be sent via email to circ@JC3.doe.gov, by phone to (888) 941-2472, 24 hours a day – 7 days a week.

(2) In addition to notification to JC3, all suspected or confirmed cyber security and physical security incidents involving PII shall be reported telephonically within 45 minutes of discovering the incident to: Qui Nguyen, 865-576-1600.

(3) While the initial notification may be telephonic, the Contractor shall follow-up in writing, signed by a senior Contractor official. Notices shall, at a minimum, contain factual information describing both the circumstances surrounding the loss and the information that was compromised. All notifications shall include the name and telephone number of a contact person.

(4) Appropriate steps shall be taken to minimize identity theft risks to the affected individuals.

(5) The Contractor shall notify all employees and others affected by the PII loss unless after consultation with law enforcement officials, the Assistant Secretary for Environmental Management determines that notification will significantly compromise the investigation.

H.42 PAPERLESS DIRECTIVE PROCESSING SYSTEM

(a) The Contractor, in addition to complying with applicable laws, rules, and other regulations, shall comply with those DOE orders and other directives applicable to Contractors, with the applicable departmental policies, plans, programs, and management directives, and with all changes to assigned work as agreed to by the Contractor and the CO or designee.

(b) DOE has developed an operating and administrative requirements *"List of Required Compliance Documents,"* attached to the contract as Section J, Attachment D. The Contractor shall comply with the directives identified in such list. The Contractor shall make no claim, including a claim for equitable adjustment under the Changes clauses of this contract, for additional costs, fee or extension of time of performance relating to compliance with the directives in such list unless specifically covered in paragraph (c), below.

(c) The List of Applicable DOE Directives to the contract will be revised and issued, by the DOE CO, as a contract modification, as necessary. The CO may direct the Contractor to comply with additional DOE directives and local directives and revisions thereto, as follows:

(1) Pursuant to any environment, safety, and health (ES&H) provisions of this contract, and in accordance with the Changes clause of this contract with respect to changes in directives involving safety, environment, health, and quality.

(2) Upon receipt of a new or revised directive, the Contractor shall review it for consistency with the other terms of this contract. In the event the Contractor considers the directive to be inconsistent with the other terms of this contract, the Contractor shall so advise the CO within 30 calendar days of receipt. Such notice shall include the basis for the claimed inconsistency and the projected cost of implementation. After evaluation of the Contractor's position, the CO shall issue direction to the Contractor, pursuant to the applicable Changes clause in this contract, concerning appropriate implementation of the directive.

(d) The Contractor shall incorporate the substance of this clause with respect to applicable directives, excluding any reference to the Changes clause, in subcontracts for performance of work at the site and as directed by the CO.

H.43 MENTOR-PROTÉGÉ PROGRAM

(a) Both the U.S. Department of Energy (DOE) and the Small Business Administration (SBA) have established Mentor-Protégé Programs to encourage federal prime contractors to assist small businesses, firms certified under Section 8(a) of the Small Business Act by the SBA, other small disadvantaged businesses, women-owned small businesses, historically black

colleges and universities and minority institutions, other minority institutions of higher learning, and small business concerns owned and controlled by service disabled veterans in enhancing its business abilities. Mentor and Protégé firms shall develop and submit "lessons learned" evaluations to DOE at the conclusion of the contract.

(b) DOE Mentor-Protégé Agreements shall be in accordance with DEAR Subpart 919.70, The Department of Energy Mentor-Protégé Program.

(c) SBA Mentor-Protégé Agreements shall be in accordance with applicable SBA regulations.

H.44 TEAMING

In order to most effectively accomplish this Contract, the Government proposes to form a cohesive teaming arrangement with the Contractor. It is a way of doing business based upon trust, dedication to common goals, and an understanding and respect of each other's expectations and values. The process creates a teambuilding environment which fosters better communication and problem solving, and a mutual trust between the participants. These key elements create a climate in which issues can be raised, openly discussed, and jointly settled, without getting into an adversarial relationship. In this way, teaming is a mindset, and a way of doing business. It is an attitude toward working as a team, and achieving successful project execution. This endeavor seeks an environment that nurtures team building cooperation, and trust between the Government and the Contractor. The teaming arrangement strives to draw on the strengths of each organization in an effort to achieve a quality project done right the first time, within budget, and on schedule.

Participation in the teaming arrangement will be totally voluntary by the parties. Any cost associated with effectuating this teaming arrangement will be agreed to by both parties during Contract performance. The U.S. Army Corps of Engineers has championed teaming and their guidelines will be utilized in organizing teaming meetings and establishing a teaming agreement.

H.45 TASK ORDERING PROCEDURE – CLIN 4

(a) A task order may be issued as needed for any work covered by Section J, Attachment A, PWS Section J-A 4 in accordance with the terms of this contract. Task orders may only be issued as FFP.

(b) Only the Contracting Officer (CO) may issue task orders to the Contractor, providing specific authorization or direction to perform work within the scope of the contract and as specified in the schedule. The Contractor may incur costs under CLIN 4 in performance of task orders and task order modifications issued in accordance with this clause. No other costs are authorized under CLIN 4.

(c) All task order efforts shall be completed in accordance with the contract requirements, in addition to the requirements as stated within the task order.

(d) Prior to issuing a task order, the CO will provide the Contractor with a request for task plan including, at a minimum, the following data:

(i) A task order PWS providing the functional description/requirements of the work, deliverables (if any), Government-furnished items (if any), and period of performance requirements;
(ii) Proposed performance standards to be used as criteria for determining whether the work requirements have been met;

(iii) Requirements for the Contractor's task plan (reference paragraph f, below, for details); and
(iv) A response time for submitting the task plan.

(e) The Contractor shall submit all task plans within 5 business days after receipt of a request for task plan from the CO, unless otherwise requested (In order to meet urgent requirements, the Contractor may be required to respond to a shorter time period identified by the CO.). If the Contractor is unable to submit the task plan within the required 5 business days, or the CO requests a submission period of less than 5 business days, the Contractor shall contact the CO within 2 business days of receipt of the task order request to reach an agreement on the due date for the task plan.

(f) The Contractor's task plan shall include, at a minimum, the following:

a. Discussion of the technical approach for performing the work;
b. A detailed schedule, including, but not limited to, key milestones identified in the Government PWS and/or the Contractor's technical approach;
c. Price information (reference paragraph g, below, for details);
d. Proposed deviations (if any) from the stated PWS requirements; and
e. Any other pertinent information.

(g) Procedure for establishing FFP

a. The price proposal from the Contractor shall utilize only the applicable fully-burdened container management, tracking, and loading scenario rates identified in Section J, Attachment P, IDIQ Schedule of Rates (DEC 2016).
b. The Contractor shall determine the total task order price by totaling the number of containers to be managed, tracked, and loaded for each rate category/location and then multiplying by the appropriate fully-burdened container management, tracking, and loading scenario rate from Attachment P for the applicable management, tracking, and loading scenario.

(h) The CO will either approve the Contractor's task plan or negotiate any areas of disagreement with the Contractor. After review and any necessary discussions, the CO may issue a task order to the Contractor containing, as a minimum, the following:

(i) Date of the order.
(ii) Contract number and task order number.
(iii) PWS providing the functional description/requirements of the work, deliverables (if any), Government-furnished items (if any), and period of performance requirements.
(iv) Performance standards, and where appropriate, quality assurance standards.
(v) FFP amount authorized.
(vi) Accounting and appropriation data.

(i) The Contractor shall provide acknowledgment of receipt to the CO within 2 business days after receipt of the task order.

(j) If time constraints do not permit issuance of a fully defined task order in accordance with the procedures described in this clause, the CO may issue a task order which includes a Not-To-Exceed ceiling cost/price. All terms and conditions of the task order, including a FFP, will be definitized at a later day based on a schedule established by the CO.

(k) The CO may modify task orders in the same manner in which they were issued.

(l) In the event of a conflict between the requirements of the task order and the Contractor's approved task plan, the task order shall prevail.

(m) The Contractor shall deliver all task order specific deliverables as stated in task order.

(n) The Contractor shall not submit invoices until task order work is complete (i.e., when the CO acknowledges the work has been satisfactorily completed).

H.46 INDEFINITE-DELIVERY/INDEFINITE-QUANTITY (IDIQ) SCHEDULE OF RATES – CLIN 4

(a) The purpose of this clause is to set forth the Not-to-Exceed fully-burdened container management, tracking, and loading scenario rates to be utilized when estimating and pricing all IDIQ task orders.

(b) IDIQ task orders may be issued for PWS Section J-A 4 in accordance with the terms of this contract.

(c) The Contractor shall utilize the container management, tracking, and loading scenario rates in Section J, Attachment P, IDIQ Schedule of Rates (DEC 2016), in establishing the total FFP amount for each task order. The Contractor may propose container management, tracking, and loading scenario rates less than, but not exceeding, the container management, tracking, and loading scenario rates in Attachment P.

(d) Container management, tracking, and loading scenario rates may be added upon bilateral agreement between the Contractor and the Contracting Officer provided the requirements warrant additions.

H.47 REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFEROR

The completed provision 52.204-8, Annual Representations and Certifications, including any amended representation(s) made at paragraph (b) of the provision; and other representations, certifications and other statements contained in Section K completed and submitted as part of the offer dated December 23, 2014 are hereby incorporated by reference in this resulting contract.

H.48 PROVISIONAL PAYMENT OF FEE

(a) Notwithstanding any other term or condition of this contract to the contrary, this clause applies to and has precedence over all other terms and conditions of this contract that provide for provisional payment of fee.

(b) The Contractor must notify the Contracting Officer immediately if it believes any incongruence exists between this clause and any other term or condition of this contract that provides for provisional payment of fee. If a term or condition of this contract provides for provisional payment of fee but fails to include all of the requirements of this clause, that term or condition will be considered to include the omitted requirements.

(c) This clause conforms to the Federal Acquisition Regulation and Department of Energy fee policy and constructs. The following definitions and concepts apply.
(1) *Price* means cost plus any fee or profit applicable to the contract.
(2) The terms *profit* and *fee* are synonymous.
(3) *Incentive* means a term or condition whose purpose is to motivate the Contractor to provide supplies or services at lower costs, and in certain instances with improved delivery or technical performance, by relating the amount of profit or fee earned to the Contractor's performance.
(4) *Earned fee* for an incentive means fee due the Contractor by virtue of its meeting the contract's requirements entitling it to fee. Earned fee does not occur until the Contractor has met all conditions stated in the contract for earning fee.
(5) *Available fee* for an incentive means the fee the Contractor might earn but has not yet earned.
(6) *Provisional payment of fee* for an incentive means the Government's paying available fee for an incentive to the Contractor for making progress towards meeting the performance measures for the incentive before the Contractor has earned the available fee.
(7) Provisional payment of fee has no implications for the Government's eventual determination that the Contractor has or has not earned the associated available fee. Provisional payment of fee is a separate and distinct concept from earned fee. The Contractor could, for example, receive 100% of possible provisional fee payments yet not earn any fee (the Contractor would be required to return all of the provisional fee payments). The Contractor could, for example, receive 0% of possible provisional fee payments yet earn the entire amount of available fee (it would not receive any fee payments until the Government's determination that the Contractor had earned the associated available fee for the incentive).
(8) *Clause* means a term or condition used in this contract.

(d) This contract's price, incentives included in its price, and all other terms and conditions reflect the Government's and the Contractor's agreement to link, to the maximum extent practical, the Contractor's earning of fee to its achievement of final outcomes rather than interim accomplishments.

(e) Certain terms and conditions of this contract provide for provisional payment of fee for certain incentives. Other terms and conditions of this contract provide for each such incentive the requirements the Contractor must meet to earn the fee linked to the incentive. The terms and conditions of this contract that provide for provisional payment of fee for certain incentives include for each such incentive the requirements the Contractor must meet before the Government is obligated to pay fee, provisionally, to the Contractor and for the Contractor to have any right to retain the provisionally paid fee.

(f) The Contracting Officer, at his/her sole discretion, will determine if the Contractor has met the requirements under which the Government will be obligated to pay fee, provisionally, to the Contractor and for the Contractor to have any right to retain the provisionally paid fee.

(g) If the Contracting Officer determines the Contractor has not met the requirements to retain any provisionally paid fee and notifies the Contractor, the Contractor must return that provisionally paid fee to the Government within 30 days:
(i) the Contactor's obligation to return the provisional paid fee is independent of its intent to dispute or its disputing the Contracting Officer's determination; and
(ii) if the Contractor fails to return the provisionally paid fee within 30 days of the Contracting Officer's determination, the Government, in addition to all other rights that accrue to the Government and all other consequences for the Contractor due to the

Contractor's failure, may deduct the amount of the provisionally paid fee from: amounts it owes under invoices; amounts it would otherwise authorize the Contractor to draw down under a Letter of Credit; or any other amount it owes the Contractor for payment, financing, or other obligation.

(h) If the Contractor has earned fee associated with an incentive in an amount greater than the provisional fee the Government paid to the Contractor for the incentive, the Contractor will be entitled to retain the provisional fee and the Government will pay it the difference between the earned fee and the provisional fee.

H.49 CONFERENCE SPENDING

a) The contractor shall ensure that contractor-sponsored conferences reflect the DOE/NNSA's commitment to fiscal responsibility, appropriate stewardship of taxpayer funds and support the mission of DOE/NNSA as well as other sponsors of work. In addition, the contractor will ensure conferences do not include any activities that create the appearance of taxpayer funds being used in a questionable manner.

b) The definition of a conference can be found at http://energy.gov/management/downloads/acquisition-letter-no-al-2015-09.

c) Contractor-sponsored conferences include those events that meet the conference definition and either or both of the following:

1) The contractor provides funding to plan, promote, or implement an event, except in instances where a contractor:

i) covers participation costs in a conference for specified individuals (e.g. students, retirees, speakers, etc.) in a total amount not to exceed $10,000 (by individual contractor for a specific conference) or

ii) purchases goods or services from the conference planners (e.g., attendee registration fees, renting booth space).

2) The contractor authorizes use of its official seal, or other seals/logos/ trademarks to promote a conference. Exceptions include non-M&O contractors who use their seal to promote a conference that is unrelated to their DOE contract(s) (e.g., if a DOE IT contractor were to host a general conference on cyber security).

d) Attending a conference, giving a speech or serving as an honorary chairperson does not connote sponsorship.

e) The contactor will provide information on conferences they plan to sponsor with expected costs exceeding $100,000 in the Department's Conference Management Tool, including:

1) Conference title, description, and date
2) Location and venue
3) Description of any unusual expenses (e.g., promotional items)
4) Description of contracting procedures used (e.g., competition for space/support)
5) Costs for space, food/beverages, audio visual, travel/per diem, registration costs, recovered costs (e.g., through exhibit fees)
6) Number of attendees

f) The contractor will not expend funds on the proposed contractor-sponsored conferences with expenditures estimated to exceed $100,000 until notified of approval by the contracting officer.

g) For DOE-sponsored conferences, the contractor will not expend funds on the proposed conference until notified by the contracting officer.

1) DOE-sponsored conferences include events that meet the definition of a conference and where the Department provides funding to plan, promote, or implement the conference and/or authorizes use of the official DOE seal, or other seals/logos/ trademarks to promote a conference. Exceptions include instances where DOE:

i) covers participation costs in a conference for specified individuals (e.g. students, retirees, speakers, etc.) in a total amount not to exceed $10,000 (by individual contractor for a specific conference) or

ii) purchases goods or services from the conference planners (e.g., attendee registration fees; renting booth space); or provide funding to the conference planners through Federal grants.

2) Attending a conference, giving a speech, or serving as an honorary chairperson does not connote sponsorship.

3) The contractor will provide cost and attendance information on their participation in all DOE-sponsored conference in the DOE Conference Management Tool.

h) For non-contractor sponsored conferences, the contractor shall develop and implement a process to ensure costs related to conferences are allowable, allocable, reasonable, and further the mission of DOE/NNSA. This process must at a minimum:

1) Track all conference expenses.

2) Require the Laboratory Director (or equivalent) or Chief Operating Officer approve a single conference with net costs to the contractor of $100,000 or greater.

i) Contractors are not required to enter information on non-sponsored conferences in DOE'S Conference Management Tool.

j) Once funds have been expended on a non-sponsored conference, contractors may not authorize the use of their trademarks/logos for the conference, provide the conference planners with more than $10,000 for specified individuals to participate in the conference, or provide any other sponsorship funding for the conference. If a contractor does so, its expenditures for the conference may be deemed unallowable.

H.50 DOE-H-1064 RESPONSIBLE CORPORATE OFFICIAL AND CORPORATE BOARD OF DIRECTORS (July 2011)

The Contractor has provided a guarantee of performance from its parent company(s) in the form set forth in the Section J Attachment N, Performance Guarantee Agreement. The individual signing the "Performance Guarantee Agreement" for the parent company(s) should be the Responsible Corporate

Official.

The Responsible Corporate Official is the person who has sole corporate (parent company(s)) authority and accountability for Contractor performance. DOE may contact, as necessary, the single Responsible Corporate Official identified below regarding Contract performance issues.

Responsible Corporate Official:
Name: Christopher P. Leichtweis
Position: President
Company/Organization: North Wind Group
Address: 1425 Higham Street, Idaho Falls, ID 83402
Phone: 208-528-8718
Facsimile: 208-557-0866
Email: cleichtweis@northwindgrp.com

Should the Responsible Corporate Official or their contact information change during the period of the Contract, the Contractor shall promptly notify the Contracting Officer in writing of the change.

Identified below is each member of the Corporate Board of Directors that will have corporate oversight.

DOE may contact, as necessary, any member of the Corporate Board of Directors, who is accountable for corporate oversight of the Contractor organization and key personnel.

Corporate Board of Directors:
Name: Sophie Minich
Position: Director
Company/Organization: North Wind Group
Address: 2525 C Street, Suite 500, Anchorage, AK 99503
Phone: (907) 274-8638
Facsimile: (907) 297-8836
Email: sophiem@ciri.com

Corporate Board of Directors:
Name: Stig Colberg
Position: Director
Company/Organization: North Wind Group
Address: 2525 C Street, Suite 500, Anchorage, AK 99503
Phone: (907) 274-8638
Facsimile: (907) 297-8836
Email: scolberg@ciri.com

Corporate Board of Directors:
Name: Barbara Donatelli
Position: Director
Company/Organization: North Wind Group
Address: 2525 C Street, Suite 500, Anchorage, AK 99503
Phone: (907) 274-8638
Facsimile: (907) 297-8836
Email: barbarad@ciri.com

Should any change occur to the Corporate Board of Directors or their contact information during the period of the Contract, the Contractor shall promptly notify the Contracting Officer in writing of the change.

PART II -CONTRACT CLAUSES

SECTION I -
CONTRACT CLAUSES

52.202-1 DEFINITIONS (NOV 2013)

52.203-3 GRATUITIES (APR 1984)

52.203-5 COVENANT AGAINST CONTINGENT FEES (MAY 2014)

52.203-6 RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT (SEP 2006)

52.203-7 ANTI-KICKBACK PROCEDURES (MAY 2014)

52.203-8 CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (MAY 2014)

52.203-10 PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (MAY 2014)

52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (OCT 2010)

52.203-13 CONTRACTOR CODE OF BUSINESS ETHICS AND CONDUCT (APR 2010)

52.203-14 DISPLAY OF HOTLINE POSTER(S) (DEC 2007)

Paragraph (b)(3) fill-in: Poster(s) Obtain from DOE/IG Hotline –
http://energy.gov/sites/prod/files/igprod/documents/Hotline_poster.pdf

52.203-17 CONTRACTOR EMPLOYEE WHISTLEBLOWER RIGHTS AND REQUIREMENT TO INFORM EMPLOYEES OF WHISTLEBLOWER RIGHTS (APR 2014)

52.204-4 PRINTED OR COPIED DOUBLE-SIDED ON POSTCONSUMER FIBER CONTENT PAPER (MAY 2011)

52.204-9 PERSONAL IDENTITY VERIFICATION OF CONTRACTOR PERSONNEL (JAN 2011)

52.204-10 REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS (JUL 2013)

52.204-13 SYSTEM FOR AWARD MANAGEMENT MAINTENANCE (JUL 2013)

52.204-14 SERVICE CONTRACT REPORTING REQUIREMENTS (JAN 2014)

52.204-19 INCORPORATION BY REFERENCE OF REPRESENTATIONS AND CERTIFICATIONS (DEC 2014)

52.209-6 PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (AUG 2013)

52.209-9 UPDATES OF PUBLICLY AVAILABLE INFORMATION REGARDING RESPONSIBILITY MATTERS (JUL 2013)

52.209-10 PROHIBITION ON CONTRACTING WITH INVERTED DOMESTIC CORPORATIONS (MAY 2012)

52.211-18 VARIATION IN ESTIMATED QUANTITIES (APR 1984)

If the quantity of a unit-priced item in this contract is an estimated quantity and the actual quantity of the unit-priced item varies more than 15 percent above or below the estimated quantity, an equitable adjustment in the contract price shall be made upon demand of either party. The equitable adjustment shall be based upon any increase or decrease in costs due solely to the variation above 115 percent or below 85 percent of the estimated quantity. If the quantity variation is such as to cause an increase in the time necessary for completion, the Contractor may request, in writing, an extension of time, to be received by the Contracting Officer within 10 days from the beginning of the delay, or within such further period as may be granted by the Contracting Officer before the date of final settlement of the contract. Upon the receipt of a written request for an extension, the Contracting Officer shall ascertain the facts and make an adjustment for extending the completion date as, in the judgment of the Contracting Officer, is justified.

52.215-2 AUDIT AND RECORDS – NEGOTIATION (OCT 2010)

52.215-8 ORDER OF PRECEDENCE - UNIFORM CONTRACT FORMAT (OCT 1997)

52.215-11 PRICE REDUCTION FOR DEFECTIVE CERTIFIED COST OR PRICING DATA – MODIFICATIONS (AUG 2011)

52.215-13 SUBCONTRACTOR CERTIFIED COST OR PRICING DATA – MODIFICATIONS (OCT 2010)

52.215-14 INTEGRITY OF UNIT PRICES (OCT 2010)

52.215-15 PENSION ADJUSTMENTS AND ASSET REVERSIONS (OCT 2010)

52.215-17 WAIVER OF FACILITIES CAPITAL COST OF MONEY (OCT 1997)

52.215-18 REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS (JUL 2005)

52.215-19 NOTIFICATION OF OWNERSHIP CHANGES (OCT 1997)

52.215-21 REQUIREMENTS FOR CERTIFIED COST OR PRICING DATA AND DATA OTHER THAN CERTIFIED COST OR PRICING DATA – MODIFICATIONS (OCT 2010)

52.215-23 LIMITATIONS ON PASS-THROUGH CHARGES (OCT 2009)

52.216-7 ALLOWABLE COST AND PAYMENT (JUN 2013) – CLIN 3

Paragraph (a)(3) fill-in: 30th

52.216-18 ORDERING (OCT 1995) – CLIN 4

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. Such orders may be issued in accordance with the ordering period established in clause F.5, Period of Performance.

(b) All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order or task order and this contract, the contract shall control.

(c) If mailed, a delivery order or task order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the Schedule.

52.216-19 ORDER LIMITATIONS (OCT 1995) – CLIN 4

(a) *Minimum order*. When the Government requires supplies or services covered by this contract in an amount of less than $0, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under the contract.

(b) *Maximum order*. The Contractor is not obligated to honor -

(1) Any order for a single item in excess of $20,000,000;

(2) Any order for a combination of items in excess of $20,000,000; or

(3) A series of orders from the same ordering office within 2 calendar days that together call for quantities exceeding the limitation in subparagraph (b)(1) or (2) of this section.

(c) If this is a requirements contract (*i.e.*, includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) of this section.

(d) Notwithstanding paragraphs (b) and (c) of this section, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within 2 calendar days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

52.216-22 INDEFINITE QUANTITY (OCT 1995) – CLIN 4

(a) This is an indefinite-quantity contract for the supplies or services specified, and effective for

the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the "maximum." The Government shall order at least the quantity of supplies or services designated in the Schedule as the "minimum."

(c) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(d) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; *provided*, that the Contractor shall not be required to make any deliveries under this contract 12 months after the completion of the contract.

52.217-8 OPTION TO EXTEND SERVICE (NOV 1999)

Fill-in: any time prior to the expiration of the contract

52.217-9 OPTION TO EXTEND THE TERM OF THE CONTRACT (MAR 2000)

(a) The Government may extend the term of this contract by written notice to the Contractor within 30 calendar days, provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least 60 calendar days before the contract expires. The preliminary notice does not commit the Government to an extension.

(b) If the Government exercises this option, the extended contract shall be considered to include this option clause.

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed 5 years.

52.219-6 NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE (NOV 2011)

52.219-8 UTILIZATION OF SMALL BUSINESS CONCERNS (OCT 2014)

52.219-14 LIMITATIONS ON SUBCONTRACTING (NOV 2011)

52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REPRESENTATION (JUL 2013)

OFFEROR FILL-IN: The Contractor represents that it _X__ is, ___ is not a small business concern under NAICS Code 562211 assigned to contract number DE-EM0003760.

52.222-1 NOTICE TO THE GOVERNMENT OF LABOR DISPUTES (FEB 1997)

52.222-2 PAYMENT FOR OVERTIME PREMIUMS (JUL 1990) – CLIN 3

Paragraph (a) fill-in: $0

52.222-3 CONVICT LABOR (JUN 2003)

52.222-4 CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION (MAY 2014)

52.222-17 NON-DISPLACEMENT OF QUALIFIED WORKERS (MAY 2014)

52.222-21 PROHIBITION OF SEGREGATED FACILITIES (APR 2015)

52.222-26 EQUAL OPPORTUNITY (APR 2015)

52.222-35 EQUAL OPPORTUNITY FOR VETERANS (JUL 2014)

52.222-36 EQUAL OPPORTUNITY FOR WORKERS WITH DISABILITIES (JUL 2014)

52.222-37 EMPLOYMENT REPORTS ON VETERANS (JUL 2014)

52.222-40 NOTIFICATION OF EMPLOYEE RIGHTS UNDER THE NATIONAL LABOR RELATIONS ACT (DEC 2010)

52.222-41 SERVICE CONTRACT LABOR STANDARDS (MAY 2014)

52.222-42 STATEMENT OF EQUIVALENT RATES FOR FEDERAL HIRES (MAY 2014)

In compliance with the Service Contract Labor Standards statute and the regulations of the Secretary of Labor (29 CFR 4), this clause identifies the classes of service employees expected to be employed under the contract and states the wages and fringe benefits payable to each if they were employed by the contracting agency subject to the provisions of 5 U.S.C. 5341 or 5332.

This Statement is for Information Only:

It is not a Wage Determination

Employee Class	Monetary Wage
Administrative Assistant	GS-11
Technical Writer	GS-10
Financial Analyst	GS-12
Operation/Maintenance Supervisor	GS-12
Supply Technician	GS-11
Information Technology Department	GS-10
Occupational Health & Safety Tech/Professional/Industrial Hygienist	GS-13
Purchasing Agent	GS-9
Management and Program Analyst	GS-13
Radiological Control Technician/Specialist	GS-11/12
Radiological Protection Supervisor	GS-14
Quality Control Inspection	GS-15

Shift Superintendent	GS-14
Technical Instructor/Course Developer	GS-12
Warehouse Specialist	GS-7
Waste Operator	GS-10

52.222-43 FAIR LABOR STANDARDS ACT AND SERVICE CONTRACT ACT—PRICE ADJUSTMENT (MULTIPLE YEAR AND OPTION CONTRACTS) (MAY 2014) – CLINS 1, 2, & 4-8

52.222-50 COMBATING TRAFFICKING IN PERSONS (MAR 2015)

52.222-54 EMPLOYMENT ELIGIBILITY VERIFICATION (AUG 2013)

52.222-55 MINIMUM WAGES UNDER EXECUTIVE ORDER 13658 (DEC 2014)

52.223-2 AFFIRMATIVE PROCUREMENT OF BIOBASED PRODUCTS UNDER SERVICE AND CONSTRUCTION CONTRACTS (SEP 2013)

52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (JAN 1997) - ALTERNATE I (JUL 1995)

52.223-5 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (MAY 2011)

52.223-6 DRUG-FREE WORKPLACE (MAY 2001)

52.223-9 ESTIMATE OF PERCENTAGE OF RECOVERED MATERIAL CONTENT FOR EPA-DESIGNATED ITEMS (MAY 2008)

(a) Definitions. As used in this clause:

"Postconsumer material" means a material or finished product that has served its intended use and has been discarded for disposal or recovery, having completed its life as a consumer item. Postconsumer material is a part of the broader category of "recovered material."

"Recovered material" means waste materials and by-products recovered or diverted from solid waste, but the term does not include those materials and by-products generated from, and commonly reused within, an original manufacturing process.

(b) The Contractor, on completion of this contract, shall:

(1) Estimate the percentage of the total recovered material content for U.S. Environmental Protection Agency (EPA)-designated item(s) delivered and/or used in contract performance, including, if applicable, the percentage of post-consumer material content; and

(2) Submit this estimate to the COR.

52.223-10 WASTE REDUCTION PROGRAM (MAY 2011)

52.223-11 OZONE-DEPLETING SUBSTANCES (MAY 2001)

(a) Definition. "Ozone-depleting substance," as used in this clause, means any substance the EPA designates in 40 CFR 82 as:

(1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or

(2) Class II, including, but not limited to, hydrochlorofluorocarbons.

(b) The Contractor shall label products which contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j(b), (c), and (d) and 40 CFR 82(e), as follows:

WARNING

Contains (or manufactured with, if applicable) *_____, a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere.

* The Contractor shall insert the name of the substance(s).

52.223-12 REFRIGERATION EQUIPMENT AND AIR CONDITIONERS (MAY 1995)

52.223-15 ENERGY EFFICIENCY IN ENERGY-CONSUMING PRODUCTS (DEC 2007)

52.223-16 ACQUISITION OF EPEAT-REGISTERED PERSONAL COMPUTER PRODUCTS (JUN 2014)

52.223.17 AFFIRMATIVE PROCUREMENT OF EPA-DESIGNATED ITEMS IN SERVICE AND CONSTRUCTION CONTRACTS (MAY 2008)

52.223-18 ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING (AUG 2011)

52.223-19 COMPLIANCE WITH ENVIRONMENTAL MANAGEMENT SYSTEMS (MAY 2011)

52.224-1 PRIVACY ACT NOTIFICATION (APR 1984)

52.224-2 PRIVACY ACT (APR 1984)

52.225-1 BUY AMERICAN – SUPPLIES (MAY 2014)

52.225-13 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (JUN 2008)

52.227-1 AUTHORIZATION AND CONSENT (DEC 2007)

52.227-2 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (DEC 2007)

52.227-3 PATENT INDEMNITY (APR 1984)

52.227-14 RIGHTS IN DATA - GENERAL (MAY 2014)

52.227-23 RIGHTS TO PROPOSAL DATA (TECHNICAL) (JUN 1987)

Except for data contained on pages ALL PAGES, it is agreed that as a condition of award of this contract, and notwithstanding the conditions of any notice appearing thereon, the Government shall have unlimited rights (as defined in the "Rights in Data – General" clause contained in this contract) in and to the technical data contained in the proposal dated December 23, 2014, upon which this contract is based.

52.228-5 INSURANCE - WORK ON A GOVERNMENT INSTALLATION (JAN 1997) - CLINS 1, 2, & 4-8

52.229-3 FEDERAL, STATE, AND LOCAL TAXES (FEB 2013) - CLINS 1, 2, & 4-8

52.232-1 PAYMENTS (APR 1984) - CLINS 1, 2, & 4-8

52.232-8 DISCOUNTS FOR PROMPT PAYMENT (FEB 2002) - CLINS 1, 2, & 4-8

52.232-9 LIMITATION ON WITHHOLDING OF PAYMENTS (APR 1984)

52.232-11 EXTRAS (APR 1984) - CLINS 1, 2, & 4-8

52.232-17 INTEREST (MAY 2014)

52.232-18 AVAILABILITY OF FUNDS (APR 1984)

52.232-22 LIMITATION OF FUNDS (APR 1984) – CLIN 3

52.232-23 ASSIGNMENT OF CLAIMS (MAY 2014)

52.232-25 PROMPT PAYMENT (JUL 2013) - CLINS 1, 2, & 4-8

52.232-25 PROMPT PAYMENT (JUL 2013) - ALTERNATE I (FEB 2002) – CLIN 3

52.232-33 PAYMENT BY ELECTRONIC FUNDS TRANSFER - SYSTEM FOR AWARD MANAGEMENT (JUL 2013)

52.232-39 UNENFORCEABILITY OF UNAUTHORIZED OBLIGATIONS (JUN 2013)

52.232-40 PROVIDING ACCELERATED PAYMENTS TO SMALL BUSINESS SUBCONTRACTORS (DEC 2013)

52.233-1 DISPUTES (MAY 2014) - ALTERNATE I (DEC 1991)

52.233-3 PROTEST AFTER AWARD (AUG 1996) - CLINS 1, 2, & 4-8

52.233-3 PROTEST AFTER AWARD (AUG 1996) - ALTERNATE I (JUN 1985) – CLIN 3

52.233-4 APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM (OCT 2004)

52.237-2 PROTECTION OF GOVERNMENT BUILDINGS, EQUIPMENT, AND VEGETATION (APR 1984)

52.237-3 CONTINUITY OF SERVICES (JAN 1991)

52.242-1 NOTICE OF INTENT TO DISALLOW COSTS (APR 1984) – CLIN 3

52.242-3 PENALTIES FOR UNALLOWABLE COSTS (MAY 2014) – CLIN 3

52.242-4 CERTIFICATION OF FINAL INDIRECT COSTS (JAN 1997) – CLIN 3

52.242-13 BANKRUPTCY (JUL 1995)

52.243-1 CHANGES - FIXED-PRICE (AUG 1987) - ALTERNATE I (APR 1984) - CLINS 1, 2, & 4-8

52.243-2 CHANGES - COST-REIMBURSEMENT (AUG 1987) - ALTERNATE I (APR 1984) – CLIN 3

52.244-2 SUBCONTRACTS (OCT 2010) ALT 1 (JUN 2007)

Paragraph (d) fill-in: Any subcontract to replace any of the subcontracts noted in Paragraph (j) of this clause as well as any subcontract equal to or greater than $2,000,000

Paragraph (j) fill-in: any and all subcontractors evaluated prior to contract award and all subcontractors evaluated prior to the award of contract modifications and task orders issued against the contact

52.244-5 COMPETITION IN SUBCONTRACTING (DEC 1996)

52.244-6 SUBCONTRACTS FOR COMMERCIAL ITEMS (APR 2015)

52.245-1 GOVERNMENT PROPERTY (APR 2012) – CLIN 3

52.245-1 GOVERNMENT PROPERTY (APR 2012) - ALTERNATE 1 (APR 2012) - CLINS 1, 2, & 4-8

52.245-9 USE AND CHARGES (APR 2012)

52.246-25 LIMITATION OF LIABILITY – SERVICES (FEB 1997)

52.247-68 REPORT OF SHIPMENT (REPSHIP) (FEB 2006)

52.248-1 VALUE ENGINEERING (OCT 2010)

52.249-2 TERMINATION FOR THE CONVENIENCE OF THE GOVERNMENT (FIXED PRICE) (APR 2012) - CLINS 1, 2, & 4-8

52.249-6 TERMINATION (COST-REIMBURSEMENT) (MAY 2004) – CLIN 3

52.249-8 DEFAULT (FIXED-PRICE SUPPLY AND SERVICE) (APR 1984) - CLINS 1, 2, & 4-8

52.249-14 EXCUSABLE DELAYS (APR 1984) – CLIN 3

52.251-1 GOVERNMENT SUPPLY SOURCES (APR 2012)

52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This Contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the CO will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

For FAR clauses: https://www.acquisition.gov/far/index.html

For DOE Acquisition Regulation (DEAR) clauses:
http://energy.gov/management/downloads/searchable-electronic-department-energy-acquisition-regulation

52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES (APR 1984)

(d) The use in this solicitation or contract of any FAR (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(e) The use in this solicitation or contract of any DEAR (48 CFR Chapter 9) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

52.253-1 COMPUTER GENERATED FORMS (JAN 1991)

952.202-1 DEFINITIONS (FEB 2011)

952.203-70 WHISTLEBLOWER PROTECTION FOR CONTRACTOR EMPLOYEES (DEC 2000)

952.204-2 SECURITY (MAR 2011)

952.204-70 CLASSIFICATION/DECLASSIFICATION (SEP 1997)

952.204-75 PUBLIC AFFAIRS (DEC 2000)

952.204-77 COMPUTER SECURITY (AUG 2006)

952.208-70 PRINTING (APR 1984)

952.209-72 ORGANIZATIONAL CONFLICTS OF INTEREST (AUG 2009)

Paragraph (b)(1)(i) fill-in: "zero (0)"

952.215-70 KEY PERSONNEL (DEC 2000)

Paragraph (a) fill-in: "DOE-H-1061 Key Personnel (July 2011)"

952.216-7 ALLOWABLE COST AND PAYMENT (FEB 2011)

952.217-70 ACQUISITION OF REAL PROPERTY (MAR 2011)

952.223-72 RADIATION PROTECTION AND NUCLEAR CRITICALITY (APR 1984)

952.223-75 PRESERVATION OF INDIVIDUAL OCCUPATIONAL RADIATION EXPOSURE RECORDS (APR 1984)

952.223-76 CONDITIONAL PAYMENT OF FEE OR PROFIT - SAFEGUARDING RESTRICTED DATA AND OTHER CLASSIFIED INFORMATION AND PROTECTION OF WORKER SAFETY AND HEALTH (DEC 2010)

Paragraph (b)(2)(i) fill-in: "(to match the award fee periods contained in the Section H clause 'DOE-H-1054 Performance Evaluation and Measurement Plan (JUNE 2011) – AWARD FEE PROCESS FOR CLIN 3'*)"*

952.223-78 SUSTAINABLE ACQUISITION PROGRAM (OCT 2010)

952.226-74 DISPLACED EMPLOYEE HIRING PREFERENCE (JUNE 1997)

952.227-9 REFUND OF ROYALTIES (FEB 1995)

952.227-11 PATENT RIGHTS-RETENTION BY THE CONTRACTOR (SHORT FORM) (FEB 1995)

Add the following as Paragraph (m): "(m) Facilities License. In addition to the rights of the parties with respect to inventions or discoveries conceived or first actually reduced to practice in the course of or under this contract, the Contractor agrees to and does hereby grant to the Government an irrevocable, nonexclusive, paid-up license in and to any inventions or discoveries regardless of when conceived or actually reduced to practice or acquired by the Contractor at any time through completion of this contract and which are incorporated or embodied in the construction of the facility or which are utilized in the operation of the facility or which cover articles, materials, or products manufactured at the facility (1) to practice or have practiced by or for the Government at the facility, and (2) to transfer such license with the transfer of that facility. Notwithstanding the acceptance or exercise by the Government of these rights, the Government may contest at any time the enforceability, validity or scope of, title to, any rights or patents herein licensed."

952.231-71 INSURANCE-LITIGATION AND CLAIMS (JUL 2013)

952.242-70 TECHNICAL DIRECTION (DEC 2000)

952.250-70 NUCLEAR HAZARDS INDEMNITY AGREEMENT (MODIFIED PER DOE ACQUISITION LETTER 2012-10)

(a) Authority. This clause is incorporated into this contract pursuant to the authority contained in subsection 170d. of the Atomic Energy Act of 1954, as amended (hereinafter called the Act.)

(b) Definitions. The definitions set out in the Act shall apply to this clause.

(c) Financial protection. Except as hereafter permitted or required in writing by DOE, the contractor will not be required to provide or maintain, and will not provide or maintain at Government expense, any form of financial protection to cover public liability, as described in paragraph (d)(2) below. DOE may, however, at any time require in writing that the contractor provide and maintain financial protection of

such a type and in such amount as DOE shall determine to be appropriate to cover such public liability, provided that the costs of such financial protection are reimbursed to the contractor by DOE.

(d)(1) Indemnification. To the extent that the contractor and other persons indemnified are not compensated by any financial protection permitted or required by DOE, DOE will indemnify the contractor and other persons indemnified against (i) claims for public liability as described in subparagraph (d)(2) of this clause; and (ii) such legal costs of the contractor and other persons indemnified as are approved by DOE, provided that DOE's liability, including such legal costs, shall not exceed the amount set forth in section 170d. of the Act, as that amount may be increased in accordance with section 170t., in the aggregate for each nuclear incident or precautionary evacuation occurring within the United States or $500 million in the aggregate for each nuclear incident occurring outside the United States, irrespective of the number of persons indemnified in connection with this contract.

(2) The public liability referred to in subparagraph (d)(1) of this clause is public liability as defined in the Act which (i) arises out of or in connection with the activities under this contract, including transportation; and (ii) arises out of or results from a nuclear incident or precautionary evacuation, as those terms are defined in the Act.

(e)(1) Waiver of Defenses. In the event of a nuclear incident, as defined in the Act, arising out of nuclear waste activities, as defined in the Act, the contractor, on behalf of itself and other persons indemnified, agrees to waive any issue or defense as to charitable or governmental immunity.

(2) In the event of an extraordinary nuclear occurrence which:

(i) Arises out of, results from, or occurs in the course of the construction, possession, or operation of a production or utilization facility; or

(ii) Arises out of, results from, or occurs in the course of transportation of source material, by-product material, or special nuclear material to or from a production or utilization facility; or

(iii) Arises out of or results from the possession, operation, or use by the contractor or a subcontractor of a device utilizing special nuclear material or by-product material, during the course of the contract activity; or

(iv) Arises out of, results from, or occurs in the course of nuclear waste activities, the contractor, on behalf of itself and other persons indemnified, agrees to waive:

(A) Any issue or defense as to the conduct of the claimant (including the conduct of persons through whom the claimant derives its cause of action) or fault of persons indemnified, including, but not limited to:

1. Negligence;

2. Contributory negligence;

3. Assumption of risk; or

4. Unforeseeable intervening causes, whether involving the conduct of a third person or an act of God;

(B) Any issue or defense as to charitable or governmental immunity; and

(C) Any issue or defense based on any statute of limitations, if suit is instituted within 3 years from the date on which the claimant first knew, or reasonably could have known, of his injury or change and the cause thereof. The waiver of any such issue or defense shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action. The waiver shall be judicially enforceable in accordance with its terms by the claimant against the person indemnified.

(v) The term extraordinary nuclear occurrence means an event which DOE has determined to be an extraordinary nuclear occurrence as defined in the Act. A determination of whether or not there has been an extraordinary nuclear occurrence will be made in accordance with the procedures in 10 CFR part 840.

(vi) For the purposes of that determination, "offsite" as that term is used in 10 CFR part 840 means away from "the contract location" which phrase means any DOE facility, installation, or site at which contractual activity under this contract is being carried on, and any contractor-owned or controlled facility, installation, or site at which the contractor is engaged in the performance of contractual activity under this contract.

(3) The waivers set forth above:

(i) Shall be effective regardless of whether such issue or defense may otherwise be deemed jurisdictional or relating to an element in the cause of action;

(ii) Shall be judicially enforceable in accordance with its terms by the claimant against the person indemnified;

(iii) Shall not preclude a defense based upon a failure to take reasonable steps to mitigate damages;

(iv) Shall not apply to injury or damage to a claimant or to a claimant's property which is intentionally sustained by the claimant or which results from a nuclear incident intentionally and wrongfully caused by the claimant;

(v) Shall not apply to injury to a claimant who is employed at the site of and in connection with the activity where the extraordinary nuclear occurrence takes place, if benefits therefor are either payable or required to be provided under any workmen's compensation or occupational disease law;

(vi) Shall not apply to any claim resulting from a nuclear incident occurring outside the United States;

(vii) Shall be effective only with respect to those obligations set forth in this clause and in insurance policies, contracts or other proof of financial protection; and

(viii) Shall not apply to, or prejudice the prosecution or defense of, any claim or portion of claim which is not within the protection afforded under (A) the limit of liability provisions under subsection 170e. of the Act, and (B) the terms of this agreement and the terms of insurance policies, contracts, or other proof of financial protection.

(f) Notification and litigation of claims. The contractor shall give immediate written notice to DOE of any known action or claim filed or made against the contractor or other person indemnified for public liability as defined in paragraph (d)(2). Except as otherwise directed by DOE, the contractor shall furnish promptly to DOE, copies of all pertinent papers received by the contractor or filed with respect to such actions or claims. DOE shall have the right to, and may collaborate with, the contractor and any other person indemnified in the settlement or defense of any action or claim and shall have the right to (1) require the prior approval of DOE for the payment of any claim that DOE may be required to indemnify

hereunder; and (2) appear through the Attorney General on behalf of the contractor or other person indemnified in any action brought upon any claim that DOE may be required to indemnify hereunder, take charge of such action, and settle or defend any such action. If the settlement or defense of any such action or claim is undertaken by DOE, the contractor or other person indemnified shall furnish all reasonable assistance in effecting a settlement or asserting a defense.

(g) Continuity of DOE obligations. The obligations of DOE under this clause shall not be affected by any failure on the part of the contractor to fulfill its obligation under this contract and shall be unaffected by the death, disability, or termination of existence of the contractor, or by the completion, termination or expiration of this contract.

(h) Effect of other clauses. The provisions of this clause shall not be limited in any way by, and shall be interpreted without reference to, any other clause of this contract, including the clause entitled Contract Disputes, provided, however, that this clause shall be subject to the clauses entitled Covenant Against Contingent Fees, and Accounts, records, and inspection, and any provisions that are later added to this contract as required by applicable Federal law, including statutes, executive orders and regulations, to be included in Nuclear Hazards Indemnity Agreements.

(i) Civil penalties. The contractor and its subcontractors and suppliers who are indemnified under the provisions of this clause are subject to civil penalties, pursuant to section 234A of the Act, for violations of applicable DOE nuclear-safety related rules, regulations, or orders. If the contractor is a not-for-profit contractor, as defined by section 234Ad.(2), the total amount of civil penalties paid shall not exceed the total amount of fees paid within any 1-year period (as determined by the Secretary) under this contract.

(j) Criminal penalties. Any individual director, officer, or employee of the contractor or of its subcontractors and suppliers who are indemnified under the provisions of this clause are subject to criminal penalties, pursuant to section 223(c) of the Act, for knowing and willful violation of the Atomic Energy Act of 1954, as amended, and applicable DOE nuclear safety-related rules, regulations or orders which violation results in, or, if undetected, would have resulted in a nuclear incident.

(k) Inclusion in subcontracts. The contractor shall insert this clause in any subcontract which may involve the risk of public liability, as that term is defined in the Act and further described in paragraph (d)(2) above. However, this clause shall not be included in subcontracts in which the subcontractor is subject to Nuclear Regulatory Commission (NRC) financial protection requirements under section 170b. of the Act or NRC agreements of indemnification under section 170c. or k. of the Act for the activities under the subcontract.

952.251-70 CONTRACTOR EMPLOYEE TRAVEL DISCOUNTS (AUG 2009)

970.5223-1 INTEGRATION OF ENVIRONMENT, SAFETY, AND HEALTH INTO WORK PLANNING AND EXECUTION (DEC 2000)

(a) For the purposes of this clause,

(1) Safety encompasses environment, safety and health, including pollution prevention and waste minimization; and

(2) Employees include subcontractor employees.

(b) In performing work under this contract, the Contractor shall perform work safely, in a manner that ensures adequate protection for employees, the public, and the environment, and shall be accountable for the safe performance of work. The Contractor shall exercise a degree of care commensurate with the work and the associated hazards. The Contractor shall ensure that management of environment, safety and health (ES&H) functions and activities becomes an integral but visible part of the Contractor's work planning and execution processes. The Contractor shall, in the performance of work, ensure that:

(1) Line management is responsible for the protection of employees, the public, and the environment. Line management includes those Contractor and subcontractor employees managing or supervising employees performing work.

(2) Clear and unambiguous lines of authority and responsibility for ensuring ES&H are established and maintained at all organizational levels.

(3) Personnel possess the experience, knowledge, skills, and abilities that are necessary to discharge their responsibilities.

(4) Resources are effectively allocated to address ES&H, programmatic, and operational considerations. Protecting employees, the public, and the environment is a priority whenever activities are planned and performed.

(5) Before work is performed, the associated hazards are evaluated and an agreed-upon set of ES&H standards and requirements are established which, if properly implemented, provide adequate assurance that employees, the public, and the environment are protected from adverse consequences.

(6) Administrative and engineering controls to prevent and mitigate hazards are tailored to the work being performed and associated hazards. Emphasis should be on designing the work and/or controls to reduce or eliminate the hazards and to prevent accidents and unplanned releases and exposures.

(7) The conditions and requirements to be satisfied for operations to be initiated and conducted are established and agreed-upon by DOE and the Contractor. These agreed-upon conditions and requirements are requirements of the contract and binding upon

the Contractor. The extent of documentation and level of authority for agreement shall be tailored to the complexity and hazards associated with the work and shall be established in a Safety Management System.

(c) The Contractor shall manage and perform work in accordance with a documented Safety Management System (System) that fulfills all conditions in paragraph (b) of this clause at a minimum. Documentation of the System shall describe how the Contractor will—

(1) Define the scope of work;

(2) Identify and analyze hazards associated with the work;

(3) Develop and implement hazard controls;

(4) Perform work within controls; and

(5) Provide feedback on adequacy of controls and continue to improve safety management.

(d) The System shall describe how the Contractor will establish, document, and implement safety performance objectives, performance measures, and commitments in response to DOE program and budget execution guidance while maintaining the integrity of the System. The System shall also describe how the Contractor will measure system effectiveness.

(e) The Contractor shall submit to the Contracting Officer documentation of its System for review and approval. Dates for submittal, discussions, and revisions to the System will be established by the Contracting Officer. Guidance on the preparation, content, review, and approval of the System will be provided by the Contracting Officer. On an annual basis, the Contractor shall review and update, for DOE approval, its safety performance objectives, performance measures, and commitments consistent with and in response to DOE's program and budget execution guidance and direction. Resources shall be identified and allocated to meet the safety objectives and performance commitments as well as maintain the integrity of the entire System. Accordingly, the System shall be integrated with the Contractor's business processes for work planning, budgeting, authorization, execution, and change control.

(f) The Contractor shall comply with, and assist the Department of Energy in complying with, ES&H requirements of all applicable laws and regulations, and applicable directives identified in the clause of this contract entitled “Laws, Regulations, and DOE Directives.” The Contractor shall cooperate with Federal and non-Federal agencies having jurisdiction over ES&H matters under this contract.

(g) The Contractor shall promptly evaluate and resolve any noncompliance with applicable ES&H requirements and the System. If the Contractor fails to provide resolution or if, at any time, the Contractor's acts or failure to act causes substantial harm or an imminent danger to the environment or health and safety of employees or the public, the Contracting Officer may issue an order stopping work in whole or in part. Any stop work order issued by a contracting officer under this clause (or issued by the Contractor to a subcontractor in accordance with paragraph (i) of this clause) shall be without prejudice to any other legal or contractual rights of the Government. In the event that the Contracting Officer issues a stop work order, an order authorizing the resumption of the work may be issued at the discretion of the Contracting Officer. The Contractor shall not be entitled to an extension of time or additional fee or damages by reason of, or in connection with, any work stoppage ordered in accordance with this clause.

(h) Regardless of the performer of the work, the Contractor is responsible for compliance with the ES&H requirements applicable to this contract. The Contractor is responsible for flowing down the ES&H requirements applicable to this contract to subcontracts at any tier to the extent necessary to ensure the Contractor's compliance with the requirements.

(i) The Contractor shall include a clause substantially the same as this clause in subcontracts involving complex or hazardous work on site at a DOE-owned or -leased facility. Such subcontracts shall provide for the right to stop work under the conditions described in paragraph (g) of this clause. Depending on the complexity and hazards associated with the work, the Contractor may choose not to require the subcontractor to submit a Safety Management System for the Contractor's review and approval.

(End of clause)

970.5227-1 RIGHTS IN DATA – FACILITIES (DEC 2000) (DEVIATION)

Insert the following subparagraph (c) in place of the existing subparagraph (c) in the Limited Rights Notice in paragraph (e) of the clause:"(c) This 'limited rights data' may be disclosed to other contractors participating in the Government's program of which this Contract is a part for information or use (except for manufacture) in connection with the work performed under their contracts including use by DOE or its follow-on contractors as necessary for continued performance of the work or operation of the facility and under the restriction that the "limited rights data" be retained in confidence and not be further disclosed;"

PART III - LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

SECTION J -
LIST OF DOCUMENTS, EXHIBITS, AND OTHER ATTACHMENTS

DOE-J-1001 LIST OF ATTACHMENTS

The following attachments constitute part of this contract:

Attachment Number	Attachment Title
A	Performance Work Statement
B	Reporting Requirements
C	Government Furnished Property
D	Compliance Documents
E	Statement of Costs
F	Register of Wage Determinations and Fringe Benefits
G	List of Intellectual Property
H	CCP/TWPC Oak Ridge National Laboratory Interface Document
I	WIPP Waste Acceptance Criteria
J	Nevada National Security Site Waste Acceptance Criteria
K	Performance Evaluation Measurement Plan (PEMP) - DRAFT
L	Data Requirements for the Environmental Cost Analysis System (ECAS)
M	Integrated Work Control Systems and Reporting Requirements
N	Performance Guarantee Agreement
O	Government Furnished Services and Items (GFS/I)
P	IDIQ Schedule of Rates

SECTION J, ATTACHMENT A

PERFORMANCE WORK STATEMENT

REVISION 08
(Issued with Modification 0026)
May 18, 2017

CONTENTS

ACRONYMS

AK	Acceptable Knowledge
AO	Authorizing Official
ATO	Authorized to Operate
CAA	Clean Air Act of 1970
CBFO	Carlsbad Field Office
CCP	Central Characterization Project
CFR	Code of Federal Regulations
COR	Contracting Officer's Representative
CPE	Cask Processing Enclosure
CWA	Clean Water Act of 1972
CH	contact-handled
DNFSB	Defense Nuclear Facilities Safety Board
DOE	U.S. Department of Energy
DSA	Documented Safety Analysis
EM	Office of Environmental Management
EPA	U.S. Environmental Protection Agency
ESH&Q	environment, safety, health and quality
FISMA	Federal Information Security Management Act of 2002
FY	Fiscal Year
HC	Hazard Category
ISMS	Integrated Safety Management System
JC3	Joint Cyber Coordination Center
LLW	low-level waste
M	Million
MLLW	mixed low-level waste
NDA	nondestructive assay
NDE	nondestructive examination
NFS	Nuclear Fuel Services
NG	Newly Generated
NMC&A	Nuclear Materials Control and Accountability
NNSS	Nevada National Security Site
OREM	Oak Ridge Office of Environmental Management
ORNL	Oak Ridge National Laboratory
PII	personally identifiable information
PK	Process Knowledge

PWS	Performance Work Statement
QA	quality assurance
RCRA	Resource Conservation and Recovery Act of 1976
RH	remote-handled
S&M	surveillance and maintenance
SEB	Source Evaluation Board
STP	Site Treatment Plan
SWSA	Solid Waste Storage Area
TDEC	Tennessee Department of Environment and Conservation
TRU	transuranic
TRUPACT-II	TRU Packaging Transporter-Model II
TSDF	treatment, storage, and disposal facility
TWPC	TRU Waste Processing Center
U.S.	United States
UCOR	URS | CH2M Oak Ridge LLC
VE	visual examination
WAC	waste acceptance criteria
WIPP	Waste Isolation Pilot Plant
WPF	Waste Processing Facility

J-A 0. INTRODUCTION/GENERAL

The mission of the United States (U.S.) Department of Energy (DOE) Oak Ridge Office of Environmental Management (OREM) is to conduct environmental cleanup programs from more than 50 years of energy research and weapons production. The program also includes an aggressive effort to manage legacy and currently generated wastes. The Transuranic Waste Processing Center (TWPC) was designed and constructed to process debris and soil waste (and any liquids contained there-in) to meet disposal sites' waste acceptance criteria (WAC). The TWPC is operational and is currently processing contact-handled (CH) and remote-handled (RH)-transuranic (TRU) debris and soil.

The primary objective of this contract is to continue processing OREM legacy CH- and RH-TRU wastes until the entire legacy inventory has been physically prepared for shipment to the Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico. Physical preparation, repackaging and certification must be complete on or before the end of the base period of performance (reference contract clause F.5, Period of Performance). The Contractor shall manage and disposition all low-level waste (LLW) and mixed low-level waste (MLLW) generated as a result of processing TRU waste.

A secondary objective of this contract to be accomplished with minimal or no impact to the OREM TRU legacy waste processing is to process, certify, and disposition Oak Ridge National Laboratory (ORNL) newly generated CH- and RH-TRU waste, and Nuclear Fuel Services (NFS) CH-TRU soil waste.

The legacy CH-TRU waste processing scope includes:

1. Processing approximately 36 m^3 (173 drums) of legacy CH-debris and soil. These drums could include:
    - 8 m^3 - Solid Waste Storage Area (SWSA)-5 wastes,
    - 14 m^3 - "Hostage drum" waste (waste drums that are not accessible until SWSA-5 Phase II retrievals are complete [the Contractor is not required to retrieve these drums, they will be delivered to the TWPC by UCOR]),
    - 8 m^{3-} Technically challenging drums,
    - 6 m^3 - NFS soil waste (30 drums) (further characterized to be LLW). See Exhibit A for the technically challenging/SWSA-5 inventory.

The legacy RH-TRU waste processing scope includes a total volume of approximately 162 m^3 which may be comprised of:

2. Sixty-eight casks (approximately 109 m^3) projected to be processed through the hot cell, as well as high neutron casks. See Exhibit A for the remaining RH-TRU Cask inventory.
3. One RH-TRU Cask of Dewatered Sludge from ORNL Tank WC-14 = 1.7 m^3
4. One Shielded Type A Highway Cask from Knolls Atomic Power Laboratory = 1.7 m^3
5. Approximately 81 RH-TRU Stainless steel 55-gallon drums from CH legacy storage = 17.1 m^3
6. Nineteen shielded metal boxes of RH-TRU soils from Tank W-1A remediation = 32.3 m^3 (See Exhibit B for additional waste stream information)

The newly generated and NFS soil waste scope of the contract includes:

7. Approximately 15 m^3 ORNL newly generated CH-TRU waste (includes Fiscal Year [FY] 2015 and 2016) to be processed and certified during the contract period.
8. Approximately 10 m^3 ORNL newly generated RH-TRU waste (includes FY 2015 and 2016) to be processed and certified during the contract period.
9. Approximately 306 m^3 (1470 drums) NFS soil CH-TRU waste to be certified during the contract period. At OREM's option, the Contractor may be required to process and/or certify up to an additional 441 m^3 (2,100 drums) of NFS soil (reference Performance Work Statement [PWS] Section J-A 5).

TRU waste contains alpha-emitting radionuclides with an atomic number greater than 92 and half-lives greater than 20 years, at concentrations greater than 100 nCi/g. CH-TRU wastes have a dose rate at the waste container surface of less than 200 millirem/hour (mrem/hr), while RH-TRU wastes have a dose rate at the container surface of 200 mrem/hr or higher. These wastes must be processed and packaged for compliant disposal in off-site radioactive waste repositories – WIPP for TRU wastes and the Nevada National Security Site (NNSS) or other DOE or commercial disposal site for LLW and MLLW. In addition, the Contractor may choose to use other treatment and disposal facilities for LLW/MLLW treatment or disposal, and hazardous or industrial waste disposal, as necessary, including the use of commercial facilities. All waste disposal strategies must comply with DOE requirements specified in DOE M 435.1-1, *Radioactive Waste Management Manual*, and use of commercial facilities must be authorized by DOE using the required DOE order exemption process. LLW and MLLW wastes to be managed originate from the processing of the TRU waste inventory (i.e., wastes initially classified as TRU wastes and, when fully characterized, are determined not to meet the criteria for TRU waste).

The Contractor shall furnish all personnel, facilities, equipment, material, services, and supplies (except as set forth in this contract to be furnished by the Government), to accomplish the requirements in a safe, compliant, effective, and efficient manner.

The Contractor shall accomplish the physical preparation, repackaging and facilitate final WIPP certification of the entire EM legacy TRU waste inventory during the base period of performance, as well as the ORNL newly generated CH- and RH-TRU inventories generated through 2016. These annual newly generated waste rates are projected to be 7.5 m^3 per year for CH-TRU waste and 5 m^3 per year of RH-TRU waste.

The Contractor shall manage the DOE TWPC to facilitate the processing of TRU waste, LLW, MLLW and any other resulting waste types for disposal. The Contractor shall coordinate, as necessary, with the Central Characterization Project (CCP), a Contractor managed by the DOE Carlsbad Field Office (CBFO) for characterization, certification, and shipment of TRU waste for disposal at WIPP. [**NOTE:** The current WIPP shutdown (as of the 1st quarter of FY15) impacts transportation operations at the TWPC. Until the WIPP resumes disposal, the Contractor shall physically process the TRU waste; package, and coordinate with CCP for final certification of the waste; and coordinate with URS | CH2M Oak Ridge LLC (UCOR) to transfer and store the waste at either existing ORNL facilities or onsite at the TWPC. In accordance with the Resource Conservation Recovery Act of 1976 (RCRA) permit, the TWPC is allowed to have 7,400 drum equivalents (55-gallon drums) on-site in the eight container storage units defined within the permit. The actual physical storage capacity (6,200 drums and 19 incoming RH-TRU cask overpack containers) is less than the maximum allowed by the RCRA permit. Site Treatment Plan (STP) TRU waste milestones (attached Exhibit C) for CH- and RH-TRU waste processing and certification will be renegotiated by OREM and Tennessee Department of Environment and Conservation (TDEC), resulting in adjusted waste volumes required to be complete by the original STP milestone dates.

The waste to be processed was generated primarily from laboratory operations and cleanup programs at ORNL. Also included is waste generated at NFS and delivered to UCOR for storage, as well as potential

future deliveries to UCOR and TWPC through December 31, 2016. Processing of NFS waste by TWPC includes receipt, storage, certification, and shipping support. It is possible that repackaging or overpacking drums of soil may be required due to the identification of prohibited items or liquids during characterization activities. It is assumed that no more than 2% of the NFS inventory will require repackaging/overpacking.

CCP is the TRU waste certification authority for all TRU waste being shipped to WIPP. CCP conducts TRU waste characterization and certification for the DOE Complex. CCP's responsibilities also include coordination, scheduling, and shipping of all TRU waste shipments to WIPP. The Contractor and CCP shall collaborate to ensure processing and certification in a manner that enables disposal of CH- and RH-TRU waste. For scheduling purposes, assume a CCP certification productivity rate of 33 m^3 per month maximum for CH and RH wastes.

The Contractor shall manage LLW and MLLW identified during TRU waste processing. Hazardous or industrial waste generated as the result of facility operations shall be shipped to an appropriate treatment, storage, and disposal facility (TSDF). The Contractor shall coordinate directly with other DOE and Contractor organizations as needed to meet waste processing needs. OREM will review and approve any TSDFs utilized for waste treatment and disposal.

The Contractor shall interface with OREM, DOE-CBFO, DOE Contractors including CCP, waste generators (primarily the ORNL and Office of Environmental Management [EM] Contractors), waste disposal facilities (primarily WIPP and NNSS), regulatory agencies (primarily the TDEC, the New Mexico Environment Department, the U.S. Environmental Protection Agency [EPA], and various public stakeholder groups). The Contractor shall interface/coordinate with the proposed sludge processing facility architectural/engineering design and construction contractor(s), or OREM Source Evaluation Board (SEB) for site visits, e.g., access control, site tours, and office space as necessary.

The following sections describe the specific work scope to be accomplished under the contract. The Contractor shall optimize the integrated project schedule for safe, cost-effective execution of the planned work scope.

J-A 1. TRANSITION

During the transition period, the Contractor shall perform all activities necessary to assume full responsibility for the contract requirements. The Contractor shall coordinate its activities with DOE and the incumbent Contractor so as to minimize impacts on continuity of services, identify and resolve key issues that may arise during transition, and plan interactions with the DOE, incumbent contractor, incumbent employees, and other site contractors. The Contractor shall accomplish these activities in a manner that will provide an effective transition of personnel and work activities while minimizing the cost and time for transition. The Contractor shall submit to the Contracting Officer, within 45 calendar days after the transition period start date, an Interim Contract Performance Baseline covering work to be performed for the first year of the base period that details the work activities to be performed while the Contract Performance Measurement Baseline is being evaluated and approved by DOE. The Contractor shall use the organization of work set forth in the PWS as its Work Breakdown Structure (WBS) which the Contractor shall include in the Contract Performance Measurement Baseline. The Contactor shall identify any material differences in the systems, facilities, property, services, waste streams and or volumes described in this PWS and actual conditions at the end of the transition period. The Contractor shall deliver to the Contracting Officer a Statement of Material Differences (see Section J, Attachment B) within 30 calendar days after the completion of the transition period. The Contractor shall work directly with the Contracting Officer to resolve any material differences.

J-A 2. PROJECT MANAGEMENT AND FACILITY MAINTENANCE

The Contractor shall perform the following requirements:

J-A 2.1 OPERATIONS PROJECT MANAGEMENT

The Contractor shall provide the resources required to support process operations and those functions that support operations including, but not limited to, environment, safety, health, and quality (ESH&Q), regulatory compliance, radiation protection, engineering, and nuclear safety. The Contractor shall conduct all activities in accordance with applicable laws, regulations, and the Directives listed in the contract. These activities include, but are not limited to, maintaining the following programs: (Bullets changed to numbers)

1) Integrated Safety Management System (ISMS).
2) Authorization Basis development, implementation, maintenance and oversight including Documented Safety Analyses (DSAs), readiness activities, and Unreviewed Safety Question evaluations in compliance with 10 Code of Federal Regulations (CFR) 830 Subpart B (10 CFR 830(b)).
3) Criticality Safety Program.
4) Hoisting and rigging.
5) Worker Safety and Health Program.
6) Work control process and worker safety in compliance with 10 CFR 851.
7) Site-based training (e.g., Occupational Safety and Health Administration, General Employee Training, and Radworker I and II).
8) Emergency management, preparedness, and response in coordination with ORNL.
9) Environmental controls, permitting, and compliance.
10) Conduct of operations.
11) Design and engineering.
12) Start-up, testing and readiness preparation, and demonstration activities.
13) Readiness reviews.
14) Radiological control program in compliance with 10 CFR 835.
15) Contract Performance Baseline, Fiscal Year Work Plans, and Earned Value Analyses.
16) Configuration Management.
17) Identification and procurement of all equipment, systems, consumables, and services not provided by OREM or CCP.
18) Maintain and administer the site-wide DOE Personal Property Management System.
19) Support audits, tours, and information requests from OREM and regulatory agencies.
20) Support shipments of LLW/MLLW fallout from NFS Soils processing.
21) Integrate historical TWPC records into the DOE-approved Records Management Program.
    a) Phase I - Identify all current active (WAI generated), historical, legacy, and inactive files/records under both WAI and NW Solutions' control as either active records, inactive records, or records for disposition.

The Contractor's ESH&Q Program shall be operated as an integral, but visible, part of how the Contractor conducts business. The Contractor shall establish and maintain an effective Quality Assurance (QA)

Program in compliance with 10 CFR 830(a) and DOE O 414.1D, *Quality Assurance*, or its latest version. The Contractor shall implement and maintain a Contractor Assurance System as required by DOE O 226.1B, *Implementation of Department of Energy Oversight Policy*, or its latest version.

The Contractor shall obtain and maintain all required environmental permits and comply with all regulatory requirements for the operation. These include permits required for compliance with environmental regulations and laws (e.g., RCRA, Clean Air Act of 1970 (CAA), Clean Water Act 1972 (CWA), Superfund Amendments and Reauthorization Act of 1986, National Environmental Policy Act of 1969). In addition, the Contractor shall ensure that waste management activities are in compliance with requirements found in DOE O 435.1, Change 1, *Radioactive Waste Management*, and DOE M 435.1-1, Change 2, *Radioactive Waste Management Manual*, and that wastes segregated or generated by the Contractor that may contain residual radioactive material and are not disposed of in a DOE authorized or NRC licensed disposal facility are managed and disposed of in compliance with requirements found in DOE O 458.1, Change 3, *Radiation Protection of the Public and the Environment*, and any other applicable state or federal regulations. The attached Exhibit F identifies the current TWPC permits required for facility operations.

J-A 2.2 CYBER SECURITY

The Contractor shall be pro-active regarding cyber threats and IT systems shall be protected based on evolving threats in accordance with the Federal Information Security Management Act of 2002 (FISMA). FISMA requires all IT systems be Authorized to Operate (ATO). The Contractor shall obtain an ATO designation from the DOE Authorizing Official (AO). Only the AO has the authority to grant an ATO or a Denial of Authorization to Operate (DATO). The Contractor's IT systems covered under this contract shall operate in accordance with all terms and conditions specified in the ATO and shall not operate if a DATO has been issued. An ATO will be based on how well the Contractor implements the DOE policy specific to cyber security and the Contractor's ability to prevent, detect, contain, and report any malicious activity and intrusion into IT systems used to support this contract.

The Contractor shall ensure all its systems are Internet Protocol version 6 (IPv6) compliant and operational. IPv6 is the latest version of the Internet Protocol, the communications protocol that provides an identification and location system for computers on networks and routes traffic across the Internet.

The Contractor shall comply with the Cyber Security requirements specified in DOE O 205.1B, Chg 3, *Department of Energy Cyber Security Program*. The Contractor shall enforce all Cyber Security requirements on all its subcontracts supporting this contract. Major areas of concern addressed in policy are the handling of sensitive information to include personally identifiable information (PII), protecting information and information systems from unauthorized access, and reporting to the DOE Joint Cyber Coordination Center (JC3) any significant attempts or successful intrusions into these systems by unauthorized individuals.

Cyber Security personnel and privileged users such as systems administrators may be required to obtain a DOE Q clearance under this contract. All Cyber Security personnel and IT personnel who have Incident Response and Contingency Planning responsibilities shall have a DOE Q clearance.

Applications purchased or developed to support the mission under this contract shall be able to run on mandatory IT baseline security configurations without any deviations and must comply with the appropriate controls as documented in NIST SP 800-53, *Security and Privacy Controls for Federal Information Systems and Organizations*. The Contractor shall deploy compensating controls on legacy applications as long as the applications are implemented; such applications shall be replaced as soon as feasible as determined by the AO. The Contractor shall use federally available enterprise applications and licenses, if they exist, prior to purchasing or developing custom products to implement the contract; including enterprise solutions to provide cyber security.

The Government will provide 300 computers with Windows 7 Operating System, Microsoft Office and other software, including 40 laptops, and 12 IPads, 2 Dell network storage devices with 14 terabytes storage capacity, 14 Dell servers and virtual servers (reference Contract Section J, Attachment C, Government Furnished Property). Data management is performed through a network system based on *FileMaker* and *SharePoint* software systems. Using this platform, 25 data bases (FileMaker modules) have been created to store and manage data including the waste inventory control system, non-conformance tracking, non-destructive assay (NDA)/non-destructive examination (NDE) data, personnel data, software control and quality assurance, AK/PK data, document control, operating procedures, DOE directives, chemical inventory, QA surveillances, issues reporting, monitoring and test equipment calibrations, QA tracking and inspections, lessons learned, Technical Safety Requirements (including an alert system), as well as used for compliance monitoring and reporting. See TWPC Procurement website, reference page for a list of available software.

J-A 2.3 CENTRAL CHARACTERIZATION PROJECT SUPPORT

While CCP is on-site during the base period, and conducting TRU waste characterization, certification, and shipping operations, the Contractor shall: (Bullets changed to numbers)

1. Support UCOR Nuclear Materials Control and Accountability (NMC&A) Program for management of characterization sources at TWPC, including providing the NDA Performance Demonstration Program support needed to assemble test drums.
2. Provide space to site the mobile trailer containing the characterization equipment and room for additional ancillary supporting equipment
3. Provide support of CCP waste characterization and certification activities, as necessary to execute signature authority for hazardous waste manifest for waste shipments to WIPP
4. Provide support of CCP waste characterization and certification activities as necessary to ensure compliance with TWPC authorization basis.
5. Interpret screening data received from CCP for authorization basis verification and LLW determinations.
6. Support visual examination (VE) operations using CCP procedures with CCP oversight.
7. Support sampling of TRU waste using CCP procedures with CCP oversight.
8. Procure goods and services in accordance with requirements of the CCP procurement program for certification and characterization related activities.
9. Assist in the development of information for Acceptable Knowledge (AK) compilation, revisions, reconciliations, updates, reporting, and classification review.
10. Support Intensive RH Sampling Events as outlined in J-A 3.1.2.2c. (Payment for this support will be made after completion of the sampling event under SubCLIN 2BD for Contract Year 2 and SubCLIN 2BE for Contract Year 3)

J-A 2.4 INTERFACES

The Contractor shall interface with the following:

CBFO/WIPP for:

- Procedure approval.
- Integration with CCP (see Section J, Attachment H).
- Waste transportation to WIPP (**NOTE:** In addition to the current WIPP shutdown [as of the 1st quarter of FY15] there is an annual outage planned each January and February at WIPP).

- For estimating and scheduling purposes assume that WIPP is limited to a maximum of 12 RH 72B cask shipments per month and 6 CH-TRU shipments per month when in operation. It should be assumed that the shipments will not ensue before 1st Quarter FY 2017 and are subject to change
- Certification of TRU waste (assume CCP can certify a maximum of 33 m^3 month of TRU waste).
- Coordination and integration with the National TRU Program including support of 2 corporate board meetings per year, 1 to 2 telephone conference calls per month, and 1 call per week for scheduling, acceptable knowledge and CCP discussions.

DOE and Contractors at regional LLW/MLLW Disposal Facilities, such as National Nuclear Security Administration Nevada Site Office and NNSS, or other DOE and commercial facilities, for:

- Maintenance of the Certification Program.
- Development of waste disposal profiles for LLW and MLLW.
- Characterization and Certification of LLW and MLLW.
- Shipment and disposal of LLW and MLLW.

Other OREM Prime Contractors for:

- Emergency response including fires, readiness, and notification.
- RCRA reporting and input for updates to STP.
- Site access and tours.
- Stack emissions reporting.
- Management and collection of newly generated TRU waste.
- Transfer of CH- and RH-TRU debris and soil waste from storage facilities to the TWPC.
- Transfer of packaged CH and RH-TRU debris and soil waste from TWPC to storage facilities

Regulatory Agencies and Stakeholders including, but not limited to:

- TDEC (Quarterly Site Treatment Plan meetings and as-needed meetings (approximately an hour in length)).
- EPA.
- Site Specific Advisory Board (At least one presentation per year anticipated and Contractor shall provide support to Federal Project team, as needed).
- Public (Contractor shall provide as-needed support to the Federal Project team for periodic public meetings).
- Defense Nuclear Facilities Safety Board (DNFSB) (at least two site visits by the full board). The Contractor shall provide support to the Federal Project team, and provide support to DNFSB site representatives in the form of tours and as-needed meetings.
- Other entities as directed e.g., OREM or its selected architect/engineer contractor(s) for the sludge facility design/construction (see Exhibit D for TWPC Site Landlord functions).
- ORNL Federal Project Team (Periodic weekly meetings and support to the Federal Project Team, as needed).

Other DOE Sites for:

- Consultation support for other DOE waste generators to ensure proper waste preparation and demonstration activities.
- Integration activities as necessary (e.g., for transfer of waste samples to or from other sites).

– DOE Office of Disposal Operations integration activities (e.g., annual waste forecasts, bi-weekly LLW and MLLW conference calls, and lessons learned).

J-A 2.5 FACILITY AND EQUIPMENT MAINTENANCE

The Contractor shall:

1. Maintain proper-working condition of all facilities and equipment including, but not limited to, processing and storage buildings, roads, lighting, fencing, and grounds required at the TWPC. Maintenance of facilities involves routine repairs and upkeep of ancillary offices, storage buildings, roadways, and the surrounding grounds and includes, but is not limited to, grass cutting, janitorial services, pest control, and painting. There are 35 facilities associated with the TWPC Complex, totaling over 100,000 ft^2 of space. Exhibit D provides a list of the TWPC facilities.
2. Maintenance of the equipment includes, but is not limited to, inspections, calibrations, lubrication, and replacement of moving parts as required. The Contractor shall maintain the main facility support systems including, but not limited to, heating, ventilation, and air conditioning, communication systems, computer network, and fire protection systems. Provide inventory controls for facilities equipment.
3. Maintain and implement the TWPC's safety basis and corresponding DSA and technical safety requirements in compliance with 10 CFR 830(b).
4. Provide radiological controls including, but not limited to, surveys, postings, dosimetry, source controls, and bioassay materials and equipment.
5. Maintain office space (DOE Office Trailer, building 7880L) for site operations including DOE personnel, and other DOE Contractors (e.g., CCP).
6. Maintain site security access controls as well as classified, personal, or proprietary information generated during waste processing activities.
7. Perform all repairs up to $20,000 per occurrence. The Contractor shall provide a brief description explaining the repair work and the approach along with a rough order of magnitude estimate for repairs expected to exceed the $20,000 threshold. The CO will provide the Contractor written direction regarding how to proceed with any repair work that exceeds the $20,000 threshold. The Contractor shall not perform any repair work over $20,000 without prior written CO direction.
8. Establish PAR Arm Manipulator preventative maintenance and repair plan that ensures continuous operation status of PAR Arm Manipulator.
    A. As part of this plan, the Contractor shall ensure that shear pin design parameters and materials are adequate and perform the intended function of breaking prior to significant upstream damage to the manipulator's elbow or shoulder. Contractor shall provide all materials, equipment, labor, and testing to identify shear pin material and quantity needed for effective operation and warning. Contractor shall provide all necessary engineering and supporting data for new shear pins. Payment will be made under SubCLIN 2AU.
    B. The Contractor shall provide all necessary equipment and labor to perform planned, preventative shear pin replacements, as necessary and in accordance with the plan, on a per job basis which will be paid under SubCLINs 2AV (initial), 2AW (Year 2) & 2AX (Year 3). The contractor shall notify the Government at least 30 days prior to any preventative shear pin replacements.
    C. The Contractor shall provide all necessary equipment and labor to perform unplanned shear pin replacements, if any, and as necessary, upon notice to DOE and on an optional fixed unit rate basis as provided in a separate SubCLIN 2 number (2AW- Year 2 or 2AX- Year 3). Notification for unplanned, emergency shear pin replacements shall be done by email

to the DOE Contracting Officer and Contracting Officer's Representative prior to start of replacement.

D. The Contractor shall, as part of this plan, perform preventative maintenance, as necessary and defined by the plan, on the PAR Arm Manipulator wrist. Contractor shall provide all equipment and labor to fabricate and install all components associated with wrist replacements. Fabrication of the replacement wrists will be paid on a monthly basis under SubCLIN 2 numbers (2AY and 2AZ). The replacement of the existing wrist will be paid on a per job basis under a separate SubCLIN 2 numbers (2BA through 2BC). The contractor shall notify the Government at least 30 days prior to the start of fabrication of each wrist after the initial wrist replacement covered under SubCLIN 2BA. Contractor has notified the Government of the next wrist replacement which is the first under SubCLIN 2BB. Therefore, 30 day notification will begin with second wrist fabrication under SubCLIN 2BB expected to begin in February 2017.

E. PAR Arm Manipulator preventative maintenance and repairs will include a separate element of cost under CLIN 3. These costs will include operator support to move and support the PAR Arm, wrist and shear pin materials and replacement parts and components, and replacement activity consumables.

F. The contractor shall provide a report of the PAR Arm Manipulator including diagnostics methods and status of the equipment. This report shall include a description of the current functional status of the shoulder, elbow, wrist, and other major components of the PAR Arm Manipulator, and to identify potential risks of failure to the PAR Arm within the remaining Contract Base Period based upon the current functional status of those various PAR Arm Manipulator components. The report is to be completed within 30 days following a planned hot cell outage in January/February 2017.

9. Perform Hot Cell maintenance and repairs which will necessitate an outage of Hot Cell availability to make a manned entry to replace cameras that are out of service or degraded and perform prioritized preventative maintenance on single point failure components. The cameras are essential for processing waste using remote tooling in the Hot Cell. The outage has been planned to occur before processing of waste presenting significant radiological dose that could challenge the ability to efficiently decontaminate the Hot Cell for future manned entries. The contractor shall complete at a minimum the following repairs/maintenance to help ensure the Hot Cell is operational for the duration of the contract base period (This effort is payable under SubCLIN 2BG):

   A. Replace camera cable on XYZ
   B. Replace PaR cameras (as needed)
   C. Replace color cameras (as needed)
   D. Make adjustment to the junction box for camera connection
   E. Adjust PaR clutch
   F. Inspect/verify torque on ring fetters
   G. Check torque on all bolts and pulleys
   H. Inspect/replace belts for the PaR Arm and Mast
   I. Replace Lid Extraction Tool tubing
   J. Inspect linear bearings
   K. Respair Non-Destructive Examination (NDE) Alcove screw
   L. Inspect/Repair tubing for NDE Alcove door
   M. Testing/Adjustments on overload assembly
   N. Conduct Hot Cell Preventative Maintenance (in accordance with Maintenance Plan)

J-A 2.6 SAFETY BASIS CHANGES (DECEMBER 11, 2015 – OCTOBER 26, 2018)

The Performance Work Statement (PWS) Section J-A 2.1 Operations Project Management: "The Contractor shall provide the resources required to support process operations…these activities include, but are not limited to, maintaining the following programs:…Authorization Basis development, implementation, maintenance and oversight including Documented Safety Analysis (DSA)." The Request for Proposal (RFP) provided information included Revision (REV) 28 implemented by December 3, 2015. The changes from REV 28 through 32 have been implemented and changes 34 through 39 are still to be developed and implemented as well as other related changes as follows:

- REV 34 – Approve and require multiple vehicle barriers to be installed; address receipt of waste boxes not transferred in closed waste transport containers; the processing of remote handled waste with radiological inventory in excess of current Hot Cell inventory limits; and increasing the storage footprint for loaded RHOP awaiting return to UCOR.
- REV 35 – Receipt and processing of Tank W-1A soils in the Cask Processing Enclosure (CPE): repackaging of previously macro-encapsulation drums including equipment and capabilities.

REV 36 – Addresses the Oxidation Campaign (to be completed in the SWSA-5 glovebox). The submitted PDSA will require continued support in addition to development of the DSA and TSR for final submittal and approval.

REV 37 – Address return of DOT 6M/2R Containers posing a DDT Hazard to UCOR storage; processing and packaging of waste from RH Non-Standard Container and RH KAPL Carrier.

- REV 38 – Address the DOT 6M/2R Containers posing a DDT Hazard for site receipt, handling and repackaging; receipt and processing of unvented waste containers in a configuration requiring a change to the existing hazard control strategy; SWSA-5 Phase II Repackaging 6M/2R and Bird Cage Containers; Process and package Potentially Pyrophoric Waste; Lithium Hydride; and Birdcages, REDC Cylinders.

REV 39 – Address the DOT 6M/2R Containers posing a DDT Hazard for site receipt and processing and re-process and package pressurized REDC system waste discovery during actinide recovery system waste discovered during routine processing in the Hot Cell.

- UCOR credited ROPs has added to the QA inspection criteria and effort for these overpacks.
- Extensive Unreviewed Safety Question (USQ) process which could not have been known from RFP and associated information (~600 USQ processes per year based on data gathered during transition).
- Emergency Planning Hazards Assessment (EPHA) Revision (not completed in last 3 yrs.) and EPHA SWSA-5 update.

The justification for this change is further justified under the following questions and answers from the solicitation:

- **Q&A 55** Section J, Attachment A, Exhibit G "Are we to assume that by the contract start date, the incumbent contractor has completed the DSA changes to be able to operate the SWSA-5 Glove Box?" **Answer**: "The DSA changes are planned to be in place by May 2015."

- **Q&A 143** was: PWS Exhibit G - Assumptions "Related to the challenging CH TRU and RH TRU wastes, will the costs associated with programmatic changes (safety basis, etc.) associated with establishing the capability to process these wastes be reimbursed under the Waste Processing CLIN (CLIN 003)?" **Answer**: Any programmatic changes that impact the contract will be discussed between the Contractor and Contracting Officer during execution to determine where (i.e., CLIN) there are cost impacts, if any." NWSol interpretation of Q&A 143- We believe discussion is warranted as to whether the noted DSA/TSR revisions are appropriate for CLIN 3 and keep CLIN 2 aligned to overall program maintenance.

J-A 2.7 PROGRAMMATIC RIGOR (DECEMBER 11, 2015 - OCTOBER 26, 2018)

The PWS Section J-A 2.1 Operations Project Management states "[t]he Contractor shall provide the resources required to support process operations…these activities include, but are not limited to, maintaining the following programs: Worker Safety and Health Program...Work control process and worker safety in compliance with 10 CFR851...Conduct of operations." There was no information provided with the RFP to suggest that commitments had been made to DNFSB, ongoing corrective actions were in process, and other enhanced programs were expected to be implemented at TWPC. The DOE expects the work in the following areas to be continued to provide defense-in-depth and additional rigor for the work place Safety and Health Program, and Conduct of Operations. Some of these include:

- ConOps Mentoring and Senior Supervisory Watch Program
- Enhanced Performance Assurance Program and Reporting
- Safety Conscious Work Environment/EFCOG/ Safety Culture Sustainment Plan/VPP

J-A 2.8 SECURITY (DECEMBER 11, 2015 – OCTOBER 26, 2018)

The PWS Section J, Attachment O Government Furnished Services and Items (GFS/I) identifies "Security at site," as a government-furnished service. As part of Transition it has been determined that the incumbent contractor has maintained, by agreement with the DOE, a security organization and system to perform security functions and to comply with requirements necessitated by the removal of Protective Force security personnel from the site. In preparing its proposal NWSol relied upon the DOE's description in the GFS/I list and did not include staff or cost provisions for the security scope currently being performed by the incumbent contractor.

Also this change includes scope and resources to address the HPSD-12 requirements as defined by DOE O 206.2. This includes that DOE information systems ensure that the credentials used for authentication meets the minimum level of assurance (LOA) requirements; when DOE requires digital signatures or encryption, contractors must enable the use of Public Key Infrastructure (PKI) certificates; and when operating a DOE information system as defined in DOE O 206.2, the contractor must be capable of recognizing the HSPD-12 and PIV-I credentials. The HSPD-12 system objectives include software logical access controls which are tools and protocols used for identification, authentication, authorization, and accountability in computer information systems.

J-A 2.9 LIMITED ACCESS GATE (LAG) INSTALLATION

The predecessor contractor initiated a project to replace the currently installed LAG prior to the start of transition. This project will replace the currently installed swing gates that provide minimal intrusion prevention with a sliding gate that is significantly more robust for preventing undesired entry. The Contractor will procure the remaining design, retaining wall material and gate components for installation. The existing gate will remain in service until the newly installed gate has been successfully

tested and placed in service. The existing gate will be removed and disposed of following successful installation of the new gate.

Work Completed by Predecessor Contractor
The change was initiated and subcontracted to Barge Waggoner Sumner & Cannon, Inc. (BWSC) to perform an "as-is" (or as-found) survey and complete sufficient design to allow the procurement to proceed. The initial design was reviewed and the procurement documents developed. As a minimum, at the time of transition:

- The Request for Proposal (RFP) for the block wall (engineering, block and associated installation hardware) was ready to be transmitted to potential suppliers.
- The RFP for the cantilever gate, controls and accessories was ready to be transmitted to potential suppliers.
- Numerous trees were removed to allow gate installation at the proposed installation site (approximately 200 yards from the Highway 95/Main Entrance to the TWPC).

The Contractor has received the proposal for the gate and wall design, block for the wall, materials for the gate, and the control unit for the gate.

This scope covers all equipment, materials, and labor necessary to complete the installation of the Limited Access Gate according to scope defined above and Attachment Q Limited Access Gate Plans (C1.01, C1.01 addendum, E1.01, V1.01). The contractor shall ensure the installation is in accordance with all Safety Basis Documents and other DOE or Non-DOE requirements. The Contractor is responsible for ensuring any updates to the Safety Basis Documents are completed, if necessary, as a result of this effort. The Contractor will complete or coordinate all necessary planning, construction, or completion inspections in accordance with this contract.

J-A 2.10 FIBER OPTIC CABLE INSTALLATION

In support of the ORNL Fire Department initiative to eliminate Master Pull Boxes (i.e., 1950 to 1960 technology) by converting over to fiber optic and Fireworks fire dispatching software, a fiber optic cable between 7880B and 7880PP (approximately 1800 feet) needs to be replaced due to a break in the existing fiber in an area that is unable to be spliced. The fiber optic cable will carry signal from 7880PP (telecommunications center) to the control point in 7880B. Once the installation of the new fiber is complete, the project can complete the installation of the Fireworks which will complete the network with the ORNL Fire Department. Once the Fireworks system is installed and tested the original hard wired system will be disabled. Fireworks will allow the TWPC to repair the system without the need for a physical presence by ORNL Fire Department personnel to remove and the reinstall the Master Pull switch located at the TWPC Control Room. The Fireworks system also provides any alarms generated from the TWPC on a map at the ORNL Fire Department dispatch and Laboratory Shift Superintendent (LSS) office. Hardware and fiber optic installation will be performed by NWSol maintenance personnel.

Remaining tasks include:

- Installation of hardware to support Fireworks upgrade
- Installation of the fiber optic cable,
- Testing of Fireworks programming [Supported by Building Systems Technologies (BST)]
- Updating ORNL Software with new TWPC programming (Performed by BST)
- Connecting of fiber optic patch at 7880PP to ORNL
- Removal of Master Pull Box

Work Completed by Predecessor Contractor, Wastren Advantage, Incorporated (WAI)

WAI initiated the change and subcontracted BST to complete the design, provide hardware and installation support. BST has completed the design of the system. BST has programmed maps and device descriptors for the Fireworks Program (required for interconnection to ORNL Fire Department and Laboratory Shift Superintendent). BST has preliminary programmed the upgrades into our software.

This scope covers all equipment, materials, and labor necessary to complete the installation of the Fireworks upgrade including but not limited to the remaining tasks identified above. The contractor shall ensure that the completed system meets all requirements of the ORNL Fire Department initiative for a fully functioning and updated fire alarm system. The contractor shall ensure the installation is in accordance with all Safety Basis Documents and other DOE or Non-DOE requirements. The Contractor is responsible for ensuring any updates to the Safety Basis Documents are completed, if necessary, as a result of this effort. The Contractor will complete or coordinate all necessary planning, construction, or completion inspections in accordance with this contract.

J-A 2.11 REMOVAL OF EXCESS MATERIAL

Excess and unused materials are located near the Processing Building (7880) and Contact Handled Marshalling Building (CHMB). Materials include scaffolding, excess building materials, metal pallets, and other materials that are no longer in use. Material will be loaded on flat bed trailers and transported to Oak Ridge National Laboratory (ORNL) Excessing and Property Sales. All materials will have to be radiologically released and have a hazardous material survey performed as well as a high risk review (property and/or security) prior to transfer. The radiological review and hazardous material review are new requirements, and NWSol anticipates utilizing existing forms and procedures to conduct these reviews. Cost will include labor for completion of required documentation, loading and removal of excess material, labor for radiological surveys, labor for hazardous material surveys, high risk reviews, equipment rentals and subcontracted transportation for removal, delivery, and offloading, to ORNL Excessing and Property Sales. Excess material located near the CHMB will be moved to a low radiological background area for survey prior to shipment.

This scope includes all material, equipment, and labor necessary to remove the excess material from the TWPC site and ensure coordination between contractor and ORNL/UT-Battelle, LLC (UT-B) including the offloading of material at ORNL. All excess material is required to be dispositioned in accordance with DOE Order 580.1, Department of Energy Personnel Property Management.

J-A 2.12 BI-ANNUAL ELECTRICAL PREVENTATIVE MAINTENANCE (YEAR 1: DECEMBER 11, 2015 – OCTOBER 26, 2016 & YEAR 3: OCTOBER 27, 2017 – OCTOBER 26, 2018)

Every 2 years, the TWPC has a site electrical outage in order to safely and efficiently complete National Fire Protection Association (NFPA) 70E, Standard for Electrical Safety in the Workplace, NFPA 70, National Electrical Code and NFPA 70B, Recommended Practice for Electrical Equipment Maintenance requiring preventative maintenance. These activities include cleaning of electrical enclosures, testing of breakers and disconnect switches, visual inspection of components, insulation, and wiring, and testing of site and component grounding. This activity will be completed in Year 1 of the base period and again in Year 3 of the base period. This preventative maintenance will be completed to meet the regulatory requirements identified above. The task will be completed with the maintenance, operations, and security personnel from TWPC and with maintenance resources from UT-Battelle (UT-Battelle will shut down power and complete the high voltage related maintenance). Operations Personnel funded in CLIN3 will be utilized to support Lockout/Tagout installation and removal, assist in Process Building equipment monitoring, and serve as spotters and fuel control monitoring.

This scope covers all materials, equipment, and labor necessary to complete the bi-annual maintenance in Years 1 & 3 in accordance with the National Fire Protection Association (NFPA) 70E, Standard for Electrical Safety in the Workplace, NFPA 70, National Electrical Code and NFPA 70B, Recommended Practice for Electrical Equipment Maintenance requiring preventative maintenance.

J-A 2.13 SWSA-5 SOLID WASTE STORAGE AREA (SWSA)-5 DESIGN, MODIFICATIONS, INSTALLATIONS, STARTUP/TESTING FOR GLOVEBOX OPERATIONS (YEAR 1: DECEMBER 11, 2015 – OCTOBER 26, 2016 & YEAR 3: OCTOBER 27, 2017 – OCTOBER 26, 2018)

The scope associated with the NWSol proposal was submitted as material differences to DOE on January 7, 2016 as Item TS-SWSA5-001, *Solid Waste Storage Area (SWSA)-5 Design, Modifications, Installations, Startup/Testing for Glovebox Operations*. This activity includes SWSA-5, Phase-1 engineering, fabrication, installation, functional testing including testing of surrogate materials, and readiness preparations. In addition, preparatory activities are included for implementation of associated safety basis documentation revisions (Documented Safety Analysis and Technical Safety Requirements (DSA and TSR) revisions 36, 39, and 40. The material difference is based on the difference between the status of the SWSA-5 project as described in the contact and the actual status which includes limited progress made by the prior contractor for SWSA-5 installation, testing, training, or readiness review for the system. Progress by the prior contractor was estimated at 80% of design and installation at the time of transition.

Contractor shall provide all labor, equipment, and materials necessary to accomplish the completion of design, installation, modification, testing, and startup of the glovebox for processing SWSA-5 Material. A summary of the additional SWSA-5 project work includes completion of design, completion of installation, start-up testing, DSA/TSR implementation and verification, and Operational Readiness Review (ORR) preparations for Phase 1 for glovebox operations. A detailed list of activities is as follows:

- Complete system design, including mechanical, electrical, and instrumentation
- Identify and procure surrogate material for process testing
- Procure materials and equipment for glovebox and complete installation
- Develop procedures
- Perform system testing with surrogates
- Complete as-built drawings
- Transition system to operations
- Complete DSA and TSR implementation
- Train processing staff
- Complete simulated operations in preparation for the ORR

Attachment R SWSA-5 Glovebox Plans provide additional details associated with the system design and requirements for installation.

J-A 2.13.1 SYSTEM DESIGN

Mechanical and electrical/instrumentation design for contract line item (CLIN) 2 will involve the following subsystems:

- Design of the delivery system for the argon gas and the associated supply tubing for purging the inert hood.
- Design of the delivery system for the process gases listed below and the associated supply tubing for the furnace glovebox and inert glovebox.
  - 100% helium (He)
  - Mixture of 95% He and 5% oxygen (O_2)
  - Mixture of 90% He and 10% O_2
  - Mixture of 96% He and 4% hydrogen (H_2)
- Complete design of the process gas instrumentation components for SWSA-5 Process Enclosure, Room 122, Transfer Chamber #2, and Glovebox #2. A new process control panel, annunciator panel, process instruments and related equipment components are added both inside and outside of the process enclosure. This also requires both electrical and tubing bulkhead fittings to be designed, fabricated and installed for all wiring and tubing that penetrate the process enclosure walls.
- Revise the bills of material.
- Revise the process and instrumentation diagram
- Procure outstanding instruments and specialty items, e.g., regulators and valves.

J-A 2.13.2 INSTALLATION

Installation of the SWSA 5 processing system (Figure 1) will involve the following activities:

- Perform weld repairs for glovebox filter housing F-MOP2 with support of a Level III weld inspector
- Replacement of two glove box vacuum pumps
- Installation of the inert hood including:
  - Connection to filter housing F-MOP3
  - Connection to 6-inch process off-gas (POG) header
  - Connection to 3-inch overpressure bypass to the POG header
  - Install gauge mount
  - Make repairs to plexaglass windows of hood
- Setup of the 2R Container Lid Removal Tool (Figure 2) and associated components including compressed air cylinders, airlines, and manifold station.
- Installation of the process gas delivery system with instrumentation and controls described in the design scope as follows:
  - Install tubing supports and perform inspection with proper documentation
  - Routing of tubing from supply cylinders for five gas supplies
  - Installing bulkhead fittings in process enclosure walls
  - Install valves, fittings, pressure regulators, and flowmeters for each of the gas supplies
  - Route electrical supplies and signal cable for each gas supply
  - Perform leak testing and verification of flow and pressure indications
- Fabricate SWSA-5 process instrument control panels and perform shop testing

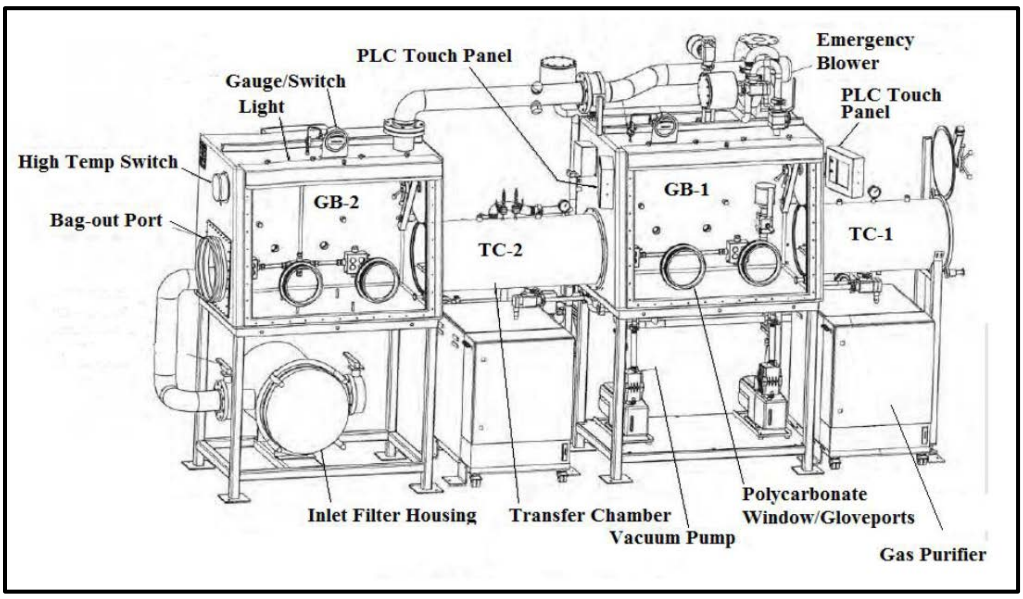


Figure 1. SWSA-5 Glovebox Processing System

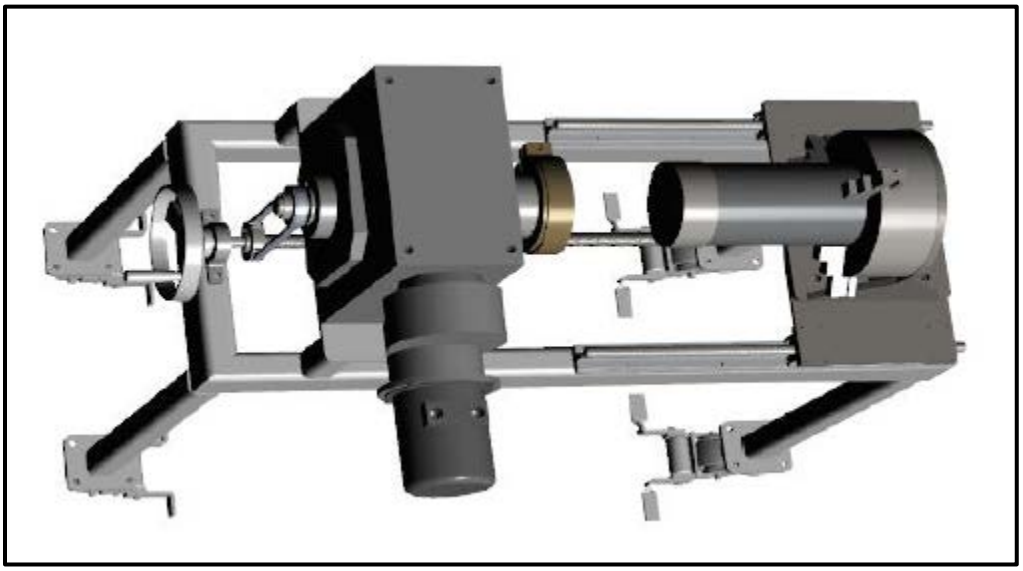


Figure 2. Remote 2R Lid Removal Device

J-A 2.13.3 SYSTEM TESTING

At the completion of construction, proof-of-process testing of the equipment will be turned over to Operations (CLIN 3) to initiate. Testing includes all activities required to demonstrate that the installation was completed in accordance with the design package, such as pressure testing, electrical point-to-point tests, instrument calibration, and basic equipment functionality.

Proof-of-process testing will utilize zirconium (Zr) sponge as a surrogate material to demonstrate the oxidation process. The material will be 99.5% Zr with hafnium (Hf) impurities (≤3%) in the sponge. It is assumed that the Hf impurity may be ignored. The test program will use 24 batches of surrogate, approximately 300 grams per batch. The use of ceramic liners was investigated to

mitigate any potential eutectic reaction between the metal during oxidation and the stainless steel furnace vessel. A minimum of eight liners with four backup liners is required due to the uncertainty of durability for reuse. Six furnace vessels were procured of which four will be used for testing and two will be reserved for production operations.

Testing will be performed in accordance with test plans and operating procedures to demonstrate the oxidation processes summarized below.

- Stage 1: Inlet gas is fed at 5 volume percent (vol %) O_2 at ambient temperature for 1 hour and utilizes 6 liters O_2. This stage is designed to oxidize fines in a controlled fashion.
- Stage 2: Inlet gas feed remains at 5 vol% O_2 but temperature ramped up to 400ºC over 1 hour and utilizes 6 liters O_2. This stage completes oxidation of fines and small pieces.
- Stage 3: Inlet gas feed remains at 5 vol% O_2 with furnace temperature at 400 ºC for 5 hours and utilizes 30 liters O_2. This stage is designed to oxidize the metal and ensure material remains below 640 ºC, the plutonium (Pu) metal melting point.
- Stage 4: Inlet gas feed is ramped up to 10 vol% O_2 and temperature ramped up to 600ºC for 2.5 hours and utilizes 30 liters O_2. This stage ensures completion of the oxidation process and satisfies the WIPP oxide temperature requirement of 600ºC.
- Cool down: Inlet gas is fed 100 vol% He for approximately 3 hours at 1 liter per minute.

The total process time including cool down is 12.5 hours and uses 72 liters O_2 feed (~150% stoichiometric excess). The surrogate material will be removed from the furnace and analyzed after processing to evaluate the performance of the oxidation process.

It is expected that approximately three months will be required for proof-of-process testing. Draft operating procedures will be used for the testing that will require verification and validation prior to initiating formal readiness activities. Engineering support will be provided for the test period to develop test protocols and procedures, observe operations, and evaluate data.

J-A 2.13.4 DSA AND TSR IMPLEMENTATION

Qualitative impacts of the SWSA-5 Phase 1 program with CLINs 3 and 4, waste operations and container management, were identified with the procedure changes required as a result of modifications to the DSA and TSR. A portion of those qualitative impacts are associated with the SWSA-5 glovebox start up, testing, and preparation for the ORR including simulated processing and refresher training on numerous operational requirements.

Testing includes operations of the systems in normal and off-normal conditions and operations with the Tube Furnace. Sufficient operational runs are required to verify He mass flow rates, oxygen monitoring, furnace temperature ramp rates and controls, and process gas system operations. Startup and shutdown of systems includes glovebox operation, vacuum and He purification system checkout, exhaust blower (normal and accident mode), and glovebox temperature alarm functions.

J-A 3. WASTE PROCESSING OPERATIONS AND CERTIFICATION

J-A 3.1 TRANSURANIC DEBRIS AND SOIL WASTE MANAGEMENT

The Contractor shall manage and process the following waste streams: CH-TRU debris and NFS soil waste, RH-TRU debris waste, LLW, and MLLW. The Contractor shall process container receipt, storage, characterization, processing, certification, and staging in preparation for final transportation to the final disposal facility. The Contractor shall perform the following tasks to complete waste processing operations. A list of assumptions can found at Exhibit G.

J-A 3.1.1 Contact-handled Transuranic Debris and Soil Waste

Background

CH-TRU debris and soil waste consists of a heterogeneous mixture primarily consisting of glass, plastic, tubing, filters and filter housings, pumps, protective clothing, metal cans/drums, gloveboxes, other boxes and tanks, cloth and other miscellaneous items, such as wood, carbon, cloth wipes, and sample bottles. In addition, some of the waste containers may contain soil or other homogenous wastes, and items requiring substantial size reduction (e.g., components made of stainless steel, hastelloy, zircalloy, etc., associated with glovebox operations, laboratory operations, hot cell clean-up operations, equipment repair and maintenance, radioactive sources, and from radiochemical processing for isotope separation and purification operations). Some waste containers may contain free liquids, hazardous material such as mercury (primarily from light bulbs, thermometers, and other lab waste), lead (primarily as shielding), oil/solvents (e.g., cleaning rags), and significant quantities of groundwater. Some large components, including gloveboxes, may contain contaminated surfaces that have been painted over or "fixed" with other materials limiting methods of characterization. Based on PK of laboratory waste generation practices, greater than 95% of the CH inventory contains inner heat-sealed bags requiring remediation to meet WIPP requirements.

Some waste managed within the TRU inventory may not meet the DOE definition for TRU waste. These wastes shall be verified, processed, and dispositioned as LLW or MLLW. These wastes may contain special nuclear materials. The CH waste is primarily contained in boxes and drums; however, other containers, such as high integrity containers, are also possible. The drums primarily range in size from 55 to 110 gallons with a few smaller drums possible. The boxes range in size up to approximately 10 ft x 8 ft × 6 ft and may weigh as much as 20,000 lbs. Although most of the waste containers currently classified as CH have dose rates well below 200 mrem/hr, it is possible that a container could have a contact dose reading that exceeds 200 mrem/hr. Some drums that had been managed as CH-TRU have been further characterized to be RH-TRU due to their external doses exceeding 200 mrem/hr due to radioactive decay producing gamma emitting radionuclides.

The CH-TRU legacy and newly generated waste processing and certification scope involves processing a total of 51m^3. The contractor may choose any of the following waste types or streams to process in order to meet the required volume (51 m^3) of CH-TRU waste to be processed. The breakdown may be comprised as follows:

Processing and certification of approximately 17.7 m^3 of technically challenging drums (see Exhibit A for description).

Processing and certification of approximately 8 m^3 of SWSA-5 waste.

Processing and certification of approximately 14.3 m^3 of "Phase 2 Hostage Drums."

Processing and certification of approximately 19.5 m^3 of newly generated CH-TRU debris.

Processing and certification of approximately 6 m^3 (30) 55-gallon drums of NFS soil waste for processing that is further characterized to be LLW.

Certification of approximately 306 m^3 (1,470 drums) NFS soil CH-TRU waste (See Section 3.1.5).

Processing and certification of approximately 6.8 m^3 of CH TRU from EM consisting of MSRE box, Bldg. 2026 waste, and ETTP waste drums.

Re-processing and re-certification of approximately 28.6 m^3 of Waste Non-Conforming Report (WNCR) CH-TRU waste drums that did not pass certification from the previous contractor (any waste processed before December 11, 2015). WNCR waste generated by the contractor shall be the contractor's responsibility to re-process (waste processed after December 11, 2015).

Re-processing and re-certification of approximately 12.6 m^3 of WNCR CH-TRU waste macro boxes that did not pass certification from the previous contractor (any waste processed before December 11, 2015). WNCR waste generated by the contractor shall be the contractor's responsibility to re-process (waste processed after December 11, 2015).

Upon completion of the 51m^3 identified above, the contractor shall continue the CH-TRU legacy and newly generated waste processing and certification scope for an additional 39m^3 of CH TRU waste. The contractor may choose any of the remaining available waste types or streams to process in order to meet the required additional volume (39m^3) of CH-TRU waste to be processed. Available waste types and streams will be identified, specifically, at definitization of Change Order Modification 0025.

Requirements

The Contractor shall:

Provide support as necessary to CCP during the venting and sampling of overpacked CH-TRU waste containers or perform these activities if CCP is absent from the project.

Apply current method or develop method to vent CH-TRU drums greater than 110 gallons.

Coordinate waste staging/storage in the process building, treat, and coordinate processing of CH-TRU debris and soil waste in preparation for certification for disposal at WIPP. This scope includes repackaging, treatment, and any other actions necessary to prepare the waste for compliant shipment and disposal.

Integrate with and support CCP in the characterization and certification of the CH-TRU waste for disposal at the WIPP.

- Drums failing NDE for impenetrable items shall be processed using CCP CH VE.
- During CH VE, all inner containers shall be opened and processed as necessary.

Procure and use WIPP-approved containers (e.g., 55-gallon drums) for packaging and disposal of TRU waste.

Prepare and maintain all required procedures and work plans for processing CH-TRU debris and soil waste.

Segregate LLW and MLLW from TRU waste based on CCP/TWPC AK and assay, and manage in accordance with PWS Sections 3.1.3, LLW, and 3.1.4, MLLW, below.

Coordinate staging/storage in the process building for waste that is awaiting processing and/or final CCP certification activities (AK completion, NDA/NDE, VE, matrix specific/Tier 1 EPA approvals, waste stream profiles, shipment build sheets, confirmed shipping schedule).

In the event of CCP's absence from the site, the Contractor shall manage and operate all equipment to process CH TRU waste to support segregation of MLLW/LLW populations from TRU waste inventory in order to prepare for efficient final certification of the TRU waste by CCP.

- Waste determined to be TRU waste shall be stored by the Contractor or returned to approved-storage areas operated by others as agreed by the COR, until CCP returns for final characterization or certification of TRU waste to WIPP.

– Waste determined to be MLLW/LLW shall be fully characterized, treated, and disposed by the Contractor.

Manage the TWPC Transportation Program and serve as the Shipper of Record for all CH-TRU waste shipped for disposal.

J-A 3.1.2 Remote-handled Transuranic Debris and Soil Waste

Background

RH-TRU debris and soil waste consists of similar materials as the CH-TRU debris and soil waste. RH-TRU debris and soil waste consists of a heterogeneous mixture primarily consisting of glass, plastic, tubing, filters and filter housings, pumps, protective clothing, metal cans/drums, gloveboxes, other boxes and tanks, cloth and other miscellaneous items, such as wood, carbon, cloth wipes, and sample bottles and metals including large items requiring substantial size reduction (including large components made of stainless steel, hastelloy, zircalloy, etc.). In addition, some of the waste containers may contain soil or other homogenous wastes and items requiring substantial size reduction (e.g., components made of stainless steel, hastelloy, zircalloy, etc. associated with glovebox operations, laboratory operations, hot cell clean-up operations, equipment repair and maintenance, radioactive sources, and from radiochemical processing for isotope separation and purification operations). Some waste containers may contain free liquids, hazardous material such as mercury (primarily from light bulbs, thermometers and other lab waste), lead (primarily as shielding), oil/solvents (e.g., cleaning rags) and significant quantities of groundwater requiring collection and disposal. Additionally, free liquids must be eliminated from the wetted waste matrix. A major portion of this waste is in small containers which have been loaded into concrete casks for shielding with the remainder in drums or boxes. The casks are of three basic types. Each cask type has a different wall thickness to provide varying amounts of radiation shielding. The outer dimensions of the three types of casks range from approximately 7 to 8.5 ft tall and approximately 50 to 55 in. in diameter. Some of the RH waste will contain significant quantities of neutron generating radionuclides (approximately 18 casks) that will require additional segregation for packaging into 15-gallon or 30-gallon waste drums to enable it to be shipped to WIPP in neutron shielded canisters.

Prior to delivery of the concrete casks to the TWPC, they must be loaded into steel overpacks. These overpacks are designed to mate with existing TWPC equipment for transferring RH debris and soil waste into the TWPC hot cell. (NOTE: As of the 1st Quarter if FY15, the RH TRU Overpacks that are required to allow for storage during the WIPP suspension are in the process of being designed and procured. Thirty (30) overpacks are schedule to be procured by the predecessor Contractor. Additional (approximately 220-260) overpacks required for the casks shall be provided by the Contractor under this contract.) Loading the casks into overpacks will be performed by UCOR and is outside the scope of this contract.

A volume of ~~approximately~~ 171.8 m^3 of legacy and newly generated RH-TRU waste will be available for the Contractor to process and support certification. The contractor may choose any of the following waste types or streams to process in order to meet the required volume (171.8m^3) of RH-TRU waste to be processed. This volume may be comprised of:

Approximately 58 (95.3 m^3) RH-TRU Casks

a) One RH-TRU Cask of Dewatered Sludge from ORNL Tank WC-14 = 1.7 m^3
b) One Shielded Type A Highway Cask from Knolls Atomic Power Laboratory = 1.7 m^3

Approximately 73 RH-TRU Stainless steel 55-gallon drums from CH legacy storage = 15.3 m^3

19 shielded metal boxes of RH-TRU soils from Tank W-1A remediation = 32.3 m^3

Approximately ORNL newly generated RH-TRU waste (expected 100% RH-TRU) = 24.8 m^3

Two MSRE RH boxes = 5.1 m^3

Two MSRE NaF Traps = 5.1 m^3

Three K-770 boxes = 7.7 m^3

Approximately 5.0 m^3 of Waste Non-Conforming Report (WNCR) RH-TRU waste drums that did not pass certification from the previous contractor (any waste processed before December 11, 2015). WNCR waste generated by the contractor shall be the contractor's responsibility to re-process (waste processed after December 11, 2015).

Approximately 1.9 m^3 of WNCR RH-TRU waste RLCs that did not pass certification from the previous contractor (any waste processed before December 11, 2015). WNCR waste generated by the contractor shall be the contractor's responsibility to re-process (waste processed after December 11, 2015).

Requirements

The Contractor shall: (Bullets changed to numbers)

1. Coordinate waste staging/storage within the process building (includes TWPC RH canisters), treat, and coordinate processing of RH-TRU debris and soil waste in preparation for certification for disposal at WIPP. The Contractor shall repack, treat, and perform any other actions necessary to prepare the waste for compliant shipment and disposal, including, but not limited to:
    a. Casks containing groundwater.
        i. Remove, collect, sample and analyze groundwater to establish basis for disposition path.
        ii. Transfer contaminated groundwater to ORNL Liquid Gaseous Waste Operations for treatment and disposal.
        iii. Add adsorption media and dry waste matrix to eliminate residual liquids.
    b. Casks containing high neutron activity.
        i. Segregate/reduce high neutron bearing waste and package into waste drums (15-gallons to 30-gallons) to fit neutron shielded 72B casks.
    c. Casks containing oversized items.
        i. Lift, segregate, size reduce, and repackage heavy and/or difficult items
2. Integrate with and support CCP in the characterization and certification of the RH-TRU waste for disposal at WIPP.
    a. Frequency of flammable gas analysis and remediation of RH drums will vary and be determined by CCP on a waste stream specific basis.
    b. CCP dose-to-curie determinations of RH waste drums shall be confirmed by TWPC field dose measurements.
    c. Initiate Sampling and Analysis Plans in coordination with CCP and Execute Sampling Events in compliance with those plans in accordance with RH-TRU Acceptable Knowledge information related to Scaling Factors. (Memorandum dated October 7, 2016 from Jene Vance to Irene Joo)
3. Prepare and maintain all required procedures and work plans for processing of RH-TRU debris and soil waste.
4. Procure and use WIPP-approved containers (e.g., RH-TRU waste canisters and 55-gallon drums) for packaging and disposal of TRU waste.
5. Provide steel overpacks and spacers as necessary for RH-TRU waste concrete casks.

6. Process Tank W-1A soils, which may require enclosure modifications and segregation/repacking of RH-TRU soils from RH-LLW soils
7. Segregate CH-TRU waste from RH-TRU waste and manage in accordance with PWS Section 3.1.1, CH-TRU Debris and Soil Waste, above.
8. Segregate LLW and MLLW from TRU waste based on CCP AK and/or TWPC PK and assay, and manage in accordance with PWS Sections 3.1.3, LLW, and 3.1.4, MLLW, below.
9. In the event of CCP's absence from the site, manage and operate all equipment to process the RH TRU waste inventory to support segregation of RH/CH/MLLW/LLW populations within the inventory in order to prepare for efficient final certification of the TRU waste by CCP upon their return.
    a. Waste determined to be RH- or CH-TRU waste shall be stored by TWPC or other OREM Contractors, as necessary, until CCP returns for final characterization, certification, and shipment of the TRU waste to WIPP.
    b. Waste determined to be MLLW or LLW will be fully characterized, certified, treated, and shipped for disposal by the Contractor.
10. Manage the TWPC Transportation Program and serve as the Shipper of Record for all RH-TRU waste shipped for disposal.

J-A 3.1.3 Low-level Waste

The Contractor shall perform the following for LLW resulting from TRU waste processing operations (e.g., further characterized to be LLW from TRU waste, RH-TRU waste concrete casks, secondary waste [i.e., low level waste generated as a result of processing TRU waste, mixed LLW, e.g., personal protective equipment], bulk water from waste containers, and any emptied LLW which OREM has deemed appropriate to process at the TWPC):

Maintain disposal site generator certification program.

Prepare waste profiles as required and obtain NNSS or other commercial disposal site approval.

Obtain final waste form certification from NNSS or other commercial disposal sites.

Prepare all required procedures, work plans, and waste shipping forecasts for processing LLW.

Process and treat the waste, as required, to meet disposal site WAC as applicable.

Procure LLW disposal site-approved disposal containers for the waste.

Manage the TWPC Transportation Program, coordinate with the disposal sites and be the Shipper of Record for all waste being shipped to disposal sites.

Prepare the waste for transport to the disposal facility.

Coordinate waste staging/storage in the process building for LLW, as applicable.

Provide interim storage for waste ready-for-disposal until shipping can be arranged by the Contractor.

Transport LLW for disposal.

Dispose of the waste and maintain certificates of disposal for OREM and regulator's review.

Prepare DOE M 435.1-1, Chg 2, exemption requests for use of commercial disposal facilities, if commercial treatment and/or disposal options are being considered.

J-A 3.1.4 Mixed Low-level Waste

The Contractor shall perform the following for MLLW resulting from TRU waste processing operations (e.g., emptied RH-TRU waste concrete casks, secondary waste, bulk water from waste containers, and any MLLW which OREM has deemed appropriate to process at the TWPC):

Prepare waste profiles as required and obtain NNSS or other commercial disposal site approval.

Obtain final waste form certification from NNSS or other commercial disposal sites.

Prepare all required procedures, work plans, and waste shipping forecasts for processing MLLW.

Process and treat the waste, as required, to meet disposal site WAC and RCRA Land Disposal Requirements.

Procure MLLW disposal site-approved disposal containers for the waste.

Manage the TWPC Transportation Program, coordinate with the treatment and/or disposal sites and be the Shipper of Record for all waste being shipped to treatment and/or disposal sites.

Prepare the waste for transport to the treatment and/or disposal facility.

Coordinate waste staging/storage in the process building for MLLW, as applicable.

Provide interim storage for waste ready-for-disposal until shipping can be arranged by the Contractor.

Transport MLLW for treatment and/or disposal.

Dispose of the waste and maintain certificates of disposal for OREM and regulator's review.

Prepare the DOE M 435.1-1, Chg 2, exemption requests for use of commercial disposal facilities, if commercial treatment and/or disposal options are being considered.

J-A 3.1.5 Nuclear Fuel Services Soil Waste

The Contractor shall:

Receive, treat, and coordinate processing (as necessary) for 1,500 drums of CH-TRU soil waste in preparation for certification for disposal at WIPP, including, but not limited to certification repackaging or treatment (as necessary) and any other actions necessary to prepare the waste for compliant shipment and disposal.

Integrate with and support CCP in the characterization and certification of the soil waste for disposal at the WIPP.

- Drums failing NDE for impenetrable items shall be processed using CCP CH VE.
- During CH VE, all inner containers shall be opened.

Ensure only WIPP-approved containers (e.g., 55-gallon drums) are used for packaging and disposal of TRU waste.

Prepare and maintain all required procedures and work plans for processing NFS CH-TRU soil waste.

Segregate LLW and MLLW from TRU waste based on CCP/TWPC AK and assay, and manage in accordance with PWS Sections 3.1.3, LLW, and 3.1.4, MLLW, above. It is anticipated that approximately 2% of the NFS soils may require repackaging due to the presence of liquids or prohibited items.

Coordinate waste staging/storage in the process building for waste that is awaiting processing and/or final CCP certification activities (AK completion, NDA/NDE, VE, matrix specific/Tier 1 EPA approvals, waste stream profiles, shipment build sheets, and confirmed shipping schedule).

In the event of CCP's absence from the site, the Contractor shall manage and operate all equipment to process NFS soil waste to support potential segregation of MLLW/LLW populations from TRU waste inventory, in order to prepare for efficient final certification of the TRU waste by CCP.

- Waste determined to be TRU waste shall be stored by the Contractor or returned to approved-storage areas operated by others as agreed by OREM, until CCP returns for final characterization or certification of TRU waste to WIPP.
- Waste determined to be MLLW/LLW shall be fully characterized, treated, and disposed by the Contractor.

Storage and Shipment of MLLW/LLW fallout greater than 2% to appropriate disposal facility such as Nevada Nuclear Storage Site (NNSS) including waste previously processed under the predecessor contract.

J-A 3.1.6 SWSA-5 Glovebox System Testing and Support

At the completion of construction of the SWSA-5 Glovebox, proof-of-process testing of the equipment will be turned over to Operations (CLIN 3) to initiate. Testing includes all activities required to demonstrate that the installation was completed in accordance with the design package, such as pressure testing, electrical point-to-point tests, instrument calibration, and basic equipment functionality. Contractor shall provide all equipment, materials, and labor necessary to complete Glovebox testing in accordance with this scope.

Proof-of-process testing will utilize zirconium (Zr) sponge as a surrogate material to demonstrate the oxidation process. The material will be 99.5% Zr with hafnium (Hf) impurities (≤3%) in the sponge. It is assumed that the Hf impurity may be ignored. The test program will use 24 batches of surrogate, approximately 300 grams per batch. The use of ceramic liners was investigated to mitigate any potential eutectic reaction between the metal during oxidation and the stainless steel furnace vessel. A minimum of eight liners with four backup liners is required due to the uncertainty of durability for reuse. Six furnace vessels were procured of which four will be used for testing and two will be reserved for production operations.

Testing will be performed in accordance with test plans and operating procedures to demonstrate the oxidation processes summarized below.

- Stage 1: Inlet gas is fed at 5 volume percent (vol %) O_2 at ambient temperature for 1 hour and utilizes 6 liters O_2. This stage is designed to oxidize fines in a controlled fashion.
- Stage 2: Inlet gas feed remains at 5 vol% O_2 but temperature ramped up to 400ºC over 1 hour and utilizes 6 liters O_2. This stage completes oxidation of fines and small pieces.
- Stage 3: Inlet gas feed remains at 5 vol% O_2 with furnace temperature at 400 ºC for 5 hours and utilizes 30 liters O_2. This stage is designed to oxidize the metal and ensure material remains below 640 ºC, the plutonium (Pu) metal melting point.
- Stage 4: Inlet gas feed is ramped up to 10 vol% O_2 and temperature ramped up to 600ºC for 2.5 hours and utilizes 30 liters O_2. This stage ensures completion of the oxidation process and satisfies the WIPP oxide temperature requirement of 600ºC.
- Cool down: Inlet gas is fed 100 vol% He for approximately 3 hours at 1 liter per minute.

The total process time including cool down is 12.5 hours and uses 72 liters O_2 feed (~150% stoichiometric excess). The surrogate material will be removed from the furnace and analyzed after processing to evaluate the performance of the oxidation process.

It is expected that approximately three months will be required for proof-of-process testing. Draft operating procedures will be used for the testing that will require verification and validation prior to initiating formal readiness activities. Engineering support will be provided for the test period to develop test protocols and procedures, observe operations, and evaluate data.

Qualitative impacts of the SWSA-5 Phase 1 program with CLINs 3 and 4, waste operations and container management, were identified with the and procedure changes required as a result of modifications to the DSA and TSR. A portion of those qualitative impacts are associated with the SWSA-5 glovebox start up, testing, and preparation for the ORR including simulated processing and refresher training on numerous operational requirements.

Testing includes operations of the systems in normal and off-normal conditions and operations with the Tube Furnace. Sufficient operational runs are required to verify He mass flow rates, oxygen monitoring, furnace temperature ramp rates and controls, and process gas system operations. Startup and shutdown of systems includes glovebox operation, vacuum and He purification system checkout, exhaust blower (normal and accident mode), and glovebox temperature alarm functions.

J-A 3.1.7 Hot Cell Maintenance Outage & Support

The Hot Cell will require maintenance and repairs which will necessitate an outage of Hot Cell availability to make a manned entry to replace cameras that are out of service or degraded and perform prioritized preventative maintenance on single point failure components. The cameras are essential for processing waste using remote tooling in the Hot Cell. The outage has been planned to occur before processing of waste presenting significant radiological dose that could challenge the ability to efficiently decontaminate the Hot Cell for future manned entries. The contractor shall support this maintenance function as described in J-A 2.5 Facility and Equipment Maintenance paragraph 9.

J-A 3.1.8 DSA Implementation Support

The contractor shall provide all training, knowledge, and support necessary to ensure that personnel performing work under CLIN 3 are able to implement the DSA/TSR requirements under J-A 2.6 Safety Basis Changes for the processing of 51m^3 of CH waste and 171.8m^3 of RH waste. This effort will ensure the resources required to implement the DSA/TSR revisions on an accelerated schedule that supports the processing sequence are available and ready.

J-A 4. CONTAINER MANAGEMENT, TRACKING, AND LOADING

The Contractor shall provide for the safe and compliant waste staging/storage, tracking, and loading for CH and RH-TRU waste at TWPC and inter-site and intra-site transfers of waste generated as a result of processing operations at the onsite Government facilities specified below. Inter-site transfers of waste include all shipments of waste from/to an offsite facility outside TWPC and ORNL. Intra-site transfers include all movements of waste at TWPC outside the process building and to/from ORNL. The Contractor shall track the waste inventory at each stage of the overall waste management process to maintain and meet processing milestones, track radionuclide inventory for safety basis compliance, and ensure “parent”/ “daughter” drum generation/tracking throughout the waste processing operations to enable compliance with the appropriate disposal facility WAC.

The Contractor shall perform the following activities in support of Firm Fixed Price (FFP) IDIQ elements for inter-site waste movements/shipments. NOTE: Support shipments of CH-TRU waste in accordance with CBFO directed shipping schedule. WIPP has initially committed to receive up to 4 CH-TRU shipments per month. Shipments from TWPC to WIPP will resume in 3rd quarter FY17 at a rate of 1 per week for 24 weeks in FY17 and 29 weeks in FY18. The CBFO RH TRU shipment schedule is anticipated to delay RH TRU shipments beyond this contract period of performance; therefore, support for the RH TRU shipments will not be necessary during the base contract period. The Contractor shall ensure the waste shipments to

an offsite facility are maximized to the extent possible under the DOT regulations and vehicle/trailer capacities and receiving facility WAC Weight limited and final shipments in a campaign may be less than the optimum loading capacity.

The following are estimated quantities per loading category to maximize shipments. The Contractor shall notify DOE at least seven (7) days prior to any shipment when technical and programmatic constraints require a reduction in 25% or more of the estimated optimal shipment configuration.

J-A 4.1 Support CCP in the loading and shipment of previously packaged and certified CH-TRU inventory

Payment shall be made monthly at the prevailing rate identified in Attachment P IDIQ Rates, Item #1 provided services are acceptable to the Government.

The Contractor shall provide all materials, equipment, and labor necessary to perform the following activities for loading of previously packaged and certified CH-TRU inventory:

- Identify containers, remove from storage locations in several different buildings, support inspection of containers, support removal of several labels, support survey of containers, interface with mobile load team during final inspection, labeling, DOT surveys, securement into TPII drum configurations, TPII cask lid removal, hoisting into TPII shipping cask, TPII cask lid securement, and TPII cask leak testing, log containers out of WICS.

The optimal shipment configuration is 42 drums per shipment configured in 3 TRUPACT-II 14-drum assemblies.

J-A 4.2 to J-A 4.6 Reserved

J-A 4.7 Receive CH-TRU drums transferred from NFS 7572, 7869, 7883, or 7574 to TWPC (at a designated staging location)

Payment shall be made monthly at the prevailing rate identified in Attachment P IDIQ Rates, Item #7 provided services are acceptable to the Government.

The Contractor shall provide all materials, equipment, and labor necessary to perform the following activities for receipt of CH-TRU drums from NFS to TWPC:

- Perform initial inspection of the received load, remove containers, support inspection of containers 1 by 1 as they are removed from the sealand, stage containers on pallets, place pallets into the stack, log containers in WICS.

The optimal shipment configuration is 36 drums per shipment single stack in a sealand.

J-A 4.8 to J-A 4.13 Reserved

J-A 4.14 Loading of NFS LLW drums for shipment to NNSS

Payment shall be made monthly at the prevailing rate identified in Attachment P IDIQ Rates, Item #14 provided services are acceptable to the Government.

The Contractor shall provide all materials, equipment, and labor necessary to perform the following activities for loading NFS LLW drums in preparation for shipment to NNSS:

- Identify containers, remove from storage locations in several different buildings, support inspection of containers, support removal of several labels, support survey of containers, interface with subcontractor during final inspection, labeling, DOT surveys, loading onto flatbed Conestoga trailer, and support of blocking and bracing, and final driver securement, log containers out of WICS.

The optimal shipment configuration is 80 drums per shipment on a flatbed.

J-A 4.15 Loading of LLW for shipment to NNSS

Payment shall be made monthly at the prevailing rate identified in Attachment P IDIQ Rates, Item #15 provided services are acceptable to the Government.

The Contractor shall provide all materials, equipment, and labor necessary to perform the following activities for loading of LLW for shipment to NNSS:

- Identify containers, remove from storage locations in several different buildings, support inspection of containers, support removal of several labels, support survey of containers, interface with subcontractor during final inspection, labeling, DOT surveys, loading into sealand containers, and support of blocking and bracing, and final driver securement, log containers out of WICS.

The optimal shipment configuration is 2 sealands per shipment on a flatbed filled with various size containers, 110 gallon drums, B25 boxes, 55 gallon drums, etc.

J-A 4.16 Loading of MLLW macro-boxes for shipment to NNSS

Payment shall be made monthly at the prevailing rate identified in Attachment P IDIQ Rates, Item #16 provided services are acceptable to the Government.

The Contractor shall provide all materials, equipment, and labor necessary to perform the following activities for loading MLLW macro-boxes for shipment to NNSS:

- Identify containers, remove from storage locations in several different buildings, support inspection of containers, support removal of several labels, support survey of containers, interface with subcontractor during final inspection, labeling, DOT surveys, loading onto flatbed conastoga trailer, and support of blocking and bracing, and final driver securement.

The optimal shipment configuration is 10 macroboxes per shipment on a flatbed.

J-A 4.17 Loading of MLLW for shipment to commercial/government TSDFs

Payment shall be made monthly at the prevailing rate identified in Attachment P IDIQ Rates, Item #17 provided services are acceptable to the Government.

The Contractor shall provide all materials, equipment, and labor necessary to perform the following activities for loading MLLW for shipment to commercial/government TSDFs:

- Identify containers, remove from storage locations in several different buildings, support inspection of containers, support removal of several labels, support survey of containers, interface with subcontractor during final inspection, labeling, DOT surveys, loading into sealand containers, and support of blocking and bracing, and final driver securement, log containers out of WICS.

The optimal shipment configuration is 96 drums per shipment to EnergySolutions and 35 per shipment to PermaFix on a flatbed.

J-A 4.18 Loading of HW for shipment to commercial TSDFs

Payment shall be made monthly at the prevailing rate identified in Attachment P IDIQ Rates, Item #18 provided services are acceptable to the Government.

The Contractor shall provide all materials, equipment, and labor necessary to perform the following activities for loading HW for shipment to commercial TSDFs:

- Identify containers, remove from storage locations in several different buildings, support inspection of containers, support removal of several labels, support survey of containers, interface with subcontractor during final inspection, labeling, DOT surveys, loading onto single-drop trailer, and support of blocking and bracing, and final driver securement, log containers out of WICS.

The optimal shipment configuration is 4 drums per shipment in a van.

J-A 4.19 Loading of LLW empty casks for shipment to NNSS

Payment shall be made monthly at the prevailing rate identified in Attachment P IDIQ Rates, Item #19 provided services are acceptable to the Government.

The Contractor shall provide all materials, equipment, and labor necessary to perform the following activities for loading of LLW empty casks for shipment to NNSS:

- Identify containers, remove from storage locations in several different buildings, support inspection of containers, support removal of several labels, support survey of containers, interface with subcontractor during final inspection, labeling, DOT surveys, loading onto single-drop trailer, and support of blocking and bracing, and final driver securement, log containers out of WICS.

The optimal shipment configuration is 2 casks per shipment on a flatbed.

J-A 4.20 Waste Storage, Tracking, & Intra-Site Container Movements

Payment shall be made monthly at the prevailing rate identified in Attachment P IDIQ Rates, Item #20 provided services are acceptable to the Government.

The Contractor shall provide all materials, equipment, and labor necessary to perform the following activities for onsite waste staging/storage, waste tracking/reporting, and intra-site container movements outside of the TWPC Process Building. The Site is defined as within the DOE Oak Ridge Complex including ORNL, TWPC, and any other facility within the Oak Ridge area of operations.

1. Drum movements in support of waste characterization efforts (NDA/NDE), macroencapsulation, radon venting and contamination controls, maintenance activities, overpacking, annual NDA PDP, and DSA/TSR control verification and inventory management.
2. Container transfers to/from UCOR ORNL facilities.
3. Annual waste inventory; RCRA permit required inspections; new material offloading/inspections; fuel and vendor escorts; weekly rad laundry shipments; empty cask weighing; dewar refills; safety walkdowns; and TRUPACT-II setup and readiness.
4. Conduct waste acceptance of all waste container transfers to and from TWPC.
5. Ensure that transfer files contain all applicable characterization documentation.

6. Ensure waste containers selected for transfer meet the waste acceptance criteria.
7. Upload waste container radiological characterization data from Environmental Management Waste to Waste Inventory Control System (WICS) for containers to be transferred.
8. Prior to container transfer, evaluate waste container activity to ensure that TWPC safety basis limits are not exceeded.
9. Prepare 2109 forms for waste containers transferred back to URS | CH2M Oak Ridge, LLC (UCOR).
10. Perform validation and verification of CCP data prior to uploading data to the WICS database.
11. Upload CCP waste container non-destructive assay and non-destructive evaluation data into the WICS database.
12. Ensure compliance with DSA/TSR radiological MAR inventory controls based on current NDA data.
13. Monitor WICS data to ensure the data is complete and accurate.
14. Compile and report monthly waste production metrics for Site Treatment Plan compliance and earned value reporting.
15. Prepare monthly Tennessee Department of Environment and Conservation waste processing progress reports.
16. Perform quarterly TWPC total waste inventory breakdown for reporting in the Oak Ridge Reservation RCRA Site Treatment Plan.
17. Prepare TWPC information in support of the annual RCRA and Polychlorinated Biphenyl reports.
18. Entry, processing, and tracking of WCARs, WNCRs, and OPIPs.
19. Reviews of paperwork for waste certification; development of LLW build sheets; and support for audits, assessments, and surveillances.
20. Reporting in support of production, earned value, TDEC, inventories, and annual RCRA and TSCA reporting.
21. Waste tracking systems support including AK/PK, WICS, GWAS, and ITS.

J-A 5. NUCLEAR FUEL SERVICES SOILS NOT TO EXCEED 2,100 DRUMS (OPTION)

The Contractor shall receive, store, and support CCP certification and shipping of up to an additional 2,100 drums from NFS to WIPP. The drums will be shipped in campaigns from NFS directly to the TWPC within the contract base period (reference contract clause F.5, Period of Performance). The management of these 2,100 drums shall be accomplished in accordance with the requirements of PWS Section J-A 3.1.1, CH-TRU Debris and Soil Waste, above.

J-A 6. OPERATIONAL "WARM" STANDBY (OPTION)

The Contractor shall, after processing and shipment of the TRU waste debris and soil volumes required in this PWS, maintain the processing facilities, infrastructure and resources required for the maintenance of a Hazard Category (HC)-2 nuclear facility for the entirety of this optional period and in accordance with the latest revisions of the *TRU Waste Processing Center Documented Safety Analysis,* CM-R-AD-001, *and Technical Safety Requirements,* CM-X-AD-022.

J-A 7. FACILITY DECONTAMINATION AND DOWNGRADE (OPTION)

The Contractor shall decontaminate and stabilize the TWPC processing systems (hot cells, gloveboxes, and storage areas) after final processing to a condition that will allow for safely maintaining the facilities until either another mission is identified or decommissioning and demolition of the facilities can be accomplished. (**NOTE:** To reduce the radiological risk and potential consequences of either natural or man-made incidents, the facility must undergo decontamination activities. It is expected that decontamination will reduce the radiological inventory of the TWPC to a level that would allow for downgrading the nuclear HC of the TWPC to less than HC-3 radiological facility.)

The Contractor shall perform the following activities in accordance with all applicable DOE regulations and directives as part of the decontamination and downgrade process:

Decontamination planning activities

Decontamination operations

Sampling and characterization

Hazard analysis

Preparation of a safety basis with documented revisions

The Contractor shall conduct facility surveillance and maintenance (S&M) activities in accordance with the currently implemented safety basis until the revised safety basis documents are approved by OREM.

J-A 8. SURVEILLANCE AND MAINTENANCE "COLD" STANDBY (OPTION)

The Contractor shall provide sufficient resources for S&M and facility security activities commensurate with a less than HC-3 radiological facility after decontamination and downgrade activities are complete. The Contractor shall provide all necessary S&M activities which shall include, but are not limited to, scheduled site inspections for status of equipment, structures, and safety parameters, radiological surveys, facility access and security control, vegetation control, fence and gate repairs, trash and debris pickup and disposal, snow removal, roof repair and maintenance, filter testing and replacement, heating, ventilation, and air conditioning maintenance, and instrumentation calibration. The Contractor shall conduct environmental monitoring and reporting in support of emergency response activities.

Exhibit A - Remaining CH and RH-TRU Inventories Post March 2015

CH-TRU Inventory:

Technically Challenging	Drum Count	m^3
D003	2	0.42
Pyrophoric	4	1.02
Potential for LiH	2	0.51
Box w/ 6M (55 gal.) Drums	1 Box (6 Drums)	2.55
6M Drum	3	0.63
2R inner container (7A drum)	1	0.21
Lid Hardness	1	0.21
Birdcage	2	0.42
Heavy/unvented (There are two drums that are overweight and non-vented. The gross weight of each drum is up to 1700 lbs and the drums are in a green 79-gallon overpack.)	2	0.42
Subtotal	18	6.39
TWPC 6M/Birdcage	9	1.89
	27	8.28
SWSA-5	38	7.98
Phase 2 Hostage (55 gal.)	68	14.28

Total	133	30.54	

RH-TRU Inventory (Summary of Remaining RH Casks):

	Waste Stream	Count	Projected Processing thru March 2015		
CPE			CPE	Hot Cell	Remaining
	REDC (Pre-79)	19			
	REDC (Mid)	2			
	RF (3525)	1			
	RF	4			
	REDC (7930)	5			
	HFIR	1			
	TBD	8			
		40	28	12	0
Hot Cell					
	REDC (Post-91)	5			
	REDC (TBD)	2			
	REDC (Pre-79)	1		1	
	3525SNF	17		1	
	3001	2			
	ISTP				
	RF	7		2	
	TBD	1		1	
	LTWI	2		2	
	LWT	1			
	Projected New Gen	5			
		43	0	7	36

Hot Cell - High Neutron

REDC (Post-91)	10			
REDC (TBD)	11			
REDC (7930)	11			
Projected New Gen	0			
	32	0	0	32
Type A KAPL Shipping Cask	1	0	0	1
RH-TRU Cask of Dewatered Sludge from ORNL Tank WC-14	1			1
Total Hot Cell	77			
Total Casks	117	28	19	70

Exhibit B - Tank W-1A Soil Shielded Metal Box Characteristics

22) All boxes are constructed of steel with 2" steel plate shielding and are generally 4 ft wide × 6 ft long × 2 ft high. There are 3 types of boxes. Exact dimensions are not readily available. Box descriptions are: BOXM59CTISH-A, BOXM56BRMSH-A, BOXM67CTI

23) The average gross weight of the boxes are 3,923 kgs or 8,648 lbs. The boxes range in weight from 3,575 kgs to 4,379 kgs (7,865 lb - 9,634 lb).

24) The average exterior/interior box dose rates are 33 mr/hr and 410 mr/hr, respectively. Exterior box dose rate ranges from 1.3 mr/hr to 90 mr/hr. Interior dose rate ranges from 200 mr/hr to 1500 mr/hr.

25) The average and range of radiological concentration in Pu-239 equivalent curies (PECi) is 0.43 PECi avg. and ranges from 0.026 to 2.33 PECi. The total content = 8.18 PECi

Exhibit C – Site Treatment Plan for TRU Waste Milestones

	TRU Waste	
Milestone	Accomplish final WIPP certification of 50% of the remaining **RH-TRU debris waste** inventory as shown in Table 4.1 of the STP.	9/30/2015
Milestone	Accomplish final WIPP certification of 50% of the remaining **CH-TRU debris waste** inventory as shown in Table 4.1 of the STP.	12/31/2015
Milestone	Complete physical preparation of the remaining inventory of 275 m3 of **RH-TRU debris**, enabling the final characterization of the waste for disposal. For purposes of this milestone, completion will be measured as accomplished when verification, appropriate remediation, and appropriate repackaging have been completed to support initial characterization.	9/30/2016
Target	Accomplish final WIPP certification of all remaining inventory of **CH-TRU debris waste** inventory as shown in Table 4.1 of the STP.	9/30/2017
Target	Accomplish final WIPP certification of all remaining **RH-TRU debris waste** inventory as shown in Table 4.1 of the STP.	9/30/2017

Exhibit D - TWPC Contractor Site Landlord Functions

I. TWPC Site Physical Infrastructure Support for Sludge Design Contractor
   a. Site Access/Badging
   b. Site Physical Security
   c. Site Boundary Control
      i. Potential relocation in support of final test area siting
   d. Parking
   e. Office Space/Equipment
      i. 10-15 Offices
      ii. Desks/work space
      iii. Computers/Copiers/plotters/network access/internet access
      iv. Records Access
      v. Rest room facilities
      vi. Utilities
   f. Test Area Construction and Operation
      i. Equipment delivery access point
         1. WIPP Road
         2. ORNL SWSA Haul Road
      ii. Equipment Receipt Inspection/ Laydown Area
      iii. Site Spoils Area Management
      iv. Equipment fueling
      v. RFI

II. TWPC Contractor Site Programs Support for Sludge Design Contractor
   a. Emergency Response
      i. Notifications
      ii. General Assembly Areas
      iii. Storm Shelter Areas
   b. Training
      i. General Employee Training (GET)
      ii. Other Programs as required (e.g. DOE, Hazwoper, Radiation Protection)
   c. Radiation Protection
      i. Test Area Build-out Radiological Boundary Controls
      ii. Radiological Technicians Screening Support
         1. Test Facility Foundation Excavation
   d. Health and Safety
      i. Hazardous Materials Management
      ii. MSDS System access
   e. Environmental Management
      i. Storm Water Management
      ii. Wetlands assessment and controls
      iii. NEPA CX

iv. Spoils Management
v. Pump and Haul

f. Waste Management
   i. Hazardous waste management
   ii. Potential Low-Level Radioactive waste management

g. Site Operations Support
   i. Test Area Utilities Connections
   ii. Operator Support for Test Area Operations

h. Nuclear Safety
   i. 413.3B Maturation of Safety Documentation
   ii. Interface with TWPC Documented Safety Analysis/Technical Safety Requirements

Exhibit E - List of Facilities

Building Identification	Description	Square Footage
7880	Waste Processing Facility (WPF)	35,904
7880A	Contact Handled Staging Area	4,400
7880AA	Drum Venting Building	1,259
7880AB	Sludge Test Area (to be constructed)	5,900
7880B	Personnel Building	6,500
7880BB	Contact Handled Marshalling Building	7,061
7880B-TK	7880B Above Ground Sewage Tank	10,000 Gallons
7880CC	Project and General Management	3,360
7880D	WPF Control Room	300
7880DD	Engineering	1,872
7880E	WPF Boiler	360
7880EE	Restroom Facility	300
7880F	Air Compressor	100
7880G	Electrical Equipment Building	800
7880H	Backup Diesel Generator	200
7880HH	Macro-Encapsulation Building	626
7880I	WPF NDA Trailer	600
7880J	NDE Trailer 6	400
7880JJ	Training Center	4,320
7880K	WPF Access Control Point Trailer	300
7880L	DOE Office Trailer	2,304
7880M	Business Operations Management	1,316
7880N	Procurement and Finance	1,504
7880P	Training	1,400
7880Q	Restroom Facility	420
7880QQ	Multipurpose Building	13,150
7880Q-TK	Underground Sewage Holding Tank	2,500 Gallons
7880R	WPF Project Management Trailer	1,760

Building Identification	Description	Square Footage
7880S	WPF Backup Air Compressor	150
7880T	WPF Spare Parts Sealands	640
7880U	Receiving	320
7880V	Document Management	1,056
7880W	Human Resources and Document Control	1,536
7880X	WPF Evacuation Trailer	160
7880Y	Waste Management Offices	2,964
7880Z	Quality Assurance/Nuclear Safety	3,034
Total Square Footage		**106,276**

Exhibit F – List of Permits

Regulatory Driver	Permit Title/Description	Permit Number	Issue date	Expiration Date	Owner	Operator	Responsible Contractor
CAA	Tennessee Operating Permit (emissions source)	06331P	03-07-12	03-01-22	DOE	Contractor	Contractor
CAA	Tennessee Operating Permit	057077P	04-13-04	10-13-14	DOE	Contractor	Contractor
CWA	ORNL NPDES Permit (ORNL site-wide wastewater discharge permit)	TN0002941	04-01-14	10-31-18	DOE	DOE	UT-Battelle LLC, UCOR, Contractor
CWA	Tennessee Operating Permit (sewage)	SOP-02056	01-01-13	12-31-17	DOE	Contractor	Contractor
CWA	Tennessee General Permit TNR10-0000, Storm Water Discharges from Construction Activity − Site Expansion Project	TNR 133560	08-31-09	NA	DOE	Contractor	Contractor
RCRA	Hazardous Waste Corrective Action Permit	TNHW-121	09-28-04	09-28-14	DOE	DOE All ORNL Contractors	DOE All ORNL Contractors
RCRA	Hazardous Waste Container Storage and Treatment Units	TNHW-145	02-03-10	02-03-20	DOE	DOE, UCOR Contractor	UCOR/Contractor

Source: 2012 Oak Ridge Reservation Annual Site Environmental Report

NA = non-applicable; NPDES = National Pollutant Discharge Elimination System

Exhibit G – Assumptions

General Assumptions

- 45 operational weeks at TWPC for waste processing activities. Historically, an average of 7 weeks has been allotted for operational downtime used for general facility maintenance and repair, as well as for holiday observances. There is no actual TWPC facility shutdown; rather there will be intermittent periods where equipment and facilities will be maintained.
- 44 operational weeks at WIPP
- CH-TRU shipment to begin in 1 Qtr. 2017, subject to change
- CCP certification productivity is 33 m^3 per month total for all waste types (based on outgoing waste volume).
- Drum equivalent: 1 m^3 = 4.8 Drum Equivalents
- Disposal rate for NNSS is \$16.54/ft^3.
- A container is defined as one (1) drum of waste.
- Generation of CH-TRU reclassified from RH-TRU, m3 including 11% packaging expansion
- NG CH-TRU processing and prep for shipment (including 11% packaging expansion)
- CH-TRU from legacy CH-TRU processing (50% of legacy CH-TRU volume with 11% packaging expansion)
- MLLW reclassified from legacy CH-TRU (30% of legacy CH-TRU processed with 3X packaging expansion)
- LLW reclassified from legacy CH-TRU running inventory (20% of legacy CH-TRU processed with 11% packaging expansion)
- The average waste processing throughput for FY14 is 5.8 m^3/month for CH and 9.4 m^3/month for RH.
- If the waste is MLLW fallout from TRU, it would need to undergo thermal treatment. For planning purposes, assume the following:
    - FY15 225 ft3 (30 drums)
    - FY16 150 ft3 (20 drums)
    - FY17 150 ft3 (20 drums)
    - FY18 150 ft3 (20 drums)

RH-TRU Process Assumptions:

- 162 m^3 unprocessed RH-TRU as of July 2015.
- 10 m^3 Newly Generated (NG) RH-TRU for FY 2015 and FY 2016 is processed along with legacy RH-TRU.
- Maximum storage capacity (located in the process building) for RH-TRU is 12 m^3.
- Projected 27 m^3 certified RH-TRU pending shipment as of July 2015.
- RH-TRU shipments to WIPP limited to a maximum of 12 RH 72B shipments per month.
- RH-TRU processed in Hot Cell reclassifies as 46% CH-TRU, 7% MLLW, and the balance remains RH-TRU
- RH-TRU processed in the Cask Processing Enclosure (CPE) reclassifies as 74% CH-TRU, 13% MLLW, and the balance remains RH-TRU
- W-1A soil processed in the CPE reclassifies to 50% LLW and the balance remains RH-TRU

- RH-TRU high neutron materials are packaged with 33% in 15-gallon drums, 25% in 30-gal drums, and 42% in 55-gallon drums.
- RH-TRU high neutron materials do not reclassify to other waste forms.
- NG RH-TRU generated in FYs 2015 and 2016 is processed and does not reclassify to other waste forms.

CH-TRU Assumptions:

- 641 m^3 CH-TRU currently in storage and pending shipment as of July 2015
- CH-TRU processed in the glove box reclassifies as 30% MLLW and 20% LLW with the balance remaining CH-TRU.
- CH-TRU includes approximately 30.5 m^3 of SWSA-5 and other technically challenging material
- CH-TRU processing productivity may be reduced by 50% due to technical challenges.
- NG CH-TRU generated in FY 2015 and FY 2016 is processed and does not reclassify to other waste forms.

NFS Soil - Base Process Assumptions:

- UCOR will ship all 1,500 NFS Soil drums to TWPC by Sept. 2016.
- NFS soil is characterized prior to receipt at the TWPC.
- NFS Soil certification is performed with priority given to legacy CH/RH-TRU.
- 2% of NFS Soil further characterized to be LLW or MLLW
- NFS Soil further characterized to be LLW is shipped to NNSS.

Optional NFS Soil Process Assumptions:

- NFS will ship 2,100 drums NFS Soil to TWPC by January 2017.
- NFS soil is characterized prior to receipt at the TWPC.
- NFS Soil certified with priority given to NFS Base materials and legacy CH-TRU.
- 2% of NFS Soil further characterized to be LLW or MLLW
- NFS Soil further characterized to be LLW shipped to NNSS.

"Technically Challenging" Wastes (22.56 m^3):

- Parent waste processing includes sorting, segregation, and repackaging.
- 60% of the total volume remains contact-handled (CH) TRU.
- 24% of the total volume will reclassify to mixed low-level waste (MLLW).
- 16% of the total volume will reclassify to low-level waste (LLW).
- The mixed low level waste daughter fraction will require RCRA treatment to meet LDRs. Macroencapsulation should be utilized for this treatment method.
- The repackaging efficiencies for CH-TRU and LLW will be 70% and 82%, respectively.
- MLLW daughter fraction expands by a factor of 3 due to repackaging and macroencapsulation.
- "Phase 2 Hostage" drums (68) are processed like standard CH-TRU debris drums.

SWSA 5 Wastes (7.98 m^3):

- Please refer to DNFSB presentation for additional information on the management of the SWSA 5 wastes.
- No additional information will be made available. The offeror may use this information to develop a processing approach and associated effort to disposition the waste in a compliant manner.
- All SWSA 5 wastes will remain CH-TRU.

Remote-Handled (RH) Waste streams:

- The 81 RH drums, KAPL Type A cask, and cask of Tank WC-14 dewatered sludge will partition 75% RH, 21% CH, and 4% MLLW.
- Please refer to Exhibit G for additional Hot Cell and Cask Processing Enclosure processing assumptions.

Reporting Requirements
CONFORMED COPY (MODIFICATION 0025)
MAY 05, 2017

All required reports, plans, and other documents shall be submitted to DOE pursuant to the requirements in Section G.6, HQ-G-1001 Correspondence Procedures. Omission of any report, plan, or other document from the Reporting Requirements in Section J, Attachment B does not affect the obligation of the Contractor to comply with such requirement.

REPORT	DRIVER	FREQUENCY	DISTRIBUTION
Transition Plan	Section H, DOE-H-1069, Transition to Follow-on Contract	Within 15 days after transition period start date. Then updated weekly and biweekly.	A/C
Statement of Material Differences	Section J, Attachment A, Performance Work Statement	Within 30 days after completion of the transition period	A/C
Vouchers/Invoices (SF 1034) Supporting Statement of Cost and Fee	Section G Clause DOE-G-1001 Billing Instructions	Not more than twice Monthly for cost reimbursable type invoices and once per month for all fixed price type invoices	Through VIPERS
Quality Assurance Program(s) Plan	DOE O 414.1D, 10 CFR 830	Within 30 days after transition period start date and then annually	A/B/C/D
Corrective Action Items Status Report	DOE O 414.1D	Monthly	A/B/C
Individual Accident/Illness Report (DOE F 5484.3)	DOE O 231.1B	At time of incident/ Monthly summary	A/B/C/E
Headcount Data Report by EEO-1	SECTION 709(c), TITLE VII, CIVIL RIGHTS ACT OF 1967	Quarterly	A/C/K
Tabulation of Work-Hours, Vehicle Usage, and Property Valuation	OMB A-11 41 CFR 109-38.5103/4/5	Quarterly	A/B/C/E
Diversity Plan and Reports	Section H Clause DOE-H-1028 Diversity Program	Within 60 days after transition period start date, and then Annually	A/B/C/D
Work force Restructuring	Section H, Workforce Restructuring	At least 30 calendar days in advance of employees being laid off	C/D

Notification of NOVs/NOAVs and fines and penalties	Section H, Contractor Acceptance Of Notices Of Violation Or Alleged Violations, Fines, And Penalties	Per incident	C
Proposed Project Controls System	Section H, Integrated Work Control Systems And Reporting Requirements, and Policy and Protocol for Office of Environmental Management - Operations Activities (March 15, 2012)	Within 45 days after transition period start date	A/B/C
Interim Contract Performance Baseline (ICPB)	Section H, Integrated Work Control Systems And Reporting Requirements and Policy and Protocol for Office of Environmental Management - Operations Activities (March 15, 2012)	Within 45 days after transition period start date	A/B/C
Contract Performance Baseline	Section H, Integrated Work Control Systems And Reporting Requirements and Policy and Protocol for Office of Environmental Management - Operations Activities (March 15, 2012)	Within 180 days after transition period start date	A/B/C
Fiscal Year Work Plan	Policy and Protocol for Office of Environmental Management - Operations Activities (March 15, 2012)	Annually by Sep 1. Support DOE planning and provide funding requirements data input as requested. Annually – typically mid-late August.	A/B/C
Risk Management Plan	DOE O 413.3B	Within 60 days after transition period start date	A/B/C
Monthly Progress Performance Reports	Section H, Integrated Contractor Work Control Systems And	Monthly Invoice Report, NLT 5 business days following the close of	A/B/C/L

	Reporting Requirements	the prior monthly reporting period. Monthly Progress Report due generally on or about the 20th.	
Contractor Performance Self Evaluation	Section H, DOE-H-1054, Performance Evaluation And Measurement Plan	Within 15 business days after the close of the evaluation period	A/C
Permit Applications	Section H, Environmental Permits; Section J, Attachment A, Performance Work Statement	Draft due at least 90 days prior to submission to regulators. Final at least 30 days prior to submittal to regulators for DOEs review/ signature/ concurrence	A/C
ES&H Approval List	Section H, DOE-H-1033, Permits and Licenses	Within 60 days of transition period start date	A/C
Safeguards and Security Awareness Program	Section H, ORO-H-1002, Safeguards and Security Awareness Program	Within 60 days of transition period start date	A/C
Pre-employment Security Investigative Screening	Section H, ORO-H-1003, Security Qualifications	Upon completion of investigative screening	A
Notification of Employment Terminations	Section H, ORO-H-1003, Security Qualifications	Per occurrence	A/C
Cost Reporting for the Environmental Cost Analysis System (ECAS) – CLIN 3	Section H, Cost Reporting for the Environmental Cost Analysis System (ECAS) – CLIN 3	Within 30 days of achieving key performance parameters (KPPs) meaning Contract Completion	A/C
Conference Management Reporting and Approval	Section H, Report and Approval Requirements for Conference Related Activities – CLIN 3	Per occurrence	C
Worker Safety and Health Program	10 CFR 851; Section H, ORO-H-1001, Worker Safety and Health Program	Within 7 days of transition period start date	A/B
Occupational Safety and Health Self-Assessments	Section H, ORO-H-1001, Worker Safety and Health Program	Upon Request	A/B

Cyber Incident Reporting	Section H, Protection of Personally Identifiable Information	Report all incidents within 45 minutes of discovery	M
New Directive Inconsistency	Paperless Directive Processing System	Within 30 days of receipt	A/C
Physical Inventories	PMR 109-5201, DOE O 580.1, Change 1, CRD	Annually by end of October for the FY ending	G/H
Annual Summary Report of DOE-Owned Plant and Capital Equipment	DOE Accounting Handbook, Chapter 10	Annually by 9/15	G/H
Excess Personal Property Furnished non-federal Recipients Annual	41 CFR 102-36.155 (g); DOE-HQs; 41 CFR 101-43.4701C; 41 CFR 109-43.4701c	Annually	G/H
Government-Owned Property And Equipment Responsibilities For Contract Transition Period	Section H, Government-Owned Property And Equipment Responsibilities For Contract Transition Period	Submit real property inventory discrepancies in writing to CO.	C
Exchange/Sale Report	41 CFR 102-39.75; DOE HQs	Annually	G/H
FIMS QA Plan	41 CFR 102-84.15; DOE O 430.1B, Change 2, CRD	Annually	G
Review of Utilization of Real Property	DOE O 430.1B, Change 2, CRD	Annually	G
Federal Automotive Statistical Tool	DOE HQ, EO13149, 41 CFR 102-34.330	Annually	System Generated
Government Property Missing, Lost Damaged or Theft Report	41 CFR 109-1.5112 and 1.5113; DOE O 580.1, Change 2, CRD	Annually	G
Financial Property Reporting (Assets by Type)	DOE O 430.1B, Change 2, CRD	Quarterly (ending 11/30, 2/28, 5/31, and 8/31)	A/C/H/I/J
Contractor Press Releases	Section H, DOE-H-1031 Contractor Press Releases	At least 10 business days before issuance	C
Public Release of Information	Section H, DOE-H-1032 Release of Information	At least 10 business days before issuance	C
Certificate of Disposal	Section J, Attachment A, Performance Work Statement	Upon receipt	A/C

Radiation Protection Program	10 CFR 835	Within 45 Days of transition period start date, annually thereafter, and at least 90 Days prior to any significant changes	A/C
Environmental Radiation Protection Program	DOE O 458.1	Within 45 Days of transition period start date, annually thereafter, and at least 90 Days prior to any significant changes	A/C
Integrated Safety Management System Description	DOE O 450.2	Within 45 Days of transition period start date	A/C
Annual Integrated Safety Management System Review	DOE O 450.2	Annually	A/C
Environmental Management System	DOE O 436.1	Within 45 Days of transition period start date	A/C
Site Sustainability Plan	DOE O 436.1	Annually	A/C
Contractor Assurance System	DOE O 226.1B	Within 60 Days of transition period start date and quarterly reports required thereafter	A/C
Transfers of Nuclear Materials	Section H, Nuclear Facilities Operations; DOE O 433.1B; 10 CFR 830; DOE O 474.2	Obtain CO or COR approval prior to transport	A/C
Occurrence Reporting and Processing of Operations Information	DOE O 232.2	Per occurrence	A/C
Employee Concerns Status Report	DOE O 442.1A	Quarterly	A/C
Waste Management Plan	DOE O 435.1	Within 60 Days of transition period start date	A/C
Radioactive Waste Management Basis (RWMB)	DOE O 435.1	Within 60 Days of transition period start date and biannually thereafter or when significant changes are made.	A/C
Pollution Prevention Plan	Executive Orders 13423 and 13514	Within 60 Days of transition period start date and annually thereafter	A/C

Recycle Report	Executive Orders 13423 and 13514	Monthly	A/C
Records Management Plan	36 CFR Chapter XII, Subchapter B	Within 45 Days of transition period start date and thereafter when changes are made	A/C
Reports Associated with Energy Employees Occupational Illness Compensation Program Act (EEOICPA)	Section H, Energy Employees Occupational Illness Compensation Program Act (EEOICPA),	Per occurrence	A/C/D
Records Disposition Plan	36 CFR Chapter XII, Subchapter B	Initial Plan within 120 Days of transition period start date and thereafter when changes are made	A/C
Material Safety Data Sheets	29 CFR 1910	Prior to use of hazardous materials	A/C
Reports of loss, damage, destruction or theft of property	FAR 52.245-1	As soon as facts become known	A/C/G/H
Equal Employment Report (EEO-1)	FAR 52.222-26	Annually by September 30	A/C/D
Federal Contractor Veterans' Employment Report (VETS-100A Report)	FAR 52.222-37	Annually by September 30	A/C/D
Basis of Estimate (BOE) for Firm-Fixed-Price (FFP) CLINs 1, 2, & 4-8	The BOE for the FFP CLINs 1, 2, & 4-8 shall be at the same level and format as required in Solicitation DE-SOL-0006331 Provision L.33, Proposal Preparation Instructions – Cost/Price Proposal – Volume III.	Within 5 business days after contract award	A/C
Training Implementation Matrix or Training Program Plan	DOE O 426.2	Within 90 Days of transition period start date	A/C
Contractor procedures that are established to release individuals from portions of a training program through prior education, experience, training,	DOE O 426.2	Within 90 Days of transition period start date	A/C

and/or testing (procedures for granting exceptions).			
DOE approval of contractor requests for certification extensions.	DOE O 426.2	Per occurrence	A/C
DOE approval of assignment of individuals who do not meet the experience requirements for a position.	DOE O 426.2	Per occurrence	A/C
Climate Change Reports	E.O. 13653, Preparing the United States for the Impacts of Climate Change, November 6, 2013	Upon request	A/C
Sustainability Reports	E.O. 13693, Planning for Federal Sustainability in the Next Decade, March 19, 2015	Upon request	A/C
Documented Safety Analyses and Safety Basis documents	10CFR 830, Subpart B	30 days after Contract Work Authorization, and annual updates (DOE approval prior to the commencement of work)	A/C
Unreviewed Safety Question (USQ) Process	10 CFR 830	30 days after Contract Work Authorization and annual updates (DOE approval prior to the commencement of work)	A/C
Annual Radiation Exposure Data Reporting	10 CFR 835.702 and DOE O 231.1-1B	Annually	A/C
Nuclear Maintenance Management Plan	DOE O 433.1B	Submit Plan no less than every three years or when intent changes are made	A/C
ConOps Matrices	DOE O 422.1	Submit Plan no less than every three years or when intent changes are made	A/C
Readiness to Startup or restart Nuclear Facilities Plan/Report for each Readiness Review	DOE O 425.1D	Per event	A/C

Startup Notification Report	DOE O 425.1D	Quarterly	A/C
Workplace Substance Abuse Reporting Matrix	DOE O 350.1	Semi-Annually (Jan 1st to Jun 30th and July 1st to Dec 31st)	A/B/C/D
Payroll and Residence Report for NWSol employees		Annually by Jan 15th	A/.B/C/D/N

The mailing address for distribution of A, B, C, G, and H is as stated in the chart below. Distribution D, E, F, I, and J through L are by electronic mail only.

U. S. Department of Energy
Oak Ridge Office
P. O. Box 2001
Oak Ridge, Tennessee 37831

Office Identifier	**Addressee**
A	Oak Ridge Office of Environmental Management Contracting Officer Representative, EM-XX (appointed by separate memo)
B	Oak Ridge Office of Environmental Management Alternate Contracting Officer Representative, EM-XX (appointed by separate memo)
C	Oak Ridge Office of Environmental Management Procurement and Contracts Group Contracting Officer, EM-90.1
D	Barb Powers-Hargreaves, Contractor Human Resource Group, EMCBC Barbara.Powers-Hargreaves@emcbc.doe.gov
E	Craig Rife , EM-932 Safety and Occupational Health SME e-mail: Craig.Rife@orem.doe.gov
F	Energy Finance & Accounting Service Center (EFASC) e-mail: costing@hq.doe.gov and Tammy.Ware@hq.doe.gov
G	Facility, Information Resource Management Division Rebecca Whitehead, Property & FIMS Administrator
H	Facility, Information Resource Management Division Karen Herrell, Property Reports
I	Headquarters Energy Finance and Accounting Service Center email: kevin.majane@hq.doe.gov
J	Oak Ridge Financial Service Center email: scott.frank@science.doe.gov

K	Oak Ridge Environmental Management Mike Koentop, Executive Officer Mike.Koentop@orem.doe.gov
L	Office of Project Assessment ContractorsMPR@hq.doe.gov
M	DOE Joint Cyber Coordination Center (JC3) via email to circ@JC3.doe.gov or (888) 941-2472, 24 hours a day – 7 days a week
N	Oak Ridge –Integrated Support Center Lisa, Carter, Contractor Industrial Relations

Asst ID	FL	Accounting Cost Code	EQ	Description	Make	Model	SerialN/A#	Acq'n Date	Acq'n Cost	Location
1170	CH	N/A	OA	Pallet Jack - 13	N/A	4YX96	N/A	11/13/2007	$522	321
1744	CH	N/A	OA	Pallet Jack - 12	AllN/AAmericanN/APalletN/AMule	60-58-10M	3Y07052	5/17/2007	$2,580	30-TON
2443	CH	N/A	OA	Digital Camera	Kodak	Z710	KCXGG64603479	3/8/2007	$250	CNTRLPT
3077	CH	N/A	OA	NDE Drum Tilting Device	N/A	N/A	N/A	5/28/2008	$1,934	7880A
3385	CH	N/A	OA	Lift Table with Turntable	AdvanceN/ALiftN/ATable	PM-5524	41801007	10/9/2007	$7,755	7880A
3490	CH	N/A	OA	Lift Cart	Hex	HexN/A50	N/A	9/3/2009	$956	231
3702	CH	N/A	OA	Weighing System	Intercomp	PT300	N/A	5/11/2010	$9,258	7880BB
3883	CH	N/A	OA	Drum Grab - 4	Wesco	340002	190053	7/20/2009	$691	UPLAYDWN
7011	CH	N/A	OA	Scale, 4x4	MettlerN/ATolero	1000lb	N/A	12/2/2010	$3,850	7880A
2210	CON	N/A	OA	Cage, gas bottle	N/A	N/A	N/A	(blank)	$600	7880HH
2215	CON	N/A	OA	Spill container, rotary top	N/A	1646RTC	N/A	(blank)	$500	LAYDWNYD
2217	CON	N/A	OA	28,000 lb. cap spreader bar	N/A	N/A	N/A	(blank)	$500	LAYDWNYD
3070	CON	N/A	OA	Ladder, Aluminum Rolling	N/A	17-24	N/A	5/28/2008	$575	7880A
3887	CON	N/A	OA	Forklift dump hopper	N/A	HD-100-MD	N/A	(blank)	$550	LAYDWNYD
1029	DOCMGT	N/A	OA	File Cabinet, Fireproof	N/A	FireN/AKingN/A4N/Adr	FL2005271089	1/5/2006	$1,275	7880W
1033	DOCMGT	N/A	OA	File Cabinet, Fireproof	N/A	FireN/AKingN/A4N/Adr	FL2005393185	1/5/2006	$1,275	7880W
1035	DOCMGT	N/A	OA	File Cabinet, Fireproof	N/A	FireN/AKingN/A4N/Adr	FL2005296054	12/1/2005	$1,275	7880W
1461	DOCMGT	N/A	OA	Scanner	N/A	DocumateN/A252	531TW1057T2S1400203	12/15/2005	$943	7880V
1462	DOCMGT	N/A	OA	Scanner	N/A	DocumateN/A252	542TW105AE2S1400424	2/6/2006	$823	7880W
1463	DOCMGT	N/A	OA	Scanner	N/A	DocumateN/A252	509TW1052S2S130060	12/15/2005	$828	7880W
1496	DOCMGT	N/A	OA	VCR/DVD Burner	N/A	N/A	602200225	(blank)	$350	7880W
1567	DOCMGT	N/A	OA	Computer, Desktop	N/A	OptiflexN/A745	BYB6DC1	1/15/2007	$1,735	7880V
1587	DOCMGT	N/A	OA	Computer, Desktop	N/A	OptiflexN/A745	9KJ7DC1	1/11/2007	$1,735	7880V
1620	DOCMGT	N/A	OA	Computer, Desktop	N/A	OptiplexN/A745	8BPGXC1	5/2/2007	$1,241	7880W
3275	DOCMGT	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJR1961	5/4/2009	$517	7880V
3775	DOCMGT	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYJ966	1/16/2008	$517	7880W
0000003799	DOCMGT	N/A	OA	Desk - L Shape	N/A	MapleN/AUN/AGroup	N/A	3/4/2013	$900	7880W
0000004023	DOCMGT	N/A	OA	Lateral File Cabinet-5 Drawer	N/A	9330P-5F1H	N/A	8/13/2013	$597	7880W
0000004024	DOCMGT	N/A	OA	Lateral File Cabinet-5 Drawer	N/A	9330P-5F1H	N/A	8/13/2013	$597	7880W
0000004025	DOCMGT	N/A	OA	Lateral File Cabinet-5 Drawer	N/A	9330P-5F1H	N/A	8/13/2013	$597	7880W
0000004026	DOCMGT	N/A	OA	Lateral File Cabinet-5 Drawer	N/A	9330P-5F1H	N/A	8/13/2013	$597	7880W
0000004027	DOCMGT	N/A	OA	Lateral File Cabinet-5 Drawer	N/A	9330P-5F1H	N/A	8/13/2013	$597	7880W
0000004163	DOCMGT	N/A	OA	Refrigerator, 18.2 cu. ft.	Frigidaire	LFHT1817LW	N/A	4/10/2014	$584	7880V
5035	DOCMGT	N/A	OA	Printer, Color	N/A	3505N	CNBC7821C6	11/27/2007	$888	7880W
5039	DOCMGT	N/A	OA	Scanner with Kofax	Fujitsu	FI-5750C	105092	3/21/2008	$4,720	7880V
5147	DOCMGT	N/A	OA	Scanner	N/A	DocumateN/A252	714TW107425L	7/24/2007	$850	7880W

5150	DOCMGT	N/A	OA	External Hard Drive, 500GB	N/A	WDG1U5000N	WMAPW1061752	2/7/2007	$190	7880W
5151	DOCMGT	N/A	OA	External Hard Drive, 500GB	N/A	WDG1U5000N	WMAPW1371656	2/7/2007	$190	7880W
5152	DOCMGT	N/A	OA	External Hard Drive, 500GB	N/A	WDG1U5000N	WMAPW11113345	2/7/2007	$190	7880W
5233	DOCMGT	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYJ925	1/16/2008	$517	7880V
5242	DOCMGT	N/A	OA	Printer, Color	N/A	CP3525dn	CNCC915085	4/23/2009	$793	7880W
5257	DOCMGT	N/A	OA	Computer, Desktop	N/A	OptiplexN/A760	9GBQ5J1	5/27/2009	$1,249	7880W
5266	DOCMGT	N/A	OA	Computer, Desktop	N/A	OptiplexN/A760	9GBQ4J1	5/27/2009	$1,249	7880V
5270	DOCMGT	N/A	OA	Computer, Desktop	N/A	OptiplexN/A760	9GBJ4J1	5/27/2009	$1,249	7880W
5291	DOCMGT	N/A	OA	Computer, Desktop	N/A	OptiplexN/A760	FZ7ZRK1	7/30/2009	$1,249	7880V
5352	DOCMGT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6500	BYZTNK1	7/30/2009	$2,011	7880W
5396	DOCMGT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6500	FF9VOM1	3/8/2010	$1,820	7880W
5434	DOCMGT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6510	DHDJVM1	9/5/2010	$1,880	7880V
5436	DOCMGT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6510	7PCJVM1	9/5/2010	$1,880	7880W
0000005454	DOCMGT	N/A	OA	Computer, Desktop	N/A	OptiplexN/A7010	CQSNXV1	10/24/2012	$813	7880W
7020	DOCMGT	N/A	OA	Engineering Drawing Filing Cab	N/A	48"x24",N/A5ft	N/A	10/28/2010	$581	7880V
0000007285	DOCMGT	N/A	OA	Refrigerator	N/A	LFHT1817LB	N/A	11/19/2012	$663	7880W
9126	DOCMGT	N/A	OA	Printer, Laserjet	N/A	P3015DN	VNBCC3S358	4/20/2011	$437	7880W
9363	DOCMGT	N/A	OA	DVD Burner	N/A	840-XH08	1626404386	(blank)	$150	7880W
9365	DOCMGT	N/A	OA	DVD Burner	N/A	840-XH08	1623404979	(blank)	$150	7880W
3380	ENG	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THAF688	2/6/2007	$525	7880DD
0000003747	ENG	N/A	OA	Temperature Data Logger	N/A	OCTTEMP2000	N98933	11/19/2012	$1,160	7880DD
1757	ENVM	N/A	OA	20' sea land container	N/A	SeaN/ALand	UWS	(blank)	$3,684	7880QQ
3500	ENVM	N/A	OA	Digital Camera	N/A	CoolpixN/AL-20	32548243	10/19/2009	$110	7880CC
0000003640	ENVM	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPM0320	(blank)	$517	7880CC
0000003641	ENVM	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPM0322	(blank)	$517	7880B
0000003642	ENVM	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPM0325	(blank)	$517	7880CC
0000004114	ENVM	N/A	OA	iPad, 64GB	Apple	A1458	DMPL87XCF184	11/13/2013	$672	
0000007222	ENVM	N/A	OA	Liquid Storage Cabinet	Justrite	896000	N/A	2/6/2012	$895	UNIV WST
0000009127	ENVM	N/A	OA	Batch/Bluetooth Scanner	Motorola	CS3070	13205522501337	11/13/2013	$260	7880CC
0000001007	FN	N/A	OA	File Cabinet, Fireproof	N/A	4N/ADrawer	FL2005271030	(blank)	$1,275	7880Y
0000001019	FN	N/A	OA	File Cabinet, Fireproof	N/A	2N/ADrawer	FL2006010134	4/24/2006	$890	CNTRLPT
0000001027	FN	N/A	OA	File Cabinet, Fireproof	N/A	4N/ADrawer	FL2003005049	(blank)	$800	7880Z
1034	FN	N/A	OA	File Cabinet, Fireproof	N/A	FireN/AKingN/A4N/Adr	FL2005270189	12/1/2005	$1,275	7880FF
1036	FN	N/A	OA	File Cabinet, Fireproof	N/A	FireN/AKingN/A4N/Adr	FL2003029217	12/1/2005	$1,275	7880Y
1067	FN	N/A	OA	Portable, wireless PA System	N/A	N/A	N/A	9/17/2007	$723	7880Z

1168	FN	N/A	OA	Telephone, Conference	N/A	SoundstationN/A2	H80721021F0F	11/7/2007	$520	7880CC
1500	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880Z
1504	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880Z
1505	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880Z
1510	FN	N/A	OA	File Cabinet, Fireproof	N/A	2N/ADrawer	FL2006080004	4/24/2006	$890	7880B
1522	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/6/2006	$512	7880Z
1523	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880Z
1524	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880Z
1525	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880RR
1528	FN	N/A	OA	Telephone, Conference	N/A	SoundStation2W	G204390071937	(blank)	$550	7880Y
2300	FN	N/A	OA	File Cabinet, Fireproof	N/A	2N/ADrawer	FL2006037159	4/24/2006	$890	7880Z
2445	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	2/28/2007	$512	7880Y
2455	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	6/28/2007	$808	7880N
3192	FN	N/A	OA	20' Conference Table	N/A	Racetrack	N/A	10/18/2007	$926	7880CC
3193	FN	N/A	OA	Indiana Desk	N/A	N/A	N/A	10/18/2007	$1,513	7880CC
3194	FN	N/A	OA	Two Drawer Lateral File	N/A	Veneer	N/A	10/18/2007	$612	7880CC
3195	FN	N/A	OA	Left Pedestal Credienze	N/A	N/A	N/A	10/18/2007	$669	7880CC
3196	FN	N/A	OA	Right Pedestal Desk	N/A	Cherry	N/A	10/18/2007	$753	7880CC
3210	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880Z
3211	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880Z
3212	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880Z
3213	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880Z
3214	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880XX
3215	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880Z
3216	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880Z
3217	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880Z
3218	FN	N/A	OA	Desk - L Shape	N/A	N/A	N/A	12/7/2006	$512	7880Z
3219	FN	N/A	OA	Conference Table	N/A	N/A	N/A	12/7/2006	$560	7880Z
3231	FN	N/A	OA	Electronic Whiteboard	N/A	M-11WN/ASeries	N/A	7/24/2007	$2,095	7880CC
3350	FN	N/A	OA	Telephone, Conference	N/A	Soundstation2	N/A	4/29/2009	$718	7880LL
0000003590	FN	N/A	OA	5 Drawer Lateral File Cabinet	N/A	GlobalN/A9336P-5F1H	N/A	10/31/2012	$600	7880M
0000003600	FN	N/A	OA	Conference Table	N/A	8ftN/ARacetrack	N/A	(blank)	$654	7880XX
3715	FN	N/A	OA	Telephone, Conference	N/A	SoundstationN/A2	0004F2E44715	7/29/2010	$773	Z - RM13
0000004067	FN	N/A	OA	Office Chair	HermanN/AMiller	AeronN/AB-size	N/A	10/3/2013	$775	7880B
0000004102	FN	N/A	OA	Printer, Color	HP	CP4025N	JPDCF9MOON	10/14/2013	$775	7880Z
5251	FN	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBH5J1	5/27/2009	$1,249	7880Z
7002	FN	N/A	OA	Desk	N/A	36x72	N/A	7/12/2010	$989	7880M
7111	FN	N/A	OA	Aeron Chair	N/A	N/A	N/A	4/18/2011	$795	7880CC
7112	FN	N/A	OA	Aeron Chair	N/A	N/A	N/A	4/18/2011	$795	7880CC
0000007196	FN	N/A	OA	Curbside Vault	N/A	GrayN/ACurbside	N/A	(blank)	$587	ACP
0000007289	FN	N/A	OA	Office Chair	Aeron	HermanN/AMillerN/AB-Size	N/A	1/28/2013	$929	7880M

0000007313	FN	N/A	OA	Refrigerator	Frigidaire	LFHT2117NF1	4A22211968	(blank)	$544	7880CC
0000007317	FN	N/A	OA	Ergonomic Aeron Chair	HermanN/AMiller	AE113AWA	N/A	(blank)	$790	7880B
0000007318	FN	N/A	OA	Ergonomic Aeron Chair	HermanN/AMiller	AE113AWA	N/A	(blank)	$790	7880B
0000007319	FN	N/A	OA	Ergonomic Aeron Chair	HermanN/AMiller	AE113AWA	N/A	(blank)	$790	7880Y
0000007343	FN	N/A	OA	Office Chair	N/A	OfficeN/AStarN/ASpace	N/A	1/15/2013	$562	7880Y
0000007347	FN	N/A	OA	Refrigerator	N/A	FrigidaireN/ALFHT1817LB	N/A	11/19/2012	$469	7880XX
0000007430	FN	N/A	OA	6-Shelf Open File	HON	BrigadeN/A600	N/A	3/28/2014	$525	7880N
0000007442	FN	N/A	OA	Office Chair	HermanN/AMiller	AeronN/AB-size	N/A	6/11/2013	$923	7880M
1032	HR	N/A	OA	File Cabinet, Fireproof	FireN/AKing	FireN/AKingN/A4N/Adr	FL2005296076	1/5/2006	$1,275	7880W
3584	HR	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLGM828	5/1/2010	$517	7880W
3690	HR	N/A	OA	File Cabinet, Fireproof	SentryN/ASafe	4-drawer	BH635929	3/24/2010	$992	7880W
3691	HR	N/A	OA	File Cabinet, Fireproof	SentryN/ASafe	4-drawer	BH635836	4/1/2010	$992	7880W
3793	HR	N/A	OA	Enclosed Bulletin Board	Claridge	367	WD1211	8/3/2010	$737	7880W
3794	HR	N/A	OA	Enclosed Bulletin Board	Claridge	367	VK1011	8/3/2010	$737	7880JJ
3795	HR	N/A	OA	Enclosed Bulletin Board	Claridge	367	VK1001	8/3/2010	$737	7880B
5055	HR	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD830	8MQZNG1	6/24/2008	$2,404	7880W
5243	HR	N/A	OA	Printer, Laserjet	HP	P4015X	CNDY164543	4/23/2009	$1,675	7880W
5258	HR	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBM4J1	5/27/2009	$1,249	7880W
5451	HR	N/A	OA	Digital Camera	Kodak	N/A	N/A	10/13/2010	$156	7880W
7045	HR	N/A	OA	File Cabinet, Fireproof	FireN/AKing	4-drawer	N/A	12/22/2010	$2,113	7880W
7046	HR	N/A	OA	File Cabinet, Fireproof	FireN/AKing	4-drawer	N/A	12/22/2010	$2,113	7880W
0000008024	HR	N/A	OA	Cell Phone	Samsung	GalaxyN/A3	865-809-1118	9/11/2013	$164	7880W
0000009186	HR	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6530	JSKVBX1	11/19/2012	$1,421	7880W
1106	HSGS	N/A	OA	20' sea land container	Allstate	N/A	MAINTENANCE-5	(blank)	$3,600	CPE
3001	HSGS	N/A	OA	A size cylinder jacket	N/A	55ALD2G120P	FlexibleN/Afab	1/23/2006	$1,035	136W
3002	HSGS	N/A	OA	A size cylinder jacket	N/A	55ALD2G120P	FlexibleN/Afab	1/23/2006	$1,035	136W
3003	HSGS	N/A	OA	A size cylinder jacket	N/A	55ALD2G120P	FlexibleN/Afab	1/23/2006	$1,035	136W
3004	HSGS	N/A	OA	AL size cylinder jacket	N/A	55ALDG120P	FlexibleN/Afab	1/23/2006	$1,015	136W
3005	HSGS	N/A	OA	AL size cylinder jacket	N/A	55ALDG120P	FlexibleN/Afab	1/23/2006	$1,015	136W
3006	HSGS	N/A	OA	A size cylinder jacket	N/A	55ALDG120P	FlexibleN/Afab	1/23/2006	$1,015	136W
3007	HSGS	N/A	OA	A size cylinder jacket	N/A	55ALD2G120P	FlexibleN/Afab	1/23/2006	$1,035	136W
0000003689	HSGS	N/A	OA	A size cylinder jacket	N/A	55ALDG120P	FlexibleN/Afab	1/23/2006	$1,015	136W
3813	HSGS	N/A	OA	Radio, CP200, 16 Channel	Motorola	CPN/A200	018THAF686	2/6/2007	$525	7880LL
3823	HSGS	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJSP912	9/15/2008	$517	7880LL
5045	HSGS	N/A	OA	Computer, Desktop	N/A	OptiplexN/A755	J29BZD1	10/22/2007	$855	7880ZZ
5183	HSGS	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THQT828	8/23/2007	$517	7880ZZ

5313	HSGS	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D33XJG1	3/30/2009	$958	136W
0000005456	HSGS	N/A	OA	Computer, Desktop	N/A	OptiplexN/A7010	CQTMXV1	10/24/2012	$813	7880Y
0000009419	HSGS	N/A	A	Head Space Gas Unit	N/A	FGAN/A4N/AGC/MS	US00038973	11/19/2012	$293,000	136W
1530	IND	N/A	OA	Digital Camera	N/A	PC1169	2128418291	5/3/2007	$305	7880Y
5153	IND	N/A	OA	External Hard Drive, 500GB	N/A	WDG1U5000N	WMAPW1274060	2/7/2007	$190	7880Y
0000007009	IND	N/A	OA	Cell Phone	Samsung	GalaxyN/AS4	404-384-3131	8/6/2013	$332	MOBILE
0000007428	IND	N/A	OA	Cell Phone	N/A	MotorolaN/AW755	865-803-2402	(blank)	$100	MOBILE
0000008001	IND	N/A	OA	Cell Phone	N/A	Revere	865-809-9544	(blank)	$130	7880KK
0000008002	IND	N/A	OA	Cell Phone	LG	Revere	865-809-8916	(blank)	$125	7880KK
0000008003	IND	N/A	OA	Cell Phone	LG	Revere	865-809-5235	(blank)	$125	7880KK
0000008005	IND	N/A	OA	Cell Phone	LG	Revere	865-296-2860	(blank)	$125	7880KK
0000008006	IND	N/A	OA	Cell Phone	LG	Revere	865-809-3546	11/8/2012	$125	7880KK
0000008007	IND	N/A	OA	Cell Phone	LG	Revere	865-809-6115	(blank)	$125	7880KK
0000008009	IND	N/A	OA	Cell Phone	N/A	LGN/ALucid	865-809-0121	(blank)	$100	7880Y
0000008010	IND	N/A	OA	Cell Phone	N/A	LGN/ALucid	865-607-5344	11/19/2012	$50	7880Y
0000008012	IND	N/A	OA	Cell Phone	Samsung	GustoN/A2	865-809-9154	11/19/2012	$100	7880Y
0000008014	IND	N/A	OA	Cell Phone	Samsung	I605N/AGalaxy	865-394-5112	6/5/2013	$300	7880N
0000008015	IND	N/A	OA	Cell Phone	Samsung	I535N/AGalaxy	865-809-0708	6/5/2013	$150	7880B
0000008017	IND	N/A	OA	Cell Phone	Samsung	GalaxyN/A3	865-604-2352	6/24/2013	$150	7880KK
0000008018	IND	N/A	OA	Cell Phone	Samsung	GalaxyN/A3	865-809-3013	6/24/2013	$150	7880B
0000008019	IND	N/A	OA	Cell Phone	Samsung	GalaxyN/AIII	865-809-1660	(blank)	$150	7880B
0000008020	IND	N/A	OA	Cell Phone	Samsung	GalaxyN/AIII	865-809-3976	(blank)	$150	7880TT
0000008021	IND	N/A	OA	Cell Phone	Samsung	GalaxyN/ANoteN/AII	865-604-2360	(blank)	$300	7880W
0000008023	IND	N/A	OA	Cell Phone	Samsung	Galaxy	865-806-8929	9/5/2013	$167	7880CC
0000008025	IND	N/A	OA	Cell Phone	Motorola	DroidN/AUltra	865-809-4757	(blank)	$100	7880CC

0000008026	IND	N/A	OA	Cell Phone	LG	Revere2	865-803-8237	10/22/2013	$100	7880DD
0000008027	IND	N/A	OA	Cell Phone	Samsung	GustoN/A2	865-809-8916	(blank)	$109	7880N
0000008028	IND	N/A	OA	Cell Phone	LG	Revere2	865-809-7404	11/13/2013	$109	7880Z
0000008029	IND	N/A	OA	Cell Phone	LG	RevereN/A2	865-809-5529	12/5/2013	$142	MOBILE
0000008030	IND	N/A	OA	Cell Phone	N/A	LGN/ASpectrum	865-809-9155	(blank)	$200	7880B
0000008031	IND	N/A	OA	Cell Phone	Samsung	GalaxyN/A3	865-809-3126	6/12/2013	$196	7880Y
0000008041	IND	N/A	OA	Cell Phone	Samsung	GustoN/A2	865-809-7052	1/27/2014	$50	MOBILE
0000008042	IND	N/A	OA	Cell Phone	Samsung	GalaxyN/ASIII	865-809-0955	(blank)	$164	MOBILE
0000008043	IND	N/A	OA	Cell Phone	Samsung	GalaxyN/AIII	865-604-6535	2/26/2014	$30	7880CC
0000008044	IND	N/A	OA	Cell Phone	Samsung	GustoN/A2	865-227-2442	(blank)	$80	7880KK
0000008045	IND	N/A	OA	Cell Phone	Samsung	GustoN/A2	865-809-2626	2/26/2014	$80	7880TT
0000008046	IND	N/A	OA	Cell Phone	Samsung	GustoN/A2	865-809-8948	2/26/2014	$80	7880KK
0000008047	IND	N/A	OA	Cell Phone	Samsung	GalaxyN/AIII	865-809-4159	3/3/2014	$100	7880XX
0000008048	IND	N/A	OA	Cell Phone	Samsung	GalaxyN/AIII	865-809-4449	3/3/2014	$100	7880XX
0000008049	IND	N/A	OA	Cell Phone	LG	VN150N/ARevere	865-809-3979	3/17/2014	$98	7880Y
0000008050	IND	N/A	OA	Cell Phone	Samsung	GalaxyN/AS4	865-809-5764	3/26/2014	$218	7880Y
0000008091	IND	N/A	OA	Cell Phone	Apple	iPhone5N/A4GN/ALTEN/A16GB	865-604-6731	11/19/2012	$200	7880CC
0000008092	IND	N/A	OA	Cell Phone	N/A	DroidN/ARazorN/AHD	865-809-7249	3/18/2013	$55	7880CC
9323	IND	N/A	OA	Cell Phone	N/A	LGN/AVX5600	865-809-1360	3/30/2010	$55	7880Y
0000009369	IND	N/A	OA	Cell Phone	N/A	MotorolaN/AW385	865-604-6672	(blank)	$100	7880Z
9412	IND	N/A	OA	Cell Phone	Apple	iPhoneN/A4	865-809-9920	(blank)	$100	7880N
0000009426	IND	N/A	OA	Cell Phone	Motorola	XT926N/ARazrN/AHD	865-809-9769	(blank)	$200	7880Y
9434	IND	N/A	OA	Cell Phone	N/A	MotorolaN/AW385	865-809-3754	(blank)	$100	7880B
0000009441	IND	N/A	OA	Cell Phone	N/A	SamsungN/AGusto	865-202-5398	(blank)	$100	7880CC
0000009443	IND	N/A	OA	Cell Phone	N/A	LGN/ARevere	865-809-7833	(blank)	$100	7880DD

0000009446	IND	N/A	OA	Cell Phone	N/A	LGN/ARevere	865-804-8360	(blank)	$100	7880Y
0000009447	IND	N/A	OA	Cell Phone	N/A	LGN/ARevere	865-809-2792	(blank)	$100	7880B
9450	IND	N/A	OA	Cell Phone	N/A	MotorolaN/AW385	865-809-5214	(blank)	$100	7880M
0000009450	IND	N/A	OA	Cell Phone	N/A	MotorolaN/AW385	865-809-5214	(blank)	$100	7880M
0000009451	IND	N/A	OA	Cell Phone	N/A	LGN/ARevolution	865-809-9919	(blank)	$100	7880Y
0000009453	IND	N/A	OA	Cell Phone	N/A	LGN/ARevolution	TBD	(blank)	$100	7880N
0000009457	IND	N/A	OA	Cell Phone	N/A	LGN/ARevolution	865-809-4020	(blank)	$100	7880U
0000009458	IND	N/A	OA	Cell Phone	N/A	Escapade	865-809-9857	(blank)	$100	7880B
0000009459	IND	N/A	OA	Cell Phone	N/A	LGN/ARevolution	865-809-9153	(blank)	$100	7880B
0000009461	IND	N/A	OA	Cell Phone	N/A	DroidN/ARazor	OPEN	(blank)	$100	7880N
0000009466	IND	N/A	OA	Cell Phone	N/A	MotorolaN/ABionic	865-296-2813	(blank)	$100	7880LL
0000009469	IND	N/A	OA	Cell Phone	N/A	LGN/ARevere	865-809-1384	(blank)	$100	7880B
0000009470	IND	N/A	OA	Cell Phone	N/A	LGN/ARevere	865-809-5838	(blank)	$100	7880B
0000009471	IND	N/A	OA	Cell Phone	N/A	LGN/ARevere	865-809-2055	(blank)	$100	7880N
0000009472	IND	N/A	OA	Cell Phone	N/A	LGN/ARevere	865-8090338	(blank)	$100	7880B
0000009473	IND	N/A	OA	Cell Phone	N/A	SamsungN/AGusto	865-809-9843	(blank)	$100	7880B
0000009474	IND	N/A	OA	Cell Phone	N/A	SamsungN/AGusto	865-804-8493	(blank)	$100	7880B
0000009476	IND	N/A	OA	Cell Phone	N/A	LGN/ARevere	865-809-8407	(blank)	$100	7880B
0000009477	IND	N/A	OA	Cell Phone	N/A	HTCN/AThunderbolt	865-322-2345	(blank)	$100	7880B
0000009479	IND	N/A	OA	Cell Phone	N/A	HTCN/AThunderbolt	865-809-5734	(blank)	$100	7880B
0000009480	IND	N/A	OA	Cell Phone	N/A	LGN/AEnvy	865-809-5235	(blank)	$100	7880N
1280	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	8DH47D1	7/12/2007	$1,330	7880CC
1285	IT	N/A	OA	Printer	Dell	CPN/A3505N	CNBC77J201	11/27/2007	$888	7880M
1286	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD820	CVMF2D1	5/25/2007	$2,800	7880PP
1289	IT	N/A	OA	Monitor, Flat Panel	Dell	30"N/AUltraShield	89BTZB1	5/2/2007	$1,269	7880DD
1295	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	1CH47D1	7/12/2007	$1,330	7880Z
1296	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	1DH47D1	7/12/2007	$1,330	231

1304	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fm	7/15/2006	$571	7880KK
1305	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fn	7/15/2006	$571	7880KK
1311	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fv	7/15/2006	$750	7880KK
1314	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fx	7/15/2006	$571	7880KK
1315	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fy	7/15/2006	$571	7880KK
1320	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803g3	7/15/2006	$571	7880KK
1322	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803g5	7/15/2006	$571	7880KK
1323	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803g6	7/15/2006	$571	7880KK
1324	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803g7	7/15/2006	$571	123
1326	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803g9	7/15/2006	$571	123
1329	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2UB53803GD	7/15/2006	$571	7880KK
1330	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803gf	7/15/2006	$571	7880CC
1331	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803gg	7/15/2006	$571	7880KK
1332	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803gh	7/15/2006	$571	7880KK
1333	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803gj	7/15/2006	$571	7880KK
1335	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hd	7/15/2006	$571	7880KK
1336	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hf	7/15/2006	$571	7880KK
1337	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hg	7/15/2006	$571	7880KK
1338	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2UB53803HH	7/15/2006	$571	7880KK
1339	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hj	7/15/2006	$571	7880KK
1340	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hk	7/15/2006	$571	137
1341	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hl	7/15/2006	$571	7880Y
1344	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hp	7/15/2006	$571	7880RR
1345	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hq	7/15/2006	$571	7880KK
1346	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hr	7/15/2006	$571	7880KK
1347	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hs	7/15/2006	$571	7880KK
1350	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hw	7/15/2006	$571	7880QQ
1351	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hx	7/15/2006	$571	4
1352	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hy	7/15/2006	$571	7880B
1355	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803j2	7/15/2006	$571	7880B
1356	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803j3	7/15/2006	$750	7880KK
1358	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2UB53803J4	7/15/2006	$571	7880KK
1359	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803j5	7/15/2006	$571	7880KK
1360	IT	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803j6	7/15/2006	$571	7880KK
0000001364	IT	N/A	OA	Computer, Desktop	HewlettN/APackard	DC5100MT	2ub53803jb	11/19/2012	$571	7880FF
1384	IT	N/A	OA	Computer, Desktop	N/A	OptiPlexN/AGX620	1NJYSB1	9/14/2006	$1,545	7880JJ
1386	IT	N/A	OA	Computer, Desktop	N/A	OptiPlexN/AGX620	2NJYSB1	9/14/2006	$1,545	7880JJ
1388	IT	N/A	OA	Computer, Desktop	N/A	OptiPlexN/AGX620	3NJYSB1	9/14/2006	$1,545	7880JJ
0000001392	IT	N/A	OA	Computer, Desktop	N/A	OptiPlexN/AGX620	9MJYSB1	9/14/2006	$1,546	7880JJ
1394	IT	N/A	OA	Computer, Desktop	N/A	OptiPlexN/AGX620	CMJYSB1	9/14/2006	$1,545	7880JJ
1396	IT	N/A	OA	Computer, Desktop	N/A	OptiPlexN/AGX620	DMJYSB1	9/14/2006	$1,545	7880JJ
1398	IT	N/A	OA	Computer, Desktop	N/A	OptiPlexN/AGX620	GMJYSB1	9/14/2006	$1,545	7880JJ
1400	IT	N/A	OA	Computer, Desktop	N/A	OptiPlexN/AGX620	JMJYSB1	9/16/2006	$1,545	7880JJ
1402	IT	N/A	OA	Computer, Desktop	Dell	PrecisionN/A690	F8037B1	6/21/2006	$3,528	7880DD
1403	IT	N/A	OA	Computer, Desktop	Dell	PrecisionN/A690	19037B1	6/21/2006	$3,528	7880PP

1404	IT	N/A	OA	Computer, Desktop	Dell	PrecisionN/A690	39037B1	6/21/2006	$3,528	7880DD
1405	IT	N/A	OA	Monitor, Flat Panel	Dell	30"N/AUltraShield	B5F7T81	6/21/2006	$1,965	7880DD
1406	IT	N/A	OA	Monitor, Flat Panel	Dell	30"N/AUltraShield	7JHFQ91	6/21/2006	$1,965	7880DD
1407	IT	N/A	OA	Monitor, Flat Panel	Dell	30"N/AUltraShield	1JHFQ91	6/21/2006	$1,965	7880DD
1409	IT	N/A	OA	Server	Dell	PowerEdgeN/A2850	6PN53B1	5/31/2006	$6,698	7880PP
1410	IT	N/A	OA	Server	Dell	PowerEdgeN/A2850	7PN53B1	5/31/2006	$6,698	7880PP
1414	IT	N/A	OA	Computer, Laptop	Dell	PrecisionN/AM65	JHZKQB1	8/29/2006	$2,902	7880KK
1416	IT	N/A	OA	Computer, Laptop	Dell	PrecisionN/AM65	GJZKQB1	8/29/2006	$2,902	7880QQ
1423	IT	N/A	OA	1.0 TB TeraStation Pro NAS	Dell	TS-1.0TGL/R5	4.5810360314e+013	5/31/2006	$874	7880PP
1440	IT	N/A	OA	Network Security Appliance	Dell	ProN/A4060	681028168	6/30/2006	$4,827	7880PP
1446	IT	N/A	OA	Laser Printer	Dell	LaserJetN/A8150DN	JPBLL79350	7/15/2006	$300	7880M
1447	IT	N/A	OA	Laser Printer	Dell	LaserJetN/A8000DN	USAJ000037	7/15/2006	$300	7880Y
1450	IT	N/A	OA	Laser Printer	Dell	LaserJetN/A8000DN	USAJ000095	7/15/2006	$300	7880PP
1456	IT	N/A	OA	Laser Printer	Dell	LaserJetN/A2430n	CNGKJ16493	12/15/2005	$764	7880Y
1457	IT	N/A	OA	Laser Printer	Dell	LaserJetN/A2430n	CNGKJ69069	4/24/2006	$799	CNTRLPT
1459	IT	N/A	OA	Laser Printer	Dell	LaserJetN/A2430n	CNGKJ16484	12/15/2005	$764	7880Y
1460	IT	N/A	OA	Laser Printer	Dell	LaserJetN/A8150DN	SJPDLR70817	9/26/2005	$1,760	7880DD
1485	IT	N/A	OA	Computer, Desktop	Dell	OptiPlexN/AGX620	9YHT4C1	11/21/2006	$1,515	7880B
1487	IT	N/A	OA	Computer, Desktop	Dell	OptiPlexN/AGX620	1ZHT4C1	11/21/2006	$1,515	7880B
1495	IT	N/A	OA	Laser Printer	Dell	Z6MN/APlus	02C06250325	(blank)	$2,000	7880TT
1532	IT	N/A	OA	Projector	Dell	LP600	1SAMRV60100187	5/10/2006	$1,449	7880PP
1552	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	HDH47D1	7/12/2007	$1,330	7880GG
1553	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	7FH47D1	7/12/2007	$1,330	7880B
1554	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	FCH47D1	7/12/2007	$1,330	7880Z
1561	IT	N/A	OA	Computer, Laptop	Dell	PrecisionN/AM65	7GK15C1	11/21/2006	$2,433	7880QQ
1563	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD820	G2Z3DC1	(blank)	$1,000	7880CC
1564	IT	N/A	OA	Computer, Desktop	Dell	OptiflexN/A745	1LJ7DC1	1/11/2007	$1,735	7880CC
1565	IT	N/A	OA	Computer, Desktop	Dell	OptiflexN/A745	CYB6DC1	1/15/2007	$1,735	7880B
1568	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD820	82Z3DC1	1/11/2007	$2,824	7880Z
1574	IT	N/A	OA	Computer, Desktop	Dell	OptiflexN/A745	HKJ7DC1	1/11/2007	$1,735	7880NN
1575	IT	N/A	OA	Computer, Desktop	Dell	OptiflexN/A745	GKJ7DC1	1/11/2007	$1,735	CNTRLPT
1577	IT	N/A	OA	Computer, Desktop	Dell	OptiflexN/A745	JKJ7DC1	1/11/2007	$1,735	7880B
1580	IT	N/A	OA	Server	Dell	PowerEdgeN/A2950	GT2XFC1	1/26/2007	$7,459	123
1581	IT	N/A	OA	Server	Dell	PowerEdgeN/A2950	1V2XFC1	1/26/2007	$7,459	123
1582	IT	N/A	OA	Server	Dell	PowerEdgeN/A2950	3B90HC1	2/1/2007	$5,188	7880PP
1583	IT	N/A	OA	Server	Dell	PwrVaultN/AMD1000	G4GWGC1	2/1/2007	$8,140	7880PP
1595	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD820	C1Z3DC1	1/11/2007	$2,824	7880B
1597	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD820	91Z3DC1	1/11/2007	$2,824	7880KK
1605	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD820	22Z3DC1	1/11/2007	$2,824	7880B
1606	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD820	43Z3DC1	1/11/2007	$2,824	7880B
1607	IT	N/A	OA	Computer, Desktop	Dell	PrecisionN/A690	4YK6QC1	3/21/2007	$4,304	7880DD
1612	IT	N/A	OA	Computer, Desktop	Dell	PrecisionN/A690	3GGJXC1	5/2/2007	$4,402	7880PP
1613	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	J9PGXC1	5/2/2007	$1,241	7880CC
1614	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	19PGXC1	5/2/2007	$1,241	7880N
1615	IT	N/A	OA	Monitor, Flat Panel	Dell	30"N/AUltraShield	J69TZB1	5/25/2007	$1,347	7880PP
1616	IT	N/A	OA	Computer, Desktop	Dell	PrecisionN/A690	GFGJXC1	5/2/2007	$4,402	7880PP
1617	IT	N/A	OA	Computer, Desktop	Dell	PrecisionN/A690	4X7B0D1	5/25/2007	$4,428	7880PP

1618	IT	N/A	OA	Monitor, Flat Panel	Dell	30"N/AUltraShield	C2HTZB1	3/21/2007	$1,659	7880PP
1619	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	B9PGXC1	5/2/2007	$1,241	CNTRLPT
1624	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	6BPGXC1	5/2/2007	$1,241	7880B
1625	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	F8PGXC1	5/2/2007	$1,241	7880TT
1627	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD820	DVMF2D1	5/25/2007	$2,800	7880KK
1629	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	6B7Z3D1	6/18/2007	$1,347	7880J
1630	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	3D7Z3D1	6/18/2007	$1,347	7880B
1631	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	4D7Z3D1	6/18/2007	$1,347	7880A
1634	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD820	GVMF2D1	5/25/2007	$2,800	7880Y
1635	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	G97Z3D1	6/18/2007	$1,347	7880PP
1636	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	7D7Z3D1	6/18/2007	$1,347	7880B
1795	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	8CH47D1	7/12/2007	$1,330	7880Y
1796	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD820	8VMF2D1	5/25/2007	$2,800	7880Y
1797	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	CCH47D1	7/12/2007	$1,330	7880GG
1800	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD820	4VMF2D1	5/25/2007	$2,800	7880B
1803	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	3DH47D1	7/12/2007	$1,330	7880B
1805	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	4CH47D1	7/12/2007	$1,330	7880Z
2207	IT	N/A	OA	Computer, Desktop	Dell	OptiPlexN/AGX620	9F780C1	10/17/2006	$1,676	7880B
2208	IT	N/A	OA	Computer, Desktop	Dell	OptiPlexN/AGX620	BF780C1	10/17/2006	$1,676	
2417	IT	N/A	OA	Computer, Desktop	Dell	OptiPlexN/AGX620	CF780C1	10/17/2006	$1,676	CNTRLPT
2418	IT	N/A	OA	Computer, Laptop	Dell	PrecisionN/AM65	7RPX0C1	10/25/2006	$2,500	7880L
2423	IT	N/A	OA	Terastation Pro 2.0	Dell	TS-2.OTGL/R5	45810561002640GF	10/25/2006	$1,877	7880Y
2424	IT	N/A	OA	Terastation Pro 2.0	Dell	TS-2.OTGL/R5	4.5810561003e+013	10/25/2006	$1,877	7880Y
2425	IT	N/A	OA	Computer, Desktop	N/A	OptiPlexN/AGX620	CYHT4C1	11/21/2006	$1,515	7880JJ
2427	IT	N/A	OA	Computer, Desktop	Dell	OptiPlexN/AGX620	7YHT4C1	11/21/2006	$1,515	7880FF
2428	IT	N/A	OA	Computer, Desktop	Dell	OptiPlexN/AGX620	BYHT4C1	11/21/2006	$1,545	7880MM
2469	IT	N/A	OA	Projector	Dell	IN36	AVCV71600591	8/22/2007	$1,400	7880CC
3049	IT	N/A	OA	Cooling Unit, 24 Channel	Fujitsu	ASU24CL	DDA015957	6/26/2008	$1,685	7880Y
3184	IT	N/A	OA	Printer	HP	CP3525N	CNCC91MOHG	3/4/2009	$692	7880Y
3185	IT	N/A	OA	Printer	HP	CP3525N	CNCC8C904H	3/9/2009	$692	7880N
3200	IT	N/A	OA	Server Cabinet	Dell	32"	N/A	2/27/2007	$835	STORAGE
3544	IT	N/A	OA	Printer	HP	LsrjetN/AP2055DN	CNB9P94709	1/21/2010	$396	7880B
3545	IT	N/A	OA	Printer	N/A	CP-3525N	CNCCB240FQ	1/22/2010	$693	7880W
3559	IT	N/A	OA	Fax, Phone, and Copier	Brother	IntellifaxN/A2820	U61325CON347719	4/14/2010	$180	7880CC
3572	IT	N/A	OA	Printer	HP	CP3525N	CNCCB4COH4	4/29/2010	$685	7880CC
3589	IT	N/A	OA	Printer	HP	CP3525N	CNCCB4C03D	5/20/2010	$750	7880B
0000003654	IT	N/A	OA	iPad Mini	Apple	MD529LL/A	F4KL36RXF194	8/1/2013	$463	7880Y
0000003679	IT	N/A	OA	PowerEdge R720	Dell	R720	N/A	8/2/2013	$9,041	7880PP
0000003741	IT	N/A	OA	Monitor, Desktop	Dell	UltraSharpN/AU3011	N/A	11/19/2012	$1,144	7880B
0000003742	IT	N/A	OA	PowerLite Projector	Epson	PowerLiteN/A1945W	N/A	3/19/2013	$1,830	7880Y
0000003743	IT	N/A	OA	Rolling Bench, 8 Drawer	Dell	WB579146	N/A	2/18/2013	$892	7880Y

0000003798	IT	N/A	OA	Visual Fault Locator	Corning	VFL-350	N/A	2/19/2013	$599	7880N
3874	IT	N/A	OA	IP KVM Switch	Minicom	SmartN/A116N/AIP	5451820988	2/3/2011	$1,845	7880P
3875	IT	N/A	OA	Network Switch - PowerConnect	Dell	8024F	FSHP6M1	10/14/2010	$6,335	7880B
3876	IT	N/A	OA	Network Switch - PowerConnect	Dell	8024F	CSHP6M1	10/14/2010	$6,335	7880B
3949	IT	N/A	OA	Switch	HP	4160GL	SG718MF02B	6/26/2007	$5,886	123
0000004156	IT	N/A	OA	Rack Mountable Power Supply	CyberPower	PR3000LCDRTXL2U	PQA13290055	2/24/2014	$920	7880PP
5001	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	CDH47D1	7/12/2007	$1,330	7880U
5003	IT	N/A	OA	Monitor, Flat Panel	Dell	30"N/AUltraShield	JKJTZB1	3/21/2007	$1,659	7880PP
5005	IT	N/A	OA	Printer, Color	HP	3505N	CNBC77J20V	(blank)	$750	7880TT
5032	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD830	2XR8ZD1	10/22/2007	$1,705	7880DD
5033	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD830	4XR8ZD1	10/22/2007	$1,705	7880KK
5037	IT	N/A	OA	Server	Dell	PwrVaultN/AMD1000	FFPD8F1	12/7/2007	$3,932	7880B
5044	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	339BZD1	10/22/2007	$855	7880Z
5046	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	939BZD1	10/22/2007	$855	7880Z
5048	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	639BZD1	10/22/2007	$855	7880DD
5049	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	829BZD1	10/22/2007	$855	7880KK
5051	IT	N/A	OA	Plotter	HP	DesignJetN/AT610	MY82R3C03N	5/22/2008	$3,935	7880DD
5053	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD830	CMQZNG1	6/24/2008	$2,404	7880N
5056	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD830	FMQZNG1	6/24/2008	$2,404	7880JJ
5057	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	BP2PNG1	6/24/2008	$1,511	7880KK
5058	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	FP2PNG1	6/24/2008	$1,511	7880Z
5059	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	8P2PNG1	6/24/2008	$1,511	7880KK
5060	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	9P2PNG1	6/24/2008	$1,511	7880XX
5061	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	CP2PNG1	6/24/2008	$1,511	7880Z
5062	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	5P2PNG1	6/24/2008	$1,511	7880Y
5063	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	3P2PNG1	6/24/2008	$1,511	7880Z
5064	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	7P2PNG1	6/24/2008	$1,511	
5074	IT	N/A	OA	Network Security Appliance	Cymphonix	NetN/ACompN/ADC30	090227E0802	6/13/2007	$3,499	7880PP
5075	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D31ZJG1	3/30/2009	$958	7880Y
5080	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D2ZZJG1	3/30/2009	$958	7880Z
5081	IT	N/A	OA	Portable Hard Drive - 500GB	Dell	Passport	WX50A79U2540	8/26/2009	$115	7880Y
5082	IT	N/A	OA	Portable Hard Drive - 500GB	Dell	Passport	WX60A79E9629	8/26/2009	$115	7880Y
5083	IT	N/A	OA	Portable Hard Drive - 500GB	Dell	Passport	WX60A79M2511	8/26/2009	$115	7880Y
5086	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	4BPSLL1	11/18/2009	$1,302	7880CC
5087	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	58PSLL1	11/18/2009	$1,302	7880N
5088	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	89PSLL1	11/18/2009	$1,302	7880XX
5089	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	8BPSLL1	11/18/2009	$1,302	7880KK
5090	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	CBPSLL1	11/18/2009	$1,302	7880CC
5091	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D8PSLL1	11/18/2009	$1,302	7880B
5093	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	F9PSLL1	11/18/2009	$1,302	7880XX
5094	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	H8PSLL1	11/18/2009	$1,302	7880KK
5095	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	1BPSLL1	11/18/2009	$1,302	7880B
5096	IT	N/A	OA	Computer, Laptop	Dell	M6500	73ZRLLI	12/9/2009	$5,702	7880Y
5103	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	F29BZD1	10/22/2007	$855	7880KK
5105	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	J19BZD1	10/22/2007	$855	7880CC

5111	IT	N/A	OA	Monitor, Flat Panel	Dell	30"N/AUltraShield	BVXJWD1	12/13/2007	$1,313	7880DD
5113	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	529BZD1	10/22/2007	$855	7880Z
5114	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD830	FWBFCF1	12/26/2007	$1,704	7880PP
5119	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD830	1YBFCF1	12/26/2007	$1,704	7880DD
5121	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	C29BZD1	10/22/2007	$855	7880XX
5127	IT	N/A	OA	Monitor, Flat Panel	Dell	UltraSharpN/A2407	N/A	11/9/2006	$736	7880B
5130	IT	N/A	OA	Laser Printer, Color	Dell	3110CN	FMG5991	10/25/2006	$631	7880Y
5138	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	GN90YF1	3/19/2008	$619	7880PP
5139	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	HN90YF1	3/19/2008	$619	7880AC
5149	IT	N/A	OA	External Hard Drive, 500GB	Dell	WDG1U5000N	WMAPW1013529	2/7/2007	$190	7880Y
5159	IT	N/A	OA	External Hard Drive	Dell	MyN/APassport	WXEZ088MO535	10/8/2008	$80	7880CC
5171	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D2YXJG1	3/30/2009	$958	7880KK
5172	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D30YJG1	3/30/2009	$958	7880Y
5173	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D330KG1	3/30/2009	$958	7880N
5252	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBK5J1	5/27/2009	$1,249	7880B
5253	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBK4J1	5/27/2009	$1,249	7880B
5254	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBR4J1	5/27/2009	$1,249	7880CC
5255	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBR5J1	5/27/2009	$1,249	7880M
5260	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBJ5J1	5/27/2009	$1,249	7880CC
5261	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBG5J1	5/27/2009	$1,249	7880V
5262	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBL5J1	5/27/2009	$1,249	7880PP
5263	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBM5J1	5/27/2009	$1,249	7880LL
5264	IT	N/A	OA	Computer, Desktop	Dell	OptiPlexN/AGX620	6NJYSB1	9/14/2006	$1,545	7880B
5265	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBP5J1	5/27/2009	$1,249	7880M
5267	IT	N/A	OA	Computer, Desktop	N/A	OptiplexN/A760	9GBN4J1	5/27/2009	$1,249	7880KK
5268	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBN5J1	5/27/2009	$1,249	7880KK
5269	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBL4J1	5/27/2009	$1,249	7880Y
5293	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9Z7ZRK1	7/30/2009	$1,249	7880Y
5294	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	2Z7ZRK1	7/30/2009	$1,249	7880Y
5296	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	6Z7ZRK1	7/30/2009	$1,249	7880Z
5298	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	DY7ZRK1	7/30/2009	$1,249	7880KK
5299	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	JZ7ZRK1	7/30/2009	$1,249	7880NN
5300	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	HY7ZRK1	7/30/2009	$1,249	7880B
5301	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D31XJG1	3/30/2009	$958	7880B
5302	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D2ZXJG1	3/30/2009	$958	7880KK
5303	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D30XJG1	3/30/2009	$958	7880CC
5305	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D35YJG1	3/30/2009	$958	7880N
5306	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D2YZJG1	3/30/2009	$958	7880M
5307	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D33ZJG1	3/30/2009	$958	7880KK
5308	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D30ZJG1	3/30/2009	$958	7880Y
5309	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D35XJG1	3/30/2009	$958	7880KK
5310	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D2ZYJG1	3/30/2009	$958	7880KK
5311	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D2ZWJG1	3/30/2009	$958	7880KK
5312	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D31YJG1	3/30/2009	$958	7880L
5314	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D34ZJG1	3/30/2009	$958	7880N
5315	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D2YYJG1	3/30/2009	$958	7880B
5331	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D33YJG1	3/30/2009	$958	7880B

5333	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D34XJG1	3/30/2009	$958	7880KK
5334	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D32ZJG1	3/30/2009	$958	7880M
5335	IT	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803g1	7/15/2006	$571	7880KK
5342	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D320KG1	3/30/2009	$958	7880B
5344	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D32YJG1	3/30/2009	$958	7880Y
5345	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D32XJG1	3/30/2009	$958	7880CC
5346	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D36XJG1	3/30/2009	$958	7880XX
5349	IT	N/A	OA	Monitor, Flat Panel	Dell	3007WFP	D9GZ3G1	7/30/2009	$1,129	7880PP
5350	IT	N/A	OA	Server	Dell	PwrVaultN/AMD1000	HPFTNK1	7/30/2009	$2,935	7880B
5351	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6500	7YZTNK1	7/30/2009	$2,011	7880W
5353	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6500	FYZTNK1	7/30/2009	$2,011	7880M
5354	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6500	DYZTNK1	7/30/2009	$2,011	7880Y
5355	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6500	GYZTNK1	7/30/2009	$2,011	7880B
5356	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6500	9YZTNK1	7/30/2009	$2,011	7880N
5357	IT	N/A	OA	42U Rack Mount Enclosure	Dell	4210-42U	D0DR2B1	6/1/2006	$2,123	7880PP
5359	IT	N/A	OA	Printer	HP	3525dn	CNCCB7POFO	9/29/2010	$945	7880B
0000005360	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6520	45D91R1	4/25/2011	$1,550	7880N
5383	IT	N/A	OA	Projector	Dell	INF-IN2102EP	AZMB00500549	3/3/2010	$489	7880Z
5384	IT	N/A	OA	Projector	Dell	INF-IN2102EP	AZMB005001460	3/3/2010	$489	7880B
5386	IT	N/A	OA	Projector	Dell	INF-IN2102EP	AZMB005000917	3/3/2010	$489	
5388	IT	N/A	OA	Projector	Dell	INF-IN2102EP	AZMB005001484	3/3/2010	$489	7880PP
5389	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A780	FR3G4M1	3/8/2010	$1,310	7880Y
5390	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A780	HR3G4M1	3/8/2010	$1,310	7880CC
5391	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A780	GR3G4M1	3/8/2010	$1,310	7880N
5392	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A780	DR3G4M1	3/8/2010	$1,310	7880B
5394	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6500	CY9VOM1	3/8/2010	$1,820	7880CC
5395	IT	N/A	OA	Computer, Laptop	Dell	LatiudeN/AE6500	40BVOM1	3/8/2010	$1,820	7880Y
5398	IT	N/A	OA	42U Rack w/Doors & Side Panels	Dell	4220-42U	N/A	4/27/2010	$1,939	7880PP
5427	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6510	9CGRRM1	6/20/2010	$1,816	7880B
5428	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6510	9FGRRM1	6/20/2010	$1,816	7880B
5429	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6510	C9GRRM1	6/20/2010	$1,816	7880Z
5430	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6510	GDGRRM1	6/20/2010	$1,816	7880CC
5431	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6510	FCGRRM1	6/20/2010	$1,816	7880M
5433	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6510	3PCJVM1	9/5/2010	$1,880	7880W
5435	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6510	9TCJVM1	9/5/2010	$1,880	7880M
0000005438	IT	N/A	OA	35PPM Laser Jet Printer	HP	HPN/ALJN/ACP4025DN	JPBCC6X2P2	11/8/2011	$1,292	7880CC
0000005439	IT	N/A	OA	Computer, Desktop	HP	Z800	2UA1421WBS	11/16/2011	$5,266	7880DD
5442	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A780	5WKBMM1	7/20/2010	$1,206	7880DD
5443	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A780	5WM8MM1	7/20/2010	$1,206	7880Y
5445	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A780	5WL9MM1	7/20/2010	$1,206	7880DD
0000005452	IT	N/A	OA	Smart Switch	Dell	GS510TP	N/A	6/20/2012	$339	7880PP
0000005453	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	CQTMXV1	10/24/2012	$813	7880CC

0000005455	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	CQRNXV1	10/24/2012	$813	7880Y
0000005457	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	CQTLXV1	10/24/2012	$813	7880Z
0000005458	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	CQSLXV1	10/24/2012	$813	7880PP
0000005459	IT	N/A	OA	CMT Workstation	HP	Z220	2UA2420P6G	11/1/2012	$1,521	7880Y
0000005460	IT	N/A	OA	Printer	HP	HPN/AOfficejetN/AProN/A8600	CN24NBR0DC	7/2/2012	$322	7880B
5471	IT	N/A	OA	Computer, Laptop	Dell	LattitudeN/AE6510	100XBP1	2/3/2011	$1,842	7880Y
5472	IT	N/A	OA	Computer, Laptop	Dell	Lattitude	100WBP1	2/3/2011	$1,842	7880CC
5476	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A780	1NCKFQ1	4/20/2011	$1,524	7880M
5477	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A780	1NCMFQ1	4/20/2011	$1,524	7880M
5478	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A780	1NDKFQ1	4/20/2011	$1,524	7880M
5480	IT	N/A	OA	Switch	Dell	V1910N/A48G	SCN13BX51Z2	5/4/2011	$803	7880Y
0000005481	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6540	C5MNK02	4/9/2014	$1,721	7880Y
0000005482	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6540	C5LQK02	(blank)	$1,721	7880Y
0000005483	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6540	C5NMK02	(blank)	$1,721	7880Y
0000005484	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6540	C5MPK02	(blank)	$1,721	7880Y
0000005485	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AE6540	C5MQK02	(blank)	$1,721	7880Y
0000005486	IT	N/A	OA	Tablet, Surface Pro 2, 256MB	Microsoft	1601	028876441053	4/16/2014	$1,246	7880Y
0000005487	IT	N/A	OA	Tablet, Surface Pro 2, 256MB	Microsoft	1601	038255541053	(blank)	$1,246	7880Y
7003	IT	N/A	OA	Cabinet, Disaster Recovery Pan	Hoffman	PSC20610G12	N/A	12/6/2010	$2,631	CONNEX36
7010	IT	N/A	OA	Computer, Laptop	Dell	LatitudeN/AZ	45CH4M1	12/10/2010	$3,091	7880CC
7034	IT	N/A	OA	Printer	Dell	LaserjetCPN/A3525	CNCCB901GY	9/15/2010	$774	CNTRLPT
7050	IT	N/A	OA	Uninterupted Power Source	Dell	CYPOL1500BMXL24	17BoUP000709	11/30/2010	$600	7880PP
7051	IT	N/A	OA	Uninterupted Power Source	Dell	CYPOL1500BMXL24	17BOXP000097	11/30/2010	$600	7880PP
7052	IT	N/A	OA	Uninterupted Power Source	Dell	CYPOL1500BMXL24	17BOXP000099	11/30/2010	$600	7880PP
7053	IT	N/A	OA	Uninterupted Power Source	Dell	CYPOL1500BMXL24	17BOXP000102	11/30/2010	$600	
7054	IT	N/A	OA	Uninterupted Power Source	Dell	CYPOL1500BMXL24	17B0UP000711	11/30/2010	$600	7880PP
7056	IT	N/A	OA	Printer, Color	Dell	CP5525dn	JPCCBBN0F5	11/30/2010	$2,795	7880B
7066	IT	N/A	OA	Temperature & Power Guard	VM540-DCP-E	N/A	N/A	11/11/2010	$645	CONNEX36
0000007244	IT	N/A	OA	Monitor, Flat Panel	Dell	30"N/AP190S	13YQ6S1	4/25/2011	$1,102	7880Y
0000007267	IT	N/A	OA	Television - 22" Outdoor	SunbriteN/ATV	SB2220HD	2220A1269	6/21/2012	$2,109	7880Y
0000007277	IT	N/A	OA	Laser Jet Printer	HP	M551DN	N/A	5/8/2012	$872	7880B

0000007310	IT	N/A	OA	Cable IQ Qual Tester	Fluke	FLU-CIQ-100	N/A	8/28/2012	$1,118	7880Y
7382	IT	N/A	OA	Server	Dell	PowerEdgeN/AR710	FC410L1	9/28/2009	$5,253	7880PP
0000007418	IT	N/A	OA	KVM Switch	Raritan	KX2-108	HKG3A00007	(blank)	$0	7880PP
0000007419	IT	N/A	OA	KVM Switch	Raritan	KX2-108	HK83800042	(blank)	$0	123
0000007443	IT	N/A	OA	QNAP Storage Device	QNAP	TS-EC1279U-RP	Q124101527	8/1/2012	$9,244	7880PP
0000007444	IT	N/A	OA	QNAT Storage Device	QNAP	TS-EC1279U-RP	Q132106082	7/16/2013	$8,600	7880PP
0000008093	IT	N/A	OA	Network Storage Server	QNAP	TS-EC1279U-RP	Q132106082	7/16/2013	$8,600	7880PP
9125	IT	N/A	OA	Printer, Laserjet	HP	P3015DN	VNBCC3S351	4/20/2011	$437	123
9131	IT	N/A	OA	VDI Terminal	Dell	Xenith	2PH0K510349	5/10/2011	$250	7880CC
9132	IT	N/A	OA	VDI Terminal	Dell	Zenith	2PH0K510344	5/10/2011	$250	7880Y
9133	IT	N/A	OA	VDI Terminal	Dell	Zenith	2PH0K510342	5/10/2011	$250	BRKRM
9134	IT	N/A	OA	VDI Terminal	Wyse	Xenith	2PH0K510340	5/10/2011	$250	7880B
9135	IT	N/A	OA	VDI Terminal	Dell	Xenith	2PH0K510343	5/10/2011	$250	7880Z
0000009143	IT	N/A	OA	Monitor, Touch	IntelliTouch	22C3	H11C002965	3/6/2012	$1,618	CPE
0000009144	IT	N/A	OA	Monitor, Touch	Dell	22C3	H11C002968	3/6/2012	$1,618	CPE
0000009145	IT	N/A	OA	Monitor, Touch	Dell	IntelliTouchN/A22C2	L11C023222	3/6/2012	$1,302	CPE
0000009146	IT	N/A	OA	Monitor, Touch	Dell	IntelliTouchN/A22C2	L11C023222	3/6/2012	$1,302	7880PP
0000009147	IT	N/A	OA	Monitor, Touch	Dell	IntelliTouchN/A22C2	L11C023222	3/6/2012	$1,302	CPE
0000009148	IT	N/A	OA	Minitower EPA	Dell	OptiplexN/A990	BT0YNS1	5/8/2012	$1,668	7880PP
0000009149	IT	N/A	OA	Minitower EPA	Dell	OptiplexN/A990	BT0ZNS1	4/25/2011	$1,668	CNTRLRM
0000009150	IT	N/A	OA	Minitower EPA	Dell	OptiplexN/A990	BT0XNS1	4/25/2011	$1,668	CNTRLRM
0000009151	IT	N/A	OA	CMT Workstation	HP	Z220	2UA2420P6F	11/1/2012	$1,521	7880Y
0000009152	IT	N/A	OA	CMT Workstation	HP	Z220	2UA2420P6C	11/1/2012	$1,521	7880PP
0000009153	IT	N/A	OA	CMT Workstation	HP	Z220	2UA2420P6H	11/1/2012	$1,521	7880PP
0000009154	IT	N/A	OA	CMT Workstation	HP	Z220	2UA2420P6D	11/1/2012	$1,521	7880PP
0000009155	IT	N/A	OA	CMT Workstation	HP	Z220	2UA2420XMP	11/1/2012	$1,521	7880PP
0000009156	IT	N/A	OA	CMT Workstation	HP	Z220	2UA2420XMZ	11/1/2012	$1,521	7880PP

0000009157	IT	N/A	OA	CMT Workstation	HP	Z220	2UA2420XMX	11/1/2012	$1,521	7880PP
0000009158	IT	N/A	OA	CMT Workstation	HP	Z220	2UA2430LSK	11/1/2012	$1,521	7880DD
0000009159	IT	N/A	OA	CMT Workstation	HP	Z220	2UA2430LSN	11/1/2012	$1,521	7880DD
0000009161	IT	N/A	OA	Monitor, LCD	HP	ZR30w	CN42320SWQ	11/1/2012	$1,232	7880PP
0000009162	IT	N/A	OA	Monitor, LCD	HP	ZR30w	CN42320ST2	11/1/2012	$1,232	7880PP
0000009163	IT	N/A	OA	Monitor, LCD	HP	ZR30w	CN42320SWH	11/1/2012	$1,232	7880PP
0000009164	IT	N/A	OA	Monitor, LCD	HP	ZR30w	CN42320SWR	11/1/2012	$1,232	7880DD
0000009165	IT	N/A	OA	Monitor, LCD	HP	ZR30w	CN42320SV7	11/1/2012	$1,232	7880DD
0000009166	IT	N/A	OA	Monitor, LCD	HP	ZR30w	CN42320T6H	11/1/2012	$1,232	7880DD
0000009167	IT	N/A	OA	Monitor, LCD	HP	ZR30w	CN42320SWK	11/1/2012	$1,232	7880PP
0000009168	IT	N/A	OA	Monitor, LCD	HP	ZR30w	CN42320SWJ	11/1/2012	$1,232	7880PP
0000009169	IT	N/A	OA	Monitor, LCD	HP	ZR30w	CN42320SWG	11/1/2012	$1,232	7880PP
0000009170	IT	N/A	OA	Monitor, LCD	HP	ZR30w	CN42320SVC	11/1/2012	$1,232	7880XX
0000009171	IT	N/A	OA	Monitor, LCD	HP	ZR30w	CN42320T6J	11/1/2012	$1,232	7880XX
0000009172	IT	N/A	OA	Monitor, LCD	HP	ZR30w	CB722713RJ	11/1/2012	$1,232	7880XX
0000009173	IT	N/A	OA	CMT Workstation	HP	Z220	2UA2430LSJ	11/1/2012	$1,521	7880XX
0000009174	IT	N/A	OA	CMT Workstation	HP	Z220	2UA2430LSM	11/1/2012	$1,521	7880DD
0000009175	IT	N/A	OA	Plotter	HP	DesignN/AJetN/AT790	N/A	11/6/2012	$4,499	7880XX
0000009176	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	8CQJZV1	11/29/2012	$966	7880PP
0000009177	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	8CQKZV1	11/29/2012	$966	7880Z
0000009178	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	8CQHZV1	11/29/2012	$966	7880B
0000009187	IT	N/A	OA	SATA/IDE Duplicator Kit	Dell	ImageN/AMASSterN/A4004	N/A	2/6/2013	$2,720	7880Y
0000009191	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	7P1MCX1	11/19/2012	$3,925	7880Z

0000009192	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	7P2KCX1	11/19/2012	$3,925	7880PP
0000009193	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	7P1KCX1	11/19/2012	$3,925	7880PP
0000009194	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	7P1LCX1	11/19/2012	$3,925	7880PP
0000009195	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	7P0MCX1	11/19/2012	$3,925	7880PP
0000009196	IT	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	7P0LCX1	11/19/2012	$3,925	7880Y
9371	IT	N/A	OA	Server	Dell	PowerEdgeN/AT110	5C9G5P1	11/9/2010	$921	123
9372	IT	N/A	OA	Server	Dell	PowerEdgeN/AT110	4C9G5P1	11/9/2010	$921	7880PP
9373	IT	N/A	A	Server	Dell	PowerEdgeN/A2950	5X9NBK1	6/26/2009	$10,688	123
9374	IT	N/A	OA	Server	Dell	PowerEdgeN/AR710	8X5RLM1	7/12/2010	$4,403	7880PP
9375	IT	N/A	OA	Server	Dell	PowerEdgeN/AR710	8X5SLM1	7/12/2010	$4,403	7880PP
9376	IT	N/A	OA	Network Switch - PowerConnect	Dell	8024F	17QXFH1	6/15/2010	$6,335	7880PP
9377	IT	N/A	OA	Network Switch - PowerConnect	Dell	8024F	CCQXFH1	6/15/2010	$6,335	7880PP
9378	IT	N/A	OA	Server	Dell	PowerEdgeN/AR715	77MS2P1	10/14/2010	$6,875	7880PP
9379	IT	N/A	A	Storage Area Network Device	Dell	PS6510E	3PJCVL1	6/15/2010	$79,802	7880PP
9380	IT	N/A	OA	Server	Dell	PowerEdgeN/AR710	GC410L1	9/28/2009	$5,253	7880PP
9381	IT	N/A	OA	Server	Dell	PowerEdgeN/AR710	38S0MN1	10/14/2010	$9,524	7880PP
9383	IT	N/A	OA	Network Security Appliance	Dell	4500N/ASecN/AApp	0017C5168EFO	9/21/2010	$4,018	7880PP
9384	IT	N/A	OA	Internet Security Appliance	Dell	SSL-VPNN/A2000	0006B138A84C	11/12/2007	$1,741	7880PP
9385	IT	N/A	OA	Network Security Appliance	Dell	NetN/ACompN/AEX310	1026A1m0251	8/4/2010	$5,432	7880PP
9386	IT	N/A	OA	Switch	Dell	ProCurveN/A5406zl	SG907S48V	7/11/2009	$10,922	7880PP
9387	IT	N/A	A	Storage Area Network Device	Dell	PS6510E	FYP8WN1	10/14/2010	$80,289	123
9413	IT	N/A	OA	Printer	Dell	LQN/A2180	BDWY040256	(blank)	$200	7880Y
0000009420	IT	N/A	A	Computer, Desktop	HP/Compaq	dc7800	MXL8280J8C	11/19/2012	$10,001	7880Y
9439	IT	N/A	OA	Printer	Dell	P3015DN	VNBCB7P17S	10/26/2010	$388	7880DD
1065	M&TE	N/A	OA	Digital Camera	Canon	PowershotN/AA630	4426247283	9/10/2007	$200	7880KK
1066	M&TE	N/A	OA	Digital Camera	Canon	PowershotN/AA630	4426247288	9/10/2007	$200	7880RR
1102	M&TE	N/A	OA	Digital Camera	Canon	PowershotN/AA570	4722107892	9/10/2007	$172	7880Z
1103	M&TE	N/A	OA	Digital Camera	Canon	PowershotN/AA570	4722114104	9/10/2007	$172	7880RR
1141	M&TE	N/A	OA	Torque Wrench	Snap-On	TE1003LN/A-N/AMTE#67	3364	9/11/2007	$1,808	7880Z
1143	M&TE	N/A	OA	Pressure Module	Fluke	700PD3N/A-N/AMTE#83	94404307	9/10/2007	$1,154	7880Z
1144	M&TE	N/A	OA	Documenting Process Calibrator	Fluke	741BN/A-N/AMTE#79	9499003	(blank)	$500	7880
1145	M&TE	N/A	OA	Pressure Module	Fluke	700PO7N/A-N/AMTE#84	94100707	9/10/2007	$960	7880Z
1147	M&TE	N/A	OA	Pressure Module	Fluke	700PD2N/A-N/AMTE#82	89854205	9/10/2007	$1,154	7880Z
1165	M&TE	N/A	OA	Pressure Indicator, Precision	Omega	DPI-740N/A-N/AWIPP-093	7402880	11/5/2007	$2,694	7880Z
1166	M&TE	N/A	OA	Pressure Indicator, Precision	Omega	DPI-740N/A-N/AWIPP-092	74002532	11/5/2007	$2,694	7880Z
1184	M&TE	N/A	OA	Dynamometer - Scale, Load Cell	Dillon	EDXtreme,N/A36189-0056N/A-N/AMTE#74	DEDX2500532	12/20/2007	$1,861	CPE
1271	M&TE	N/A	OA	Scale, Load Sensing Shackle	STRAINSERT	RCP-0.875-BN/A/N/AMTE#76;N/APLN-D2	Q18876-1;N/A1064	10/23/2007	$920	7880
1511	M&TE	N/A	OA	Scale, Floor	MettlerN/AToledo	2158-002065N/A-N/AMTE#59	1146880-1LH	10/12/2005	$1,526	7880A
1680	M&TE	N/A	OA	Pressure Module	Fluke	700P31N/A-N/AMTE#62	94603113	7/9/2007	$1,618	7880Z

2047	M&TE	N/A	OA	Torque Wrench	Proto	J6020AB/MTE#03	WBMN/A6461	(blank)	$500	7880Z
2269	M&TE	N/A	OA	Calibration Weights	Troemner	MTEN/A36	50530	4/15/2003	$629	7880Z
2270	M&TE	N/A	OA	Megohmmeter	Avo	MJ559N/A-MTE#26	6410-867/020202/2105	8/21/2003	$1,155	OFFSITE
2271	M&TE	N/A	OA	Megohmeter	Avo	MJ559N/A-N/AMTE#27	6410-867/020602/2167	8/21/2003	$1,155	7880Z
2272	M&TE	N/A	OA	Digital-Micro Ohmmeter	Chauvin-Acnoux	5600N/A-N/AMTE#28	05M40321DV	8/21/2003	$2,667	7880Z
2273	M&TE	N/A	OA	Torque Wrench	Proto	J6141FN/A-N/AMTE#100-1000-1	806900	(blank)	$500	7880Z
2275	M&TE	N/A	OA	Moisture Analyzer	Sartorius	MA-45N/A-N/AMTE#35	14506381	12/30/2002	$2,599	7880U#7
2276	M&TE	N/A	OA	Moisture Analyzer	Sartorius	MA-45N/A-N/AMTE#38	15708077	12/1/2003	$2,599	7880U#7
2278	M&TE	N/A	OA	Pressure Module	Fluke	700PD2N/A-N/AMTE#29	83854203	8/21/2003	$1,073	7880
2279	M&TE	N/A	OA	Electronic Manometer	AirN/AMonitorN/ACorp	ATE-100N/A-N/AMTE#40N/AandN/A#41	AQS-24927/9248	12/10/2003	$2,255	7880Z
2280	M&TE	N/A	OA	Micromanometer, Electronic	AirN/AData	ADM-860CN/A-N/AMTE#53	M05616	9/28/2005	$3,020	OFFSITE
2282	M&TE	N/A	OA	Documenting Process Calibrator	Fluke	741BN/A-N/AMTEN/A#N/A20	8188006	8/16/2003	$2,995	7880
2286	M&TE	N/A	OA	Scale, Floor	MettlerN/AToledo	2256-202012-AN/A-N/AWIPP-002	1120294-1DE	4/25/2005	$2,172	7880
2288	M&TE	N/A	OA	Pressure Module	Fluke	700P07N/A-N/AMTE#24	84100702	7/24/2003	$995	7880
2289	M&TE	N/A	OA	Pressure Module	Fluke	700P29N/A-N/AMTE#30	81652905	8/21/2003	$1,661	7880
2297	M&TE	N/A	OA	Pressure Module	Fluke	700PD3N/A-N/AMTE#58	92554302	11/15/2006	$1,209	7880Z
2298	M&TE	N/A	OA	Analyzer, Power Quality	Fluke	435N/A-N/AMTE#61	DMN/A9311060	(blank)	$6,300	7880
3081	M&TE	N/A	OA	Scale, Floor	MettlerN/AToledo	2158002065AN/A-N/AWIPP-117	1159988-1FK	6/19/2008	$8,182	7880BB
3516	M&TE	N/A	OA	Torque Wrench - 1" Drive	CDI	20005MFMHSSN/A-N/AMTE#101	1009124755	11/19/2009	$2,345	7880Z
3517	M&TE	N/A	OA	Scale, Crane, Dynamometer	Dillon	EDJR-10TN/A-N/AMTE#102	DEDJ1600482	11/23/2009	$2,684	7880Z
3539	M&TE	N/A	OA	Scale, Load Sensing Shackle	STRAINSERT	RCP-0.875-BN/A-N/AWIPP-136N/A-PLN-D2	Q20088-1;N/A1251	11/17/2009	$990	7880Z
3558	M&TE	N/A	OA	Pneumatic Calibrator	Wallace-Tiernan	FUXD48821N/AWT65-120N/A-N/AMTE#110	1011248	4/28/2010	$5,085	7880Z
0000003749	M&TE	N/A	OA	Scale, Bench	Mettler-Toledo	ML54/03N/A-N/AWIPP-165	B305021382	2/20/2013	$1,938	7880
7044	M&TE	N/A	OA	Thermometer, Infrared	Fluke	566N/A-N/AMTE#135	14270023	12/6/2010	$642	MAINT
0000007328	M&TE	N/A	OA	Loop Calibrator	AltekN/AIndustries	334AN/A-N/AMTE#184	2422003	6/20/2013	$1,208	7880Z
0000007329	M&TE	N/A	OA	Loop Calibrator	AltekN/AIndustries	334AN/A-N/AMTE#185	2419001	(blank)	$1,208	7880Z
0000007330	M&TE	N/A	OA	Scale, Dynamometer	Tractel	LLX2N/A-N/AWIPP-167	1101001TB	4/1/2013	$3,010	7880Z
0000007331	M&TE	N/A	OA	Scale, Dynamometer	Tractel	LLX2N/A-N/AWIPP-166	1003001TB	(blank)	$3,010	7880Z
0000007333	M&TE	N/A	OA	Anemometer	VilociCalc	5725	T57251317005	5/16/2013	$765	7880Z
0000007334	M&TE	N/A	OA	Anemometer	VilociCalc	5725	T57251317004	(blank)	$765	7880Z
Cannot tag	M&TE	N/A	OA	Weight, 250#	N/A	Wipp-116	3914	(blank)	$750	7880A

0000004031	ME	N/A	OA	Cordless Band Saw Kit	Makita	BPB180	N/A	9/25/2013	$554	7880QQ
0000004032	ME	N/A	OA	Cordless Band Saw Kit	Makita	BPB180	N/A	9/25/2013	$554	7880QQ
0000004033	ME	N/A	OA	Cordless Band Saw Kit	Makita	BPB180	N/A	9/25/2013	$554	7880QQ
0000004277	ME	N/A	H	Camera, Infrared	FLIR	T640N/A-N/AMTE#176	55903962	8/13/2013	$25,464	7880QQ
1146	ME-E	N/A	OA	Pressure Module, +/- 1 psig	Fluke	700PD2N/A-N/AMTE#81	95104202	9/10/2007	$1,154	7880
1188	ME-E	N/A	OA	4 Drawer Workbench Storage	Jobox	676990R1	N/A	1/8/2008	$925	7880QQ
1588	ME-E	N/A	OA	Computer, Desktop	Dell	OptiflexN/A745	8KJ7DC1	1/11/2007	$1,735	7880QQ
1638	ME-E	N/A	OA	Camera, Thermal Imaging	FLIR	ThermacamN/ASD	278006901	6/13/2007	$6,750	MAINTOFF
0000001793	ME-E	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	6CH47D1	7/12/2007	$1,330	7880QQ
2079	ME-E	N/A	OA	Gangbox (JoBox) - Misc Fastene	Jobox	N/A	N/A	1/1/2002	$500	7880QQ
2082	ME-E	N/A	OA	Electric Pipe Bender	GreenLeeN/ATextro	N/A	N/A	1/1/2002	$500	7880QQ
2083	ME-E	N/A	OA	Mechanical Bender	N/A	N/A	N/A	1/1/2002	$500	7880QQ
2085	ME-E	N/A	OA	Hydrolic Punch Driver Kit	N/A	7310SB	N/A	(blank)	$1,000	MAINTSHP
0000002292	ME-E	N/A	OA	Multimeter, True RMS	Fluke	87V	92620131	(blank)	$539	7880B
0000002294	ME-E	N/A	OA	Multimeter, True RMS	Fluke	87V	92620352	(blank)	$539	7880QQ
3150	ME-E	N/A	OA	Air Conditioner	N/A	PDH15K55D-C	N/A	10/6/2008	$913	7880QQ
3158	ME-E	N/A	OA	Circuit Tracer	SureN/ATestN/A/N/AIDEAL	RC-954	1118378	6/16/2011	$583	MAINT
3160	ME-E	N/A	OA	Pipe Threading Machine	RidgidN/ATool	2"N/A300N/ACompact	EAF047N/A0708	10/22/2008	$4,878	7880QQ
3382	ME-E	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH176	7/1/2009	$517	7880B
0000003386	ME-E	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJQA625	8/29/2008	$517	7880
3404	ME-E	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7820	7/1/2009	$517	7880
3415	ME-E	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKCM609	7/1/2009	$517	
3417	ME-E	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYJ977	1/16/2008	$517	MAINT
3568	ME-E	N/A	OA	Benchtop Bath	Fluke	7320-16	-20CBO4559	4/14/2010	$8,295	MAINTCNX
0000003643	ME-E	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPM0329	(blank)	$517	7880B
0000003657	ME-E	N/A	OA	Loop Calibrator	Fluke	707N/A-N/AMTE#173	2451034	7/15/2013	$831	7880B
0000003658	ME-E	N/A	OA	Loop Calibrator	Fluke	707N/A-N/AMTE#174	2451035	(blank)	$831	7880B
0000003659	ME-E	N/A	OA	Rolling Tool Cabinet	Westward	24112401	N/A	7/22/2013	$521	7880QQ
3695	ME-E	N/A	OA	Walk-Behind Mower	JohnN/ADeere	7H19N/AHydro	TC7H19C050045	7/15/2009	$4,938	MOBILE
3724	ME-E	N/A	OA	Generator	Honda	EB5000XK2A	EAKC-1044928	6/17/2010	$1,880	OILCNX
0000003746	ME-E	N/A	OA	Air Meter	Fluke	975N/A-N/AMTE#187	1882004	2/14/2013	$2,880	7880QQ
3777	ME-E	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJJ6139	5/19/2008	$517	7880B
3791	ME-E	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYZ615	1/30/2008	$517	MAINT
3807	ME-E	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJQA628	8/29/2008	$517	MAINT

0000004010	ME-E	N/A	OA	Multimeter, True RMS	Fluke	87VN/A-N/AMTE#182	25250203	7/15/2013	$437	7880QQ
0000004020	ME-E	N/A	OA	Multimeter, True RMS	Fluke	87VN/A-N/AMTE#178	25190350	7/15/2013	$437	7880Z
0000004021	ME-E	N/A	OA	Multimeter, True RMS	Fluke	87VN/A-N/AMTE#177	25190343	7/15/2013	$437	7880QQ
0000004022	ME-E	N/A	OA	Multimeter, True RMS	Fluke	87VN/A-N/AMTE#181	25190353	7/15/2013	$437	7880QQ
0000004034	ME-E	N/A	OA	Jobsite Cabinet 2-Door	N/A	60x30x60	N/A	9/25/2013	$3,940	7880QQ
0000004035	ME-E	N/A	OA	Trailer	P&TN/ATrailers	Utility	5JTAU1628DA046061	9/25/2013	$2,075	MOBILE
0000004036	ME-E	N/A	OA	Magnetic Floor Sweeper	Metal-KatcherN/ACo	MKS1	N/A	9/23/2013	$657	7880QQ
0000004038	ME-E	N/A	OA	Multimeter, True RMS	Fluke	87VN/A-N/AMTE#180	25190352	7/15/2013	$437	7880QQ
0000004039	ME-E	N/A	OA	Multimeter, True RMS	Fluke	87VN/A-N/AMTE#179	25190351	7/15/2013	$437	7880Z
0000004061	ME-E	N/A	OA	Rotary Hammer Drill	Hilti	TE-7-A	133709	(blank)	$0	7880QQ
0000004062	ME-E	N/A	OA	Rotary Hammer Drill	Hilti	TE-7-A	133961	(blank)	$0	7880QQ
0000004063	ME-E	N/A	OA	Rotary Hammer Drill	Hilti	TE-7-A	134008	(blank)	$0	7880QQ
0000004064	ME-E	N/A	OA	Rotary Hammer Drill	Hilti	TE-7-A	133366	(blank)	$0	7880QQ
0000004115	ME-E	N/A	OA	Mechanical Conduit Bender	Greenlee	1800	N/A	11/12/2013	$4,525	7880QQ
0000004118	ME-E	N/A	OA	Jobsite Cabinet	Knaack	TBD	N/A	11/4/2013	$3,940	7880QQ
0000004141	ME-E	N/A	OA	Cordless Band Saw Kit	Makita	BPB180	22473	12/30/2013	$554	7880QQ
0000004142	ME-E	N/A	OA	Fusion Splicer Kit	Fitel	S123CEX900V2	10461	12/23/2013	$5,934	7880QQ
0000004143	ME-E	N/A	OA	UniCam Connector Tool Kit	Corning	TKT-UNICAM-PFC	96327	12/23/2013	$1,558	7880QQ
0000004147	ME-E	N/A	OA	Tripod Stand, LED	LumaPro	24K354	N/A	2/5/2014	$502	7880QQ
0000004148	ME-E	N/A	OA	Tripod Stand, LED	LumaPro	24K354	N/A	2/5/2014	$502	7880QQ
0000004161	ME-E	N/A	OA	Centrifugal Pump, 1/2 HP	GouldsN/AWaterN/ATechnology	1MS1C4E4	N/A	4/7/2014	$860	7880QQ
0000004162	ME-E	N/A	OA	Centrifugal Pump, 1/2 HP	GouldsN/AWaterN/ATechnology	1MS1C4E4	N/A	4/7/2014	$860	7880QQ
0000004167	ME-E	N/A	OA	Lawn Mower - 22"	Husqvarna	HU800-AWD	041613M-045104	4/24/2014	$546	7880QQ
5118	ME-E	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	HCH47D1	7/12/2007	$1,330	7880QQ

7037	ME-E	N/A	OA	Rotary Hammer	N/A	TEN/A30-C-AVR	02-0057744-JM-10	11/3/2010	$638	127
7038	ME-E	N/A	OA	Rotary Hammer	N/A	TEN/A30-C-AVR	02-0057736-JM-10	11/3/2010	$638	127
7039	ME-E	N/A	OA	Combihammer	Hilti	TEN/A70-ATC	05-0091034-KM-10	11/3/2010	$1,555	OILCNX
7040	ME-E	N/A	OA	Workbench, 4 Drawer	N/A	4-drawer	TDELR5296451	12/9/2010	$1,215	7880QQ
7041	ME-E	N/A	OA	Workbench, 4 Drawer	N/A	4-drawer	TDELR52964448	12/9/2010	$1,215	7880QQ
7042	ME-E	N/A	OA	Workbench, 4 Drawer	N/A	4-drawer	TOELRS2964458	12/9/2010	$1,215	7880QQ
7043	ME-E	N/A	OA	Workbench, 4 Drawer	N/A	4-drawer	TDELR52964455	12/9/2010	$1,215	7880QQ
7049	ME-E	N/A	A	Smart Bender	N/A	855GX	84374883	1/2/2011	$13,430	7880QQ
7069	ME-E	N/A	OA	CPC Performance Package	N/A	TE-7-A	05-0098503-KM-10	11/10/2010	$1,483	HOT CELL
7132	ME-E	N/A	OA	Storage Cabinet	N/A	47.5N/ACUN/AFT	TDELR-55841763	5/23/2011	$1,384	7880NN
7138	ME-E	N/A	OA	Calibration Bath	Fluke	7340	B16347	4/12/2011	$8,866	MAINTCNX
7157	ME-E	N/A	OA	Manual Tire Changer	Ken-Tool	T601-38601	N/A	4/21/2011	$594	MAINTSHP
0000007187	ME-E	N/A	OA	Threading Machine	Rigid	1224	10516	4/25/2011	$9,059	MAINT
0000007189	ME-E	N/A	A	Conduit Bender	Greenlee	170482	N/A	4/25/2011	$16,414	7880QQ
0000007201	ME-E	N/A	OA	Multimeter, True RMS	Fluke	87VN/A-N/AMTE#155	18610327	5/16/2012	$539	7880B
0000007203	ME-E	N/A	OA	Multimeter, True RMS	Fluke	87VN/A-N/AMTE#157	18610326	11/3/2011	$539	MAINTSHP
0000007205	ME-E	N/A	A	Electric Chain Hoist	ColumbusN/AMcKinnion	ELM-1000S		12/1/2011	$44,051	193
0000007219	ME-E	N/A	OA	Portable Label Machine	Brady	TLS220	GHTLS1200911093	2/2/2012	$973	MAINTSHP
0000007240	ME-E	N/A	OA	Workbench, 4 Drawer	N/A	JOBOXN/A676990	N/A	3/9/2012	$1,501	7880QQ
0000007241	ME-E	N/A	OA	Workbench, 4 Drawer	N/A	JOBOXN/A676990	N/A	3/9/2012	$1,501	7880QQ
0000007242	ME-E	N/A	OA	Workbench, 4 Drawer	N/A	JOBOXN/A676990	N/A	3/9/2012	$1,501	7880QQ
0000007243	ME-E	N/A	OA	Workbench, 4 Drawer	N/A	JOBOXN/A676990	N/A	3/9/2012	$1,501	7880QQ
0000007320	ME-E	N/A	OA	Rolling Tool Cabinet	Westward	24112401	N/A	7/22/2013	$521	7880QQ
0000007321	ME-E	N/A	OA	Tricycle	WorksmanN/AMoverN/AIndustrial	M2626-3CB	N/A	6/13/2013	$1,300	MOBILE
0000007322	ME-E	N/A	OA	Tricycle	WorksmanN/AMoverN/AIndustrial	M2626-3CB	N/A	6/13/2013	$1,300	MOBILE
0000007323	ME-E	N/A	OA	Tricycle	WorksmanN/AMoverN/AIndustrial	M2626-3CB	N/A	6/13/2013	$1,300	MOBILE
0000007327	ME-E	N/A	OA	Hydraulic Hand Pump	Transcat	23614	244861	6/20/2013	$1,558	7880QQ
0000007335	ME-E	N/A	OA	Air Conditioning Unit	Friedrich	PDH15K5S-F	N/A	(blank)	$1,316	7880QQ
0000007336	ME-E	N/A	OA	Air Conditioning Unit	Friedrich	PDH15K5S-F	N/A	(blank)	$1,316	7880QQ

0000007344	ME-E	N/A	OA	Pneumatic Hand Pump	N/A	GEN/APV210	N/A	1/14/2013	$562	7880QQ
0000007353	ME-E	N/A	OA	Ladder, 20' Extension	N/A	20'	N/A	2/11/2013	$514	MOBILE
0000007354	ME-E	N/A	OA	Ladder, 12' Platform	Louisville	14'	N/A	2/11/2013	$598	MOBILE
0000007439	ME-E	N/A	OA	Stepladder, Platform 12'	Louisville	FP1112HD	N/A	7/30/2013	$639	7880QQ
0000007440	ME-E	N/A	OA	Pipe Stand	Rigid	92462	170517	9/20/2011	$739	MAINT
0000007447	ME-E	N/A	OA	Storage Unit - Lazy Susan	Durham	7W194	N/A	5/11/2010	$988	7880QQ
0000007448	ME-E	N/A	OA	Pipe Threader, Portable	RigidN/APowerN/APony	700	EE502091007	11/28/2007	$1,306	MAINTOFF
0000009123	ME-E	N/A	OA	Thermometer, Infrared	Fluke	66N/A-N/AMTE#137	15940222	(blank)	$538	7880Z
9136	ME-E	N/A	OA	Thermometer, Infrared	Fluke	66N/A-N/AMTE#138	16450081	4/20/2011	$538	MAINT
1074	ME-M	N/A	OA	20' sea land container	N/A	N/A	MAINTENANCE-1	(blank)	$3,600	UPLAYDWN
1076	ME-M	N/A	OA	20' sea land container	N/A	N/A	MAINTENANCE-2	(blank)	$3,600	LAYDWNYD
1100	ME-M	N/A	OA	Horizontal Bandsaw	N/A	9"	7073030	9/11/2007	$3,317	MAINTSHP
1129	ME-M	N/A	OA	Rolling Workbench / Storage	Jobox	N/A	N/A	9/20/2007	$925	MEZ
1247	ME-M	N/A	OA	Storage Chest, Heavy Duty	N/A	N/A	5099	12/6/2007	$1,057	7880QQ
1249	ME-M	N/A	OA	Portable Welder	N/A	200	LH170141L	12/10/2007	$2,799	MAINTSHP
1281	ME-M	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	2FH47D1	7/12/2007	$1,330	7880B
1691	ME-M	N/A	OA	40' Sea land container	N/A	SeaN/ALand	MAINT-26	(blank)	$5,000	7880QQ
1692	ME-M	N/A	OA	40' Sea land container	N/A	SeaN/ALand	MAINT-25	(blank)	$5,000	7880QQ
1743	ME-M	N/A	OA	Plasma Cutter	N/A	PowermaxN/A1650	1650-009991	4/19/2007	$3,875	MAINTSHP
1748	ME-M	N/A	OA	Vibralign Belt Hog Laser Tool	N/A	VIB-BELTHOG	13041	6/7/2007	$1,650	MAINTOFF
1754	ME-M	N/A	A	2 CH 2130 Machinery Analyzer	N/A	A2130A2-TU	131272000	6/25/2007	$17,898	MAINTOFF
1756	ME-M	N/A	OA	Speedvue Laser Speed Sensor	N/A	A0430L3	131168	6/25/2007	$1,649	MAINTOFF
1762	ME-M	N/A	OA	Belt Hog Pulley Alignment Tool	N/A	TDBeltHog1-0694	60756	6/7/2007	$1,650	MAINTOFF
1763	ME-M	N/A	OA	Confined Space Breathing Kit	N/A	54-01-30102N/ANC	30874	7/26/2007	$2,167	MAINTOFF
2041	ME-M	N/A	OA	Rigid Pipe Thread Machine	N/A	300-T2	ED78947J02	(blank)	$870	7880AA
2042	ME-M	N/A	OA	Gas Powered Air Compressor 5hp	N/A	4B220B	96968	(blank)	$695	CONNEX29
2045	ME-M	N/A	OA	End Prep Tool	N/A	SBE1010PLUS	1.04E+09	(blank)	$675	MAINTSHP
2048	ME-M	N/A	OA	Victor Tig Rig Set up	N/A	N/A	N/A	1/1/2002	$500	MAINTSHP
2050	ME-M	N/A	OA	Cutting Torch	N/A	N/A	N/A	1/1/2002	$500	MAINTCNX
2054	ME-M	N/A	OA	Tool Box (Armstrong) - Misc Ha	N/A	N/A	N/A	1/1/2002	$500	MAINTSHP
2059	ME-M	N/A	OA	Tool Box (Craftsman) - Misc Ha	N/A	N/A	N/A	1/1/2002	$500	MAINTSHP
2068	ME-M	N/A	OA	Tool Box (Kennedy) - Misc Dril	N/A	N/A	N/A	1/1/2002	$500	7880QQ
2070	ME-M	N/A	OA	Lazy Susan - Misc Swageloc and	N/A	N/A	N/A	1/1/2002	$500	7880QQ
2080	ME-M	N/A	OA	Gangbox (Knack) - Misc Fastene	N/A	N/A	N/A	1/1/2002	$500	MAINTSHP
2081	ME-M	N/A	OA	Gangbox (JoBox) - Misc Fastene	N/A	N/A	N/A	1/1/2002	$500	MAINTSHP
2088	ME-M	N/A	OA	O Ring Valcanizing Kit	N/A	1195	N/A	1/1/2002	$500	MEZ
2091	ME-M	N/A	OA	Micrometer Set	N/A	ST436AZRLZ	N/A	1/1/2002	$500	MAINTOFF
2092	ME-M	N/A	OA	Precision Measuring Tool	N/A	GT713677	N/A	1/1/2002	$500	MAINTOFF

2094	ME-M	N/A	OA	Sonic Scan	N/A	N/A	120019	1/1/2002	$500	MAINTOFF
2470	ME-M	N/A	OA	Heavy Duty Bench Grinder	N/A	8107W	X0703207039	8/22/2007	$638	7880QQ
2476	ME-M	N/A	OA	Magnetic-Base Drill	N/A	RotaBroach	3107105	8/23/2007	$995	MEZ
2481	ME-M	N/A	OA	Mig Welder	N/A	Millermatic350P	LH280366B	8/29/2007	$3,482	MAINTOFF
2486	ME-M	N/A	OA	Welding Attachment	N/A	AutoN/AFeed	LH290393V	8/29/2007	$967	MEZ
3062	ME-M	N/A	OA	Drum Pump	N/A	1DLL2	N/A	4/11/2008	$747	OILCNX
3075	ME-M	N/A	OA	20' sea land container	N/A	229E22G1	MAINTENANCE-3	6/11/2008	$3,650	LAYDWNYD
3076	ME-M	N/A	OA	20' sea land container	N/A	N/A	MAINTENANCE-4	6/11/2008	$3,650	LAYDWNYD
3110	ME-M	N/A	OA	Welder, Diesel	N/A	ProN/A300	LJ350120E	9/16/2008	$9,767	LAYDWNYD
3172	ME-M	N/A	OA	Solar Powered Radar Sign	N/A	TC-500S	SNTC500-100535	11/10/2008	$3,650	MOBILE
3173	ME-M	N/A	OA	Solar Powered Radar Sign	N/A	TC-500S	SNTC500-100536	11/10/2008	$3,650	MOBILE
3178	ME-M	N/A	OA	Pipe, Cable, Sonde Locator	N/A	SR-20	213-07625	2/3/2009	$2,352	MAINTOFF
3191	ME-M	N/A	OA	Portable Air Conditioner	N/A	LXN/A120	N/A	10/25/2006	$559	7880QQ
3240	ME-M	N/A	OA	Air Condtioner - Room	N/A	AEEN/A12DM	AS780026	2/13/2009	$569	7880GG
3242	ME-M	N/A	OA	Utility Cabinet	N/A	Jobox	N/A	3/25/2009	$1,446	3FLRROOF
3298	ME-M	N/A	A	Utility Vehicle	N/A	700	4XAHH68A692875121	6/18/2009	$15,670	MOBILE
3413	ME-M	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYZ600	1/30/2008	$517	MAINT
3470	ME-M	N/A	OA	Dock Leveler	N/A	EM-83-30	12393	6/18/2009	$1,520	30-TON
3471	ME-M	N/A	OA	Loading Dock Vehicle Restraint	N/A	MTL-100	12394	6/18/2009	$1,895	7880QQ
3478	ME-M	N/A	OA	Electronic Micrometer	N/A	733SFLZ-10	9199701	9/4/2009	$607	7880
3515	ME-M	N/A	OA	Electric Needle Gun System	N/A	401876	N/A	11/11/2009	$1,758	MAINTCNX
3518	ME-M	N/A	OA	Chain Hoist	N/A	623-PR-IT	807285	12/8/2009	$964	MAINTCNX
3540	ME-M	N/A	OA	Double Shift Cabinet Dark Gray	N/A	46-DS-248G	5ZH08	2/4/2010	$1,197	7880
3555	ME-M	N/A	OA	Utility Cabinet	N/A	698990	TDELR48898124	3/24/2010	$1,229	7880QQ
0000003598	ME-M	N/A	H	Force Torque Gauge	N/A	M3I	3524535	3/20/2013	$545	MAINTOFF
0000003599	ME-M	N/A	OA	Force Sensor	Mark-10	MR01-1000N/A-N/AMTE#167	3528742	3/20/2013	$595	MAINTOFF
0000003647	ME-M	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPM0356	(blank)	$517	MAINT
3683	ME-M	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLG977	7/1/2009	$517	7880
3692	ME-M	N/A	A	Tractor	N/A	3520	LV3520P514087	7/15/2009	$17,627	MOBILE
3693	ME-M	N/A	OA	Heavy Duty Broom	N/A	60	M060HDB018248	7/15/2009	$4,552	MOBILE
3694	ME-M	N/A	OA	Backhoe	N/A	485	LV0485X020346	7/15/2009	$7,812	MOBILE
3696	ME-M	N/A	OA	CP Loader	N/A	300CX	W0300CX035540	7/15/2009	$3,575	MOBILE
3697	ME-M	N/A	OA	AutoConnect Discharge Mower	N/A	72D	M072ADM010910	7/15/2009	$3,567	MOBILE
3712	ME-M	N/A	OA	Digital Camera	N/A	CoolpixN/AS6000	30046834	6/22/2010	$199	MAINTOFF
3718	ME-M	N/A	OA	Refrigerator	N/A	White	LTC-22350WH	7/30/2010	$871	7880QQ
0000003740	ME-M	N/A	OA	Foot Control, Wireless	N/A	N/A	N/A	3/27/2013	$763	7880QQ
3804	ME-M	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7785	(blank)	$517	7880AA
3888	ME-M	N/A	OA	5 Bushel Spreader	N/A	S-ATV-180-U	560716	1/26/2009	$871	MNTLAYDN
3940	ME-M	N/A	OA	Desk	N/A	60x30x29.5	N/A	8/3/2010	$507	7880QQ
3941	ME-M	N/A	OA	Desk	N/A	60x30x29.5	N/A	8/3/2010	$507	7880QQ
3942	ME-M	N/A	OA	Desk	N/A	60x30x29.5	N/A	8/3/2010	$507	7880QQ
3943	ME-M	N/A	OA	Desk	N/A	60x30x29.5	N/A	8/3/2010	$507	7880QQ
3944	ME-M	N/A	OA	Desk	N/A	60x30x29.5	N/A	8/3/2010	$507	7880QQ

3945	ME-M	N/A	OA	Utility Cabinet	N/A	698990	TDELR48898121	3/24/2010	$1,229	7880
3948	ME-M	N/A	OA	4 Drawer Workbench Storage	N/A	676990R1	N/A	1/8/2008	$925	7880-NST
0000004060	ME-M	N/A	OA	Rotary Hammer Drill	Hilti	TE-7-A	133702	9/30/2013	$0	7880QQ
0000004065	ME-M	N/A	OA	Rotary Hammer Drill	Hilti	TE-7-A	133591	(blank)	$0	7880QQ
0000004066	ME-M	N/A	OA	Rotary Hammer Drill	Hilti	TE-7-A	133698	(blank)	$0	7880QQ
5100	ME-M	N/A	OA	Mini-Weldmaster 115 vac motor	N/A	9173014	222187	2/10/2010	$1,999	7880QQ
5136	ME-M	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	JN90YF1	3/19/2008	$619	7880QQ
5397	ME-M	N/A	OA	Television, LCD/DVD Combo	N/A	19LV612U	938A21089U4300	4/21/2010	$250	7880QQ
5399	ME-M	N/A	OA	Rolling System - 8 Ton Capacit	N/A	KR5-8-4S	09050950-09050953	5/14/2010	$1,094	MAINTCNX
5400	ME-M	N/A	OA	Horizontal Life Line	N/A	7600510	9.8200015666e+014	5/11/2010	$768	ROOF
5421	ME-M	N/A	OA	Horizontal Life Line	N/A	7600510	9.8200015666e+014	5/11/2010	$768	ROOF
5422	ME-M	N/A	OA	Hydpuncher	N/A	7506	160531	5/20/2010	$5,034	7880QQ
0000007007	ME-M	N/A	OA	Standard Cabinet Dark Gray	N/A	36-244G	4UZ08	2/4/2010	$892	7880QQ
0000007008	ME-M	N/A	OA	Standard Cabinet Dark Gray	N/A	36-244G	4UZ08	2/4/2010	$892	7880QQ
7018	ME-M	N/A	OA	Jobox	N/A	1-689990	N/A	4/4/2011	$1,322	7880QQ
7024	ME-M	N/A	OA	Gas Cylinder Rack	N/A	N/A	N/A	11/23/2010	$625	7880QQ
7030	ME-M	N/A	A	Ironworkers Machine	N/A	N/A	T961FF0109	8/13/2010	$17,390	7880QQ
7032	ME-M	N/A	OA	Cutter Bender	N/A	N/A	N/A	9/10/2010	$675	MAINTCNX
7047	ME-M	N/A	OA	Cordless Blind Rivet Tool	N/A	Accubird	9100245	12/22/2010	$837	MEZ
7048	ME-M	N/A	OA	Jobox	N/A	60x31x50	84374883	1/18/2011	$1,115	7880QQ
7058	ME-M	N/A	OA	Stud Welder	N/A	ARW-TR450-U	N/A	2/28/2011	$3,500	MAINTCNX
7080	ME-M	N/A	OA	Work Bench, 6-Drawer	N/A	6N/ADrawer	N/A	9/29/2010	$1,616	7880QQ
7081	ME-M	N/A	OA	Pnuematic Positioner	N/A	N/A	100730-011	9/30/2010	$870	AHU-005
7082	ME-M	N/A	OA	Pnuematic Positioner	N/A	N/A	100729-018	9/30/2010	$870	MAINTOFF
7088	ME-M	N/A	OA	24" Brake	N/A	N/A	26211	10/6/2010	$1,860	7880QQ
7089	ME-M	N/A	OA	Open End Brake	N/A	N/A	N/A	10/6/2010	$1,530	7880QQ
0000007182	ME-M	N/A	A	Jet Engine Lathe	N/A	GH-1640	110710ZX2335	4/25/2011	$18,624	7880QQ
0000007183	ME-M	N/A	OA	Bushog Mower	N/A	PittsburgN/A-N/A60"	233LG0400L7905	8/14/2011	$1,075	LAYDWNYD
0000007184	ME-M	N/A	A	Table Mill	Bridgeport	TypeN/A150	HDNGN/A4558	8/18/2011	$16,995	7880QQ
0000007185	ME-M	N/A	OA	Economy Floor Mounted Press	McMaster	23795A21	N/A	8/31/2011	$910	7880QQ
0000007186	ME-M	N/A	A	Diesel Generator Set	Cummins	35N/AkwN/AStandbyN/A60N/Ahz	I1N/A10244748	6/29/2011	$27,631	7880PP
0000007195	ME-M	N/A	OA	Rotary Hammer and Bits	N/A	TE-30N/A3476290	02-00065558-FN-11	10/17/2011	$585	7880B
0000007197	ME-M	N/A	A	Kaeser Compressor	N/A	N/A	SK-15	9/15/2011	$10,797	7880QQ
0000007206	ME-M	N/A	A	Electric Chain Hoist	ColumbusN/AMcKinnion	ELM-0300S		6/15/2011	$25,357	CPE

00000072 10	ME-M	N/A	OA	B&W Camera	Toshiba	IK-M41R2	70633302	11/8/2011	$1,500	MAINTOFF
00000072 11	ME-M	N/A	OA	B&W Camera	Toshiba	IK-M41R2	64631161	11/8/2011	$1,500	MAINTOFF
00000072 12	ME-M	N/A	OA	B&W Camera	Toshiba	IK-M41R2	74632133	11/8/2011	$1,500	MAINTOFF
00000072 13	ME-M	N/A	OA	B&W Camera	Toshiba	IK-M41R2	64631231	11/8/2011	$1,500	MAINTOFF
00000072 14	ME-M	N/A	OA	B&W Camera	Toshiba	IK-M41R2	70633305	11/8/2011	$1,500	MAINTOFF
00000072 15	ME-M	N/A	OA	B&W Camera	N/A	IK-M41R2	74730674	11/8/2011	$1,500	MAINTOFF
00000072 18	ME-M	N/A	OA	Portable Label Machine	Brady	TLS2200	GHTLS1200911091	2/2/2012	$973	MAINTSHP
00000072 81	ME-M	N/A	OA	Tricycle	N/A	2701T18	N/A	2/6/2013	$827	7880QQ
00000072 82	ME-M	N/A	OA	Tricycle	N/A	2701T18	N/A	2/6/2013	$827	7880QQ
00000072 83	ME-M	N/A	OA	Tricycle	N/A	2701T18	N/A	2/6/2013	$827	7880QQ
00000072 87	ME-M	N/A	OA	15" Floor Drill Press	Jet	J-2500	N/A	(blank)	$679	7880QQ
00000072 93	ME-M	N/A	A	Bending & Brake Machine	ChicagoN/ADriesN/A&N/AKrump N/AMfg.N/ACo.	HBPUN/A810-6	330140T	6/11/2012	$25,800	7880QQ
00000072 98	ME-M	N/A	OA	Storage Cabinet	Jobox	1-698990	N/A	(blank)	$1,852	7880QQ
00000073 12	ME-M	N/A	OA	Bandsaw	N/A	241-09514662	N/A	(blank)	$7,850	7880QQ
00000073 24	ME-M	N/A	OA	Tig Welder	Dynasty	200N/ADX	MD220317L	7/1/2013	$4,401	7880QQ
00000073 25	ME-M	N/A	OA	Electronic Welding Oven	Dryrod	IIN/A1205531	N/A	7/1/2013	$1,041	7880QQ
00000073 55	ME-M	N/A	OA	PaR Manipulator Test Stand	N/A	N/A	N/A	1/15/2013	$3,900	7880QQ
00000073 59	ME-M	N/A	OA	Force Gauge, Digital	Nidec-Shimpo	FGE-500HXN/A-N/AMTE#166	Z9813J533	3/18/2013	$800	7880
00000074 10	ME-M	N/A	OA	Stud Gun	N/A	TR-450	N/A	1/29/2013	$4,769	CONNEX2
00000074 11	ME-M	N/A	OA	Digital Ultrasonic Inspection	N/A	UPN/A9000-KT		11/29/2012	$7,554	MAINTOFF
00000074 12	ME-M	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH221	7/1/2009	$517	7880KK
00000074 45	ME-M	N/A	OA	Knack Job Box	Knack	90	1235515610	(blank)	$1,750	7880QQ
00000091 60	ME-M	N/A	OA	Printer, 3D	N/A	3DN/ATouch,N/ABDFN/A401088	N/A	10/25/2012	$3,930	MEZ
9427	ME-M	N/A	OA	Cell Phone	N/A	LG-VX5600	865-816-0019	(blank)	$100	7880B

1104	OE	N/A	OA	20' sea land container	N/A	N/A	OPS-04	(blank)	$3,600	DAC
1107	OE	N/A	OA	20' sea land container	N/A	N/A	OPS-08	(blank)	$3,600	SSA
1108	OE	N/A	OA	20' sea land container	N/A	N/A	OPS-07	(blank)	$3,600	DAC
1109	OE	N/A	OA	20' sea land container	N/A	N/A	OPS-06	(blank)	$3,600	DAC
1110	OE	N/A	OA	20' sea land container	N/A	N/A	OPS-05	(blank)	$3,600	DAC
1123	OE	N/A	OA	20' sea land container	N/A	N/A	TRDU7163750	9/11/2007	$3,725	DAC
1124	OE	N/A	OA	20' sea land container	N/A	N/A	TRDU7163853	9/11/2007	$3,725	DAC
1125	OE	N/A	OA	20' sea land container	N/A	N/A	TRDU7162902	9/11/2007	$3,725	DAC
1126	OE	N/A	OA	20' sea land container	N/A	N/A	TRDU7163350	9/11/2007	$3,725	DAC
1151	OE	N/A	OA	Spill Kit, 95 gallon wheeled	N/A	N/A	N/A	10/23/2007	$591	30-TON
1169	OE	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	137
1175	OE	N/A	OA	Spill Kit, 95 gallon wheeled	N/A	N/A	N/A	11/26/2007	$530	LAYDWNYD
1176	OE	N/A	OA	Spill Kit, 95 gallon wheeled	N/A	N/A	N/A	11/26/2007	$530	LAYDWNYD
1193	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THUZ513	1/16/2008	$517	7880MM
1207	OE	N/A	OA	Pallet Jack - 16	LiftN/ARite	L80	4543799-08	1/31/2007	$911	7880A
1209	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYK436	1/30/2008	$517	7880B
1220	OE	N/A	OA	6-unit battery charger	N/A	WPLN-4171AR	N/A	2/14/2008	$525	CNTRLPT
1221	OE	N/A	OA	Pallet Jack - 17	LiftN/ARite	L80	4543794-08	1/31/2008	$911	BBA
1234	OE	N/A	OA	6-unit battery charger	N/A	WPLN-4171AR	N/A	2/14/2008	$525	CNTRLPT
1235	OE	N/A	A	Utility Vehicle	N/A	RangerN/A4x4	4XARH68A182377640	2/19/2008	$13,999	7880B
1236	OE	710	A	Forklift - FKLT-004	Toyota	7FDU60	70054	12/3/2007	$56,454	MOBILE
1237	OE	N/A	OA	Side Grip Drum Mover	N/A	6145	1007	3/3/2008	$593	7880BB
1480	OE	N/A	A	25' x 10' Sea land container	N/A	SeaN/ALand	N/A	(blank)	$12,500	DAC A-2
1639	OE	N/A	OA	Pallet Jack - 11	PalletN/AMule	60-58-10M	5Y0706S	3/27/2007	$2,213	7880
1650	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/18/2007	$529	7880BB
1651	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	6/18/2007	$529	7880BB
1652	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	6/18/2007	$529	7880BB
1653	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	6/18/2007	$529	7880BB
1654	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	6/18/2007	$529	7880BB
1655	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	6/18/2007	$529	SSA
1656	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	6/18/2007	$529	7880BB
1657	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	6/18/2007	$529	7880A
1658	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	6/18/2007	$529	7880BB
1659	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	6/18/2007	$529	7880BB
1660	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	6/18/2007	$529	DAC
1661	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	6/18/2007	$529	236
1681	OE	N/A	OA	Telephone, Conference	N/A	2200-16200N/A#601	H80703021886092099	7/31/2007	$520	CNTRLPT
1682	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	8/2/2007	$529	7880BB
1683	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	8/2/2007	$529	7880BB
1684	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	8/2/2007	$529	7880BB
1685	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	8/2/2007	$529	7880BB
1686	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	8/2/2007	$529	DAC
1687	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	8/2/2007	$529	DAC
1688	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	8/2/2007	$529	DAC
1716	OE	N/A	OA	Utility Cabinet	N/A	694990	N/A	3/14/2007	$948	7880HH
1728	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	3/29/2007	$597	DAC
1729	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	3/29/2007	$597	7880BB

1730	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	3/29/2007	$597	7880A
1731	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	3/29/2007	$597	30-TON
1732	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	3/29/2007	$597	7880BB
1733	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	3/29/2007	$597	30-TON
1735	OE	N/A	OA	20' sea land container	N/A	SeaN/ALand	056302N/A011	(blank)	$3,600	DAC C-8
1765	OE	N/A	OA	Hydraulic Raise-n-Roll Dolly	N/A	RNR-6	177483	8/6/2007	$695	7880A
2195	OE	670	A	Outer-Outer Airlock BBA Enclos	N/A	N/A	N/A	1/15/2007	$96,350	7880
2219	OE	N/A	OA	Forklift dump hopper	N/A	HD-100-MD	N/A	(blank)	$550	PD1-11
2246	OE	N/A	OA	Drum Grab -01	N/A	DJ-55	483798	3/17/2005	$543	7880BB
2248	OE	N/A	OA	Loading Ramp (Alum)	N/A	BTA-05006048	N/A	(blank)	$500	7880BB
2284	OE	N/A	OA	Scale, Crane, Dynamometer	DynaN/ALink	MSI-7200RFN/A-N/ANTS-002	73618	4/29/2003	$2,095	30-TON
0000002295	OE	N/A	OA	Multimeter, True RMS	Fluke	87V	92600147	(blank)	$539	7880B
2301	OE	N/A	OA	Port Adj Height Stairs	N/A	HTT9-13	453	3/1/2003	$4,937	LAYDWNYD
2302	OE	N/A	OA	Job Box Storage Transp	N/A	680990	N/A	9/17/2003	$500	30-TON
2304	OE	N/A	OA	Flammable Stoage Locker - Sm	N/A	N/A	N/A	(blank)	$600	30-TON
2306	OE	N/A	OA	Drum Grip -01	N/A	6145	205	3/15/2005	$565	SSA
2309	OE	N/A	OA	Flammable Stoage Locker - Lrg	N/A	N/A	N/A	(blank)	$1,000	7880QQ
2312	OE	N/A	OA	Loading Ramp (Alum)	N/A	BTA-05006048	N/A	(blank)	$500	7880BB
2313	OE	N/A	OA	Tool Box (10 drawer with tools	N/A	N/A	N/A	(blank)	$500	7880A
2323	OE	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	137
2326	OE	N/A	OA	Drum Lift Table -03	N/A	A-500	L209749	(blank)	$476	231
2327	OE	N/A	OA	Storage Locker w/ wrkstn - 3'	N/A	N/A	N/A	12/1/2005	$500	231
2330	OE	N/A	OA	Video select & control	N/A	KBDN/A300A	0212721-0044	(blank)	$500	231
2334	OE	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	231
2335	OE	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	7880JJ
2337	OE	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	231
2338	OE	N/A	OA	Rollaround Desk	N/A	N/A	N/A	(blank)	$500	BBA
2343	OE	N/A	OA	Camera - TV Zoom Lens - 5-50 m	N/A	CL-550	N/A	(blank)	$400	CNTRLPT
2348	OE	N/A	OA	VHS Panasonic	N/A	PU94055	E9IA94301	(blank)	$250	7880VMC
2350	OE	N/A	OA	DVD Recorder	N/A	DMRES20	DP5JG013836	(blank)	$125	231
2351	OE	N/A	OA	DVD Recorder	N/A	DMRES20	DN5KH002311	(blank)	$125	231
2357	OE	N/A	OA	VHS Panasonic	N/A	9U94055	C12A19866	(blank)	$250	7880VMC
2359	OE	N/A	OA	DVD Recorder	N/A	EWR10W6	D39531666B	(blank)	$125	CNTRLPT
2360	OE	N/A	OA	DVD Recorder	N/A	EWR10W6	D616368HB	(blank)	$125	CNTRLPT
2363	OE	N/A	OA	Tool Box (7 drawer with tools	N/A	J4410	N/A	(blank)	$500	231
2364	OE	N/A	OA	Drum Lift -01	N/A	6205-115	206631	(blank)	$500	231
2373	OE	N/A	OA	Pallet Jack - 07	N/A	48-27-5000AA2.9	N/A	1/1/2006	$587	141
2385	OE	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	135
2388	OE	N/A	OA	Storage Locker - 7'	N/A	N/A	N/A	(blank)	$500	136
2389	OE	N/A	OA	Filing Cabinet - TRU-011 W	N/A	N/A	N/A	(blank)	$500	122
2392	OE	N/A	OA	Work Bench 6'	N/A	N/A	N/A	(blank)	$500	123
2393	OE	N/A	OA	Work Bench 6'	N/A	N/A	N/A	(blank)	$500	122
2394	OE	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	123
2395	OE	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	137W
2397	OE	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	137W
2398	OE	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	137W

2399	OE	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	137W
2400	OE	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	137W
2402	OE	N/A	OA	Work table 6'	N/A	N/A	N/A	(blank)	$500	231
2406	OE	N/A	OA	Flammable Stoage Locker - Lrg	N/A	RM0-5365	N/A	2/1/2006	$535	CNTRLPT
2408	OE	N/A	OA	Tool Box (5 drawer with tools)	N/A	N/A	N/A	(blank)	$500	CNTRLPT
2411	OE	N/A	OA	Magnetic stir plate	N/A	SP46925	1.07E+12	(blank)	$500	CNTRLPT
2430	OE	N/A	OA	Radio Charging Station	N/A	A19920	2.48E+09	(blank)	$500	PREJOB1
2431	OE	N/A	OA	Radio Charging Station	N/A	A19920	2.48E+09	(blank)	$500	CNTRLPT
2434	OE	N/A	OA	Fans 3' Portable	N/A	3F310E	N/A	(blank)	$500	7880A
2435	OE	N/A	OA	Fans 3' Portable	N/A	3F310E	N/A	(blank)	$500	7880A
2436	OE	N/A	OA	Tandemlift	N/A	72105	11057	(blank)	$3,800	LAYDWNYD
2461	OE	N/A	OA	Highlift	N/A	SLA-20	sla06-35460	10/1/2006	$2,076	EASTANX
2471	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	8/2/2007	$529	7880A
2472	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	8/2/2007	$529	7880BB
2473	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	8/2/2007	$529	LAYDWNYD
2474	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	8/2/2007	$529	7880A
2475	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	8/2/2007	$529	7880A
2487	OE	N/A	OA	Rapid Rate Charger	N/A	6-Unit	N/A	8/23/2007	$525	7880B
2488	OE	N/A	OA	Rapid Rate Charger	N/A	6-Unit	N/A	8/23/2007	$525	7880B
2497	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THQT826	8/23/2007	$517	7880
3010	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3011	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3012	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3013	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3014	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3015	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3016	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3017	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3018	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3019	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3020	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3021	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3022	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3023	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3024	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3025	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3026	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3027	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3028	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3029	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3030	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3031	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3032	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3033	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3034	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3035	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3036	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB

3037	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3038	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3039	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3040	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3041	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3042	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3043	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3044	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3045	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3046	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3047	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3048	OE	N/A	OA	Pallet, Spill Containment	N/A	K17-3103	N/A	1/10/2008	$529	7880BB
3059	OE	N/A	OA	Pallet Jack - 18	N/A	4YX96	N/A	4/8/2008	$557	7880BB
3066	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJJ5994	5/19/2008	$517	7880Y
3067	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJJ5993	7/1/2009	$517	7880Y
3078	OE	N/A	OA	Ice Maker	N/A	F/M200A	N/A	6/12/2008	$1,722	7880B
3082	OE	N/A	OA	Loop Display	N/A	V565-0000-0	N/A	6/19/2008	$537	7880-3FL
3141	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJSP903	9/15/2008	$517	7880KK
3142	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJSP904	9/15/2008	$517	MAINT
3143	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJSP905	9/15/2008	$517	7880B
3144	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJSP906	9/15/2008	$517	7880KK
3145	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJSP907	9/15/2008	$517	7880RR
3146	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJSP908	9/15/2008	$517	7880XX
3152	OE	N/A	OA	Mass Flow Meter	N/A	DPTN/APlus	66889A	9/29/2008	$2,235	7880YY
3164	OE	N/A	OA	Rolling Work Platform, 7-Step	N/A	7WP3648RA	N/A	10/21/2008	$1,495	CRANEBAY
3165	OE	N/A	OA	Liftpod Manlift	N/A	20-5	S132808260023	10/10/2008	$1,999	7880
3174	OE	N/A	OA	Airless Paint Sprayer	N/A	ProX7	N/A	12/29/2008	$549	OPSCNX
3220	OE	710	A	Forklift - FKLT-005	Hyster	H360HP	F019E02342D	11/19/2008	$93,701	MOBILE
3229	OE	N/A	OA	Refrigerator	Frigidaire	FRU17B2JW	WA91701207	5/12/2009	$548	7880B
3241	OE	N/A	OA	Lift Table - 1500lb	N/A	XPN/A24-15	N/A	3/9/2009	$1,846	LAYDWNYD
3264	OE	N/A	OA	Pallet Jack - 19	N/A	2TUR7	09051081-1/311	7/28/2009	$584	231
3268	OE	N/A	OA	Ladder, With handrails - 5 ft	N/A	A6R2630A3B3	N/A	7/24/2009	$695	SSA
3269	OE	N/A	OA	Drum Tilter	N/A	185A-HD	609	8/14/2009	$841	7880
3270	OE	N/A	OA	Storage Chest	N/A	90	831612865	5/11/2009	$1,096	7880JJ
3276	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK189	5/4/2009	$517	7880RR
3279	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK193	5/4/2009	$517	7880B
3290	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK259	5/4/2009	$517	7880B
3291	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK260	5/4/2009	$517	7880B
3292	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK263	5/4/2009	$517	7880B
3295	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK268	5/4/2009	$517	7880KK
3301	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK195	5/4/2009	$514	7880
3304	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK204	5/4/2009	$517	7880Y
3307	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK256	5/4/2009	$517	7880B
3308	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK257	5/4/2009	$517	MAINT
3310	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKJ0855	7/1/2009	$517	7880KK
3312	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH213	7/1/2009	$517	193
3321	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH025	7/1/2009	$517	7880

3325	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH207	7/1/2009	$517	7880RR
3328	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH035	1/1/2001	$517	7880
3336	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH030	7/1/2009	$517	7880
3337	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH177	7/1/2009	$517	7880Z
3339	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLG870	7/1/2009	$517	7880Z
3381	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7726	5/4/2009	$517	7880
3383	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKCM617	7/1/2009	$517	7880B
3401	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7619	1/16/2008	$517	7880KK
3402	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7676	5/4/2009	$517	7880KK
3403	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7772	5/4/2009	$517	7880B
3405	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THUZ368	11/19/2007	$517	7880
3406	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH071	7/1/2009	$517	7880
3408	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKM652	7/1/2009	$517	
3409	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THUZ519	7/1/2009	$517	7880RR
3410	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJQA617	8/29/2008	$517	7880KK
3411	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJQA613	8/29/2008	$517	7880B
3412	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THQP494	8/23/2007	$517	7880B
3416	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKJ0892	7/1/2009	$517	7880KK
3419	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7645	2/6/2007	$517	7880RR
3421	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH068	7/1/2009	$517	7880
3424	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH072	7/1/2009	$517	7880
3430	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH029	7/1/2009	$517	7880CC
3432	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLG929	7/1/2009	$517	7880KK
3435	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLG928	7/1/2009	$517	7880KK
3439	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLG915	7/1/2009	$517	7880KK
3441	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLG912	7/1/2009	$517	7880KK
3442	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLG910	7/1/2009	$517	7880UU
3446	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH147	7/1/2009	$517	7880B
3451	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH024	7/1/2009	$517	7880N
3453	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH132	7/1/2009	$517	7880MM
3460	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH127	7/1/2009	$517	7880
3463	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018tklh322	7/1/2009	$517	7880FF
3466	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH174	7/1/2009	$517	CNTRLRM
3477	OE	N/A	OA	Cryo Cylinder Cart (Dolly)	N/A	LCT-12-6	N/A	8/26/2009	$762	7880
3491	OE	N/A	OA	Pallet Jack - 21	N/A	4YX97	U219382902	9/22/2009	$666	BBA
3492	OE	N/A	OA	Pallet Jack - 20	N/A	4YX97	U507994008	9/22/2009	$666	231
3513	OE	N/A	OA	Remote Area Lighting System	N/A	9430	17126	11/3/2009	$598	MOBILE
3519	OE	N/A	OA	Cabinet Tower Flammable Liquid	N/A	1YNL6	N/A	12/8/2009	$736	231
3520	OE	N/A	OA	Lift Cart Assembly	N/A	T-GB-FW-D-ME-20	N/A	11/2/2009	$1,319	231
3521	OE	N/A	OA	Lift Cart Assembly	N/A	T-GB-FW-D-ME-20	N/A	11/2/2009	$1,319	231
3522	OE	N/A	OA	Digital Camera	N/A	SX20-IS	9023127426	12/7/2009	$404	7880B
3523	OE	N/A	OA	Drum Stackable Steel Pallet	N/A	PAKN/A125	N/A	10/28/2009	$903	7880BB
3524	OE	N/A	OA	Drum Stackable Steel Pallet	N/A	PAKN/A125	N/A	10/28/2009	$903	7880BB
3525	OE	N/A	OA	Drum Stackable Steel Pallet	N/A	PAKN/A125	N/A	10/28/2009	$903	7880BB
3526	OE	N/A	OA	Drum Stackable Steel Pallet	N/A	PAKN/A125	N/A	10/28/2009	$900	7880BB
3527	OE	N/A	OA	Drum Stackable Steel Pallet	N/A	PAKN/A125	N/A	10/28/2009	$900	7880BB

3528	OE	N/A	OA	Drum Stackable Steel Pallet	N/A	PAKN/A125	N/A	10/28/2009	$900	7880BB
3529	OE	N/A	OA	Drum Stackable Steel Pallet	N/A	PAKN/A125	N/A	10/28/2009	$900	7880BB
3530	OE	N/A	OA	Drum Stackable Steel Pallet	N/A	PAKN/A125	N/A	10/28/2009	$900	7880BB
3531	OE	N/A	OA	Drum Stackable Steel Pallet	N/A	PAKN/A125	N/A	10/28/2009	$900	7880BB
3532	OE	N/A	OA	Drum Stackable Steel Pallet	N/A	PAKN/A125	N/A	10/28/2009	$900	7880BB
3550	OE	N/A	OA	Remote Area Lighting System	N/A	9430	22595	3/16/2010	$598	7880
3551	OE	N/A	OA	Remote Area Lighting System	N/A	9430	22591	3/16/2010	$598	7880
3552	OE	N/A	OA	Drum Tilter	N/A	85/79N/AgallonN/Adr	MO-185S-GR	1/28/2010	$2,685	7880
3576	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLGM770	5/1/2010	$517	7880B
3577	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLGM755	5/1/2010	$517	7880B
3581	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLGM822	5/1/2010	$517	7880
3582	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLGM910	5/12/2010	$517	7880
3585	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLGM803	5/1/2010	$517	7880
3587	OE	N/A	OA	Chain Hoist - 1/2 ton 10'	N/A	750-000N/AModelN/AF	L1165UE	5/4/2010	$2,819	226
0000003601	OE	N/A	A	Forklift - FKLT-003	Toyota	7FBCU32	62539	11/19/2012	$35,098	MOBILE
0000003602	OE	N/A	A	Forklift - FKLT-001	Toyota	7FBCU20	65222	11/19/2012	$25,752	MOBILE
0000003603	OE	N/A	A	Forklift - FKLT-002	Toyota	7FBCU20	65256	11/19/2012	$25,752	MOBILE
0000003644	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPM0335	(blank)	$517	7880B
0000003645	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPM0314	(blank)	$517	7880JJ
0000003646	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPM0350	(blank)	$517	7880KK
0000003648	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPM0365	(blank)	$517	7880JJ
0000003649	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPM0366	(blank)	$517	7880CC
0000003656	OE	N/A	OA	Cooling Fan	Port-A-Cool	PAC1636SVT	N/A	7/24/2013	$1,200	7880B
3684	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLG981	7/1/2009	$517	7880
3685	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH170	7/1/2009	$517	7880B
3686	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH034	7/1/2009	$517	7880RR
3714	OE	N/A	OA	DVD Recorder	N/A	160GBN/AHDD	D06035845A	7/6/2010	$232	231
3725	OE	N/A	OA	Thermal Anemometer	Dwyer	SeriesN/A471	M&TEN/A120	6/3/2010	$734	7880
0000003756	OE	N/A	OA	Hydraulic Hand Truck	Dayton	4YX96G	N/A	8/2/2012	$686	7880BB
0000003757	OE	N/A	OA	Hydraulic Hand Truck	Dayton	4YX96G	N/A	8/2/2012	$686	DAC
0000003758	OE	N/A	OA	Hydraulic Hand Truck	Dayton	4YX96G	N/A	8/2/2012	$686	7880AA
0000003759	OE	N/A	OA	Hydraulic Hand Truck	Dayton	4YX96G	N/A	8/2/2012	$686	7880QQ
3761	OE	N/A	OA	Storage Cabinet	N/A	N/A	N/A	9/16/2010	$1,194	122
3762	OE	N/A	OA	Combination Cabinet	N/A	N/A	N/A	9/16/2010	$1,013	231

3771	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYK296	1/16/2008	$517	7880B
3772	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLG924	7/1/2009	$517	7880KK
3773	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYK008	1/16/2008	$517	7880L
3778	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKJ0864	7/1/2009	$517	7880NN
3779	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH180	7/1/2009	$517	7880
3780	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJSP909	9/15/2008	$517	7880KK
3781	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH028	7/1/2009	$517	7880
3782	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH323	7/1/2009	$517	7880KK
3783	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJJ5982	5/19/2008	$517	7880CC
3784	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH130	7/1/2009	$517	7880
3785	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJSP911	9/15/2008	$517	7880KK
3786	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THUZ521	1/16/2008	$517	CNTRLPT
3787	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH070	7/1/2009	$517	ROE-DVS
3788	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THE0884	5/7/2007	$517	7880RR
3789	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THUZ489	11/19/2007	$517	7880KK
3790	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYJ921	1/16/2008	$517	7880KK
3800	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJSP902	9/15/2008	$517	MAINT
3801	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH106	7/1/2009	$517	7880
3802	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKCM606	7/1/2009	$517	7880KK
3803	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THL4224	6/6/2007	$517	7880B
3805	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7638	(blank)	$510	7880B
3806	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJJ6142	5/19/2008	$517	7880KK
3808	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH217	7/1/2009	$517	7880RR
3809	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLG892	7/1/2009	$517	7880
3810	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THUZ378	11/19/2007	$517	7880
3811	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THL4349	6/6/2007	$517	7880Y
3814	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THQP503	8/23/2007	$517	7880KK
3815	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLG950	7/1/2009	$517	7880KK
3816	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THE0794	4/20/2007	$517	7880B
3817	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH205	7/1/2009	$517	7880B
3818	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7818	(blank)	$510	7880B
3819	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJQA590	8/29/2008	$517	7880B
3820	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYJ934	1/16/2008	$517	7880KK
3821	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7660	(blank)	$517	7880
3822	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THUZ372	11/19/2007	$517	7880KK
3825	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKJO951	7/1/2009	$517	7880KK
3826	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THLV966	8/23/2007	$517	7880RR
3827	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7781	(blank)	$517	7880KK
3828	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH145	7/1/2009	$517	7880KK
3829	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYK006	1/16/2008	$517	MAINT
3885	OE	N/A	OA	Trailer	N/A	WoodN/ADeck	N/A	(blank)	$1,500	LAYDWNYD
3890	OE	N/A	OA	Locker, 2-tier, 3 frame (1)	N/A	5JN42	N/A	3/5/2007	$523	7880B
3891	OE	N/A	OA	Locker, 2-tier, 3 frame (4)	N/A	5JN42	N/A	3/5/2007	$2,092	7880B
3892	OE	N/A	OA	Locker, 2-tier, 3 frame (1)	N/A	5JN42	N/A	3/5/2007	$523	7880B
3894	OE	N/A	A	Guard Fall Protection System	N/A	ClampN/AOn	N/A	9/24/2008	$11,416	7880A-EA
3896	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THQP500	8/23/2007	$517	7880B
3897	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH225	7/1/2009	$517	7880KK

3898	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLGM911	5/1/2010	$517	7880
3899	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THAF714	4/20/2007	$517	7880B
3900	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH173	7/1/2009	$517	7880N
3902	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKJ0894	7/1/2009	$517	7880KK
3904	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK190	5/4/2009	$517	7880KK
3905	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLG879	7/1/2009	$517	7880KK
3906	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH131	7/1/2009	$517	7880
3907	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKJ0893	7/1/2009	$517	7880
3908	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH175	7/1/2009	$517	7880RR
3921	OE	N/A	OA	Locker, 2-tier, 3 frame (2)	N/A	5JN42	N/A	3/5/2007	$1,046	7880B
3922	OE	N/A	OA	Locker, 2-tier, 3 frame (2)	N/A	5JN42	N/A	3/5/2007	$1,046	7880B
3923	OE	N/A	OA	Locker, 2-tier, 3 frame (8)	N/A	5JN42	N/A	3/5/2007	$4,184	7880B
3925	OE	N/A	A	Forklift - FKLT-006	Toyota	7FBCU32	63970	6/2/2009	$42,875	7880
3928	OE	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	137
3935	OE	N/A	OA	Mobile Workbench	N/A	72x36x34	N/A	6/15/2009	$740	7880A
3990	OE	N/A	OA	Remote Area Lighting System	N/A	9430	28490	11/2/2010	$598	7880
3991	OE	N/A	OA	Remote Area Lighting System	N/A	9430	17981	11/2/2010	$598	7880
3992	OE	N/A	OA	Remote Area Lighting System	N/A	9430	17984	11/2/2010	$598	7880
3993	OE	N/A	OA	Remote Area Lighting System	N/A	9430	17986	11/3/2009	$598	7880U
0000004000	OE	N/A	OA	Ice Maker	N/A	FranklinN/AChefN/AFIMN/A200	0810100671	8/24/2011	$2,665	7880
0000004002	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLGM785	5/1/2010	$517	7880KK
0000004015	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPNW427	8/6/2013	$517	7880FF
0000004016	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPNW478	(blank)	$517	7880FF
0000004017	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPNW635	(blank)	$517	7880M
0000004018	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPNW636	(blank)	$517	7880KK
0000004019	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPNW652	(blank)	$517	7880B
0000004037	OE	N/A	OA	Ladder, Rolling Platform	N/A	9'9"N/APlatform,N/A13N/ASteps	N/A	6/10/2013	$2,130	7880
0000004117	OE	N/A	OA	DVD Player	Sony	DVPSR210P	N/A	2/24/2014	$33	7880B
0000004140	OE	N/A	OA	Storage Cabinet	Tennsco	J2478SUBK	N/A	12/17/2013	$628	CNTRLPT
0000004149	OE	N/A	OA	Copier/Printer/Scanner/Fax	Lexmark	XM1145	701543HH097KP	2/20/2014	$1,895	231
0000004150	OE	N/A	OA	Office Chair - Posture Fit	HermanN/AMiller	AeronN/ASizeN/AC	N/A	2/3/2014	$775	7880B
0000004151	OE	N/A	OA	Office Chair - Posture Fit	HermanN/AMiller	AeronN/ASizeN/AC	N/A	2/3/2014	$775	7880B
0000004152	OE	N/A	OA	Office Chair - Posture Fit	HermanN/AMiller	AeronN/ASizeN/AC	N/A	2/3/2014	$775	7880B

0000004153	OE	N/A	OA	Office Chair - Posture Fit	HermanN/AMiller	AeronN/ASizeN/AC	N/A	2/3/2014	$775	CNTRLPT
0000004154	OE	N/A	OA	Office Chair - Posture Fit	HermanN/AMiller	AeronN/ASizeN/AC	N/A	2/3/2014	$775	CNTRLPT
0000004155	OE	N/A	OA	Office Chair - Posture Fit	HermanN/AMiller	AeronN/ASizeN/AC	N/A	2/3/2014	$775	CNTRLPT
0000004157	OE	N/A	OA	Television, 60" Razor Edge	Vizio	E60li-A3E	LFTRNWCP4830287	3/5/2014	$798	7880B
0000004158	OE	N/A	OA	Radio Control Equipment System	Magnetek	FlexN/A6EX	044938	2/28/2014	$875	7880DD
0000004164	OE	N/A	OA	5 Ton Load Cell	Dillon	EDXN/AAWTO5N/A506314	DEDR2502287	4/1/2014	$1,856	7880KK
0000004165	OE	N/A	OA	5 Ton Load Cell	Dillon	EDXN/AAWTO5N/A506314	DEDR2502288	(blank)	$1,856	7880KK
0000004166	OE	N/A	OA	10 Ton Load Cell	Dillon	EDXN/AAWTO5N/A506315	DEDR2601321	4/1/2014	$2,670	7880KK
5187	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THUZ520	1/16/2008	$517	7880
5190	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJJ6141	5/19/2008	$517	7880
5194	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THL4358	6/6/2007	$517	7880
5198	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THQT827	8/23/2007	$517	7880KK
5200	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THQP504	8/23/2007	$517	7880B
5203	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THQP501	8/23/2007	$517	7880RR
5204	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THQP508	8/23/2007	$517	7880B
5205	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THE0916	4/20/2007	$517	7880
5206	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7778	(blank)	$517	7880B
5208	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THUZ369	11/19/2007	$517	7880KK
5212	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJQA614	8/29/2008	$517	7880RR
5213	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THAF687	2/6/2007	$525	7880B
5215	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THUZ518	7/1/2009	$517	7880B
5220	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7656	(blank)	$510	7880KK
5221	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THL4693	8/23/2007	$517	7880RR
5227	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYK218	1/16/2008	$517	7880M
5238	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THUZ486	11/19/2007	$517	7880
5244	OE	N/A	OA	Digital Camera	N/A	PowerShotN/AA1100	8722240390	7/21/2009	$216	7880Z
5246	OE	N/A	OA	Fork Hook - 4	N/A	ModelN/A10-2N/ATon	10-19134	1/13/2010	$1,606	7880
5411	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7668	7/1/2009	$517	7880
7017	OE	N/A	OA	Pressure Washer	N/A	3000	11	5/7/2010	$579	7880U#13
7023	OE	N/A	OA	Thermometer	N/A	N/A	CP23969	10/18/2010	$642	7880Z
7026	OE	N/A	OA	Drum Spotter / Palletizer	N/A	81	N/A	11/29/2010	$1,025	7880
7031	OE	N/A	OA	Matrix Switcher / Controller	N/A	CM6800E	ABH-DWS9	4/17/2010	$3,380	231
7033	OE	N/A	OA	Storage Cabinet	N/A	SuperN/AJumbo	N/A	8/30/2010	$973	231
7036	OE	N/A	OA	Pallet Jack - 22	N/A	4YX96G	N/A	10/28/2010	$707	30-TON
7055	OE	N/A	A	PAR Video and TV System	N/A	N/A	Various	12/1/2010	$16,721	231
7057	OE	N/A	OA	Cabinet	N/A	NemaN/ATypeN/A12	N/A	12/6/2010	$2,631	123
7059	OE	N/A	OA	Matrix Switcher / Controller	N/A	N/A	N/A	3/15/2011	$3,380	231
7061	OE	N/A	OA	Remote Area Lighting System	N/A	9430	28489	11/2/2010	$598	7880U
7063	OE	N/A	OA	Remote Area Lighting System	N/A	9430	28494	11/2/2010	$598	7880

7064	OE	N/A	OA	Remote Area Lighting System	N/A	9430	28495	11/2/2010	$598	7880
7070	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLSF229	7/1/2009	$517	7880B
7071	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLSF253	7/1/2009	$517	7880B
7072	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLSF241	7/1/2009	$517	7880U
7073	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLSF249	5/1/2010	$517	7880U
7074	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLSF248	5/1/2010	$517	7880Z
7075	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLSF234	5/1/2010	$517	7880U
7076	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLSF251	5/1/2010	$517	7880XX
7077	OE	N/A	OA	Remote Area Lighting System	N/A	Yellow	26595	10/13/2010	$595	7880U
7078	OE	N/A	OA	Remote Area Lighting System	N/A	Yellow	28077	10/13/2010	$598	7880U
7079	OE	N/A	OA	Remote Area Lighting System	N/A	Yellow	26503	10/13/2010	$595	CPE
7110	OE	N/A	OA	Pallet Jack	N/A	27x44	N/A	2/12/2011	$669	231
7118	OE	N/A	OA	Ladder, Steel Platform	N/A	EasyN/A50	N/A	4/26/2011	$826	7880A
7119	OE	N/A	OA	Ladder, Steel Platform	N/A	EasyN/A50	N/A	4/26/2011	$826	7880A
7131	OE	N/A	OA	Remote Area Lighting System	N/A	9430	26531	11/1/2010	$624	7880
7136	OE	N/A	OA	Hydraulic Pallet Lifter	N/A	QSD50	101012049	5/4/2011	$669	231
7137	OE	N/A	OA	6' Table - Desert Tan	N/A	N/A	N/A	5/10/2011	$588	7880KK
7143	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TMC9391	5/16/2011	$517	7880
7144	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TMC9401	5/16/2011	$517	7880
7145	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TMC9402	5/16/2011	$517	7880
7146	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TMC9407	5/16/2011	$517	7880
7159	OE	N/A	OA	Ladder, Platform	N/A	8229T12	N/A	4/26/2011	$998	7880BB
0000007173	OE	N/A	OA	Cabinet	Cabinet	3NYL6	N/A	9/30/2011	$697	231
0000007200	OE	N/A	OA	DVD Duplicator	N/A	EZDITDVDLGB	C3102S111700331	10/24/2011	$186	7880B
0000007227	OE	N/A	OA	Flush Door Cabinet	N/A	11103641	N/A	2/7/2012	$775	7880-BBA
0000007256	OE	N/A	OA	Containment System	N/A	K3120	N/A	3/27/2012	$1,982	7880
0000007257	OE	N/A	OA	Containment System	N/A	K3120	N/A	3/27/2012	$1,982	7880
0000007258	OE	N/A	OA	Containment System	N/A	K3120	N/A	3/27/2012	$1,982	7880
0000007259	OE	N/A	OA	Containment System	N/A	K3120	N/A	3/27/2012	$1,982	7880
0000007263	OE	N/A	OA	Storage Cabinet	Durham	1UBK4	N/A	3/29/2012	$814	CPE
0000007270	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TNEW381	4/16/2012	$517	7880KK
0000007271	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TNEW401	4/16/2012	$517	7880KK
0000007272	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TNEW455	4/16/2012	$517	7880KK
0000007273	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TNEW462	4/16/2012	$517	7880B

00000072 74	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TNEW471	4/16/2012	$517	7880B
00000072 75	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TNEW475	4/16/2012	$517	7880B
00000072 76	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TNEW476	4/16/2012	$517	7880RR
00000072 84	OE	N/A	OA	Cylinder Rack	N/A	HP12302Da	N/A	5/17/2010	$746	CRANEBAY
00000072 86	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH146	7/1/2009	$517	7880U
00000072 90	OE	N/A	OA	Evaporative Cooler	Port-A-Cool	PAC163SVT	247486-11	7/12/2012	$1,491	CPE
00000072 99	OE	N/A	OA	Steel Cabinet	N/A	HDSC-4872-244PERFN/AGray	N/A	10/24/2012	$994	CPE
00000073 14	OE	N/A	OA	Drum Handler, 110 gallon	Zorin	DGS-31.5DIA-SP	N/A	(blank)	$800	7880B
00000073 15	OE	N/A	OA	Drum Handler	N/A	DGS-31.5DIA-SP	N/A	(blank)	$800	7880B
00000073 40	OE	N/A	OA	Easy-Turn Dolly	N/A	8000#N/ACapacity	N/A	2/14/2013	$818	BBA
00000073 41	OE	N/A	OA	Easy-Turn Dolly	N/A	8000#N/ACapacity	N/A	2/14/2013	$818	BBA
00000073 48	OE	N/A	OA	Fork Mounted Drum Carrier/Rota	Vestil	DCR-205-15	N/A	1/17/2013	$731	7880
00000073 58	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPCM273	11/19/2012	$517	7880
00000074 14	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKJO958	7/1/2009	$517	7880RR
00000074 16	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYJ984	1/16/2008	$517	7880B
00000080 22	OE	N/A	OA	Cell Phone	LG	Revere2	865-214-2014	7/18/2013	$50	MOBILE
8338	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKJ0870	7/1/2009	$517	7880Z
00000091 88	OE	N/A	OA	Digital Camera	Nikon	CoolpixN/A26309	30617289	1/23/2013	$77	7880
00000091 89	OE	N/A	OA	Digital Camera	Nikon	CoolpixN/A26309	30617468	1/23/2013	$77	7880
00000091 90	OE	N/A	OA	Digital Camera	Nikon	CoolpixN/A26309	30617287	1/23/2013	$77	7880
00000094 81	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH185	7/1/2009	$517	7880
00000094 82	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLGM912	5/1/2010	$517	7880
00000094 85	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK191	(blank)	$517	7880B
00000094 86	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK264	5/4/2009	$517	7880RR

0000009487	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TLGM914	5/1/2010	$517	7880
0000009496	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKGK255	5/4/2009	$517	7880B
0000009497	OE	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLG931	7/1/2009	$517	7880KK
0000007279	QA	N/A	OA	Tricycle	N/A	2701T18	N/A	7/10/2012	$748	7880Z
1039	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1039	8/21/2007	$500	7880B
1040	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1040	8/21/2007	$500	7880B
1041	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1041	8/21/2007	$500	7880B
1042	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	01042	8/21/2007	$500	7880B
1043	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1043	8/21/2007	$500	7880B
1044	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	7010869	8/21/2007	$500	7880B
1045	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1045	8/21/2007	$500	7880B
1046	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1046	8/21/2007	$500	7880B
1047	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1047	8/21/2007	$500	7880B
1048	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1048	8/21/2007	$500	7880B
1049	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1049	8/21/2007	$500	7880B
1050	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	7010857	8/21/2007	$500	7880B
1051	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1051	8/21/2007	$500	7880B
1052	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1052	8/21/2007	$500	7880B
1053	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1053	8/21/2007	$500	7880B
1054	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1054	8/21/2007	$500	7880B
1055	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1055	8/21/2007	$500	7880B
1056	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	7010862	8/21/2007	$500	7880B
1057	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1057	8/21/2007	$500	7880B
1058	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1058	8/21/2007	$500	7880B
1059	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1059	8/21/2007	$500	7880B
1060	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1060	8/21/2007	$500	7880B
1061	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1061	8/21/2007	$500	7880B
1062	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	7010868	8/21/2007	$500	7880B
1155	RAD	N/A	OA	Alpha Beta Sample Counter	N/A	LM3030	241629	9/17/2007	$2,995	7880B
1156	RAD	N/A	OA	Alpha Beta Sample Counter	N/A	LM3030	241621	9/17/2007	$2,995	7880B
1162	RAD	N/A	OA	Gamma dose Stretch Scope	N/A	LM-78	234084	9/17/2007	$2,895	7880B
1164	RAD	N/A	OA	Neutron Dose Rate Instrument	N/A	LM12-4	244806	9/17/2007	$2,495	7880B
1178	RAD	N/A	OA	Gamma Dose Rate Meter	N/A	MicroRem	1950	9/10/2007	$3,685	7880B
1179	RAD	N/A	OA	Gamma Dose Rate Meter	N/A	MicroRem	1951	9/10/2007	$3,685	7880B
1214	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	2519/3309	11/13/2007	$2,795	7880
1215	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	2515/3297	11/13/2007	$2,795	7880
1216	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	2514/3285	11/13/2007	$2,795	7880
1217	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	2516/3315	11/13/2007	$2,795	7880
1218	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	2518/3300	11/13/2007	$2,795	7880
1219	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	2517/3282	11/13/2007	$2,795	7880
1238	RAD	N/A	OA	Alpha CAM Base	N/A	AlphaN/A7A	551	(blank)	$7,000	7880
1239	RAD	N/A	OA	Alpha CAM Base	N/A	AlphaN/A7A	552	(blank)	$7,000	7880
1240	RAD	N/A	OA	Negative Air Machine	N/A	Q2000L	21120	3/5/2008	$680	7880YY

1241	RAD	N/A	OA	Negative Air Machine	N/A	Q2000L	21101	3/5/2008	$680	7880
1266	RAD	750	A	Personnel ContaminationMonitor	N/A	4AB	711-146	9/11/2007	$59,995	7880
1301	RAD	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fj	7/15/2006	$571	7880 1.5
1303	RAD	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fl	7/15/2006	$571	7880RR
1307	RAD	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fq	7/15/2006	$571	7880RR
1309	RAD	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fs	7/15/2006	$571	7880RR
1310	RAD	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803ft	7/15/2006	$571	7880RR
1313	RAD	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fw	7/15/2006	$571	7880RR
1319	RAD	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803g2	7/15/2006	$571	7880RR
1321	RAD	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803g4	7/15/2006	$571	7880RR
1327	RAD	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803gb	7/15/2006	$571	7880RR
1334	RAD	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803gk	7/15/2006	$571	7880RR
1349	RAD	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hv	7/15/2006	$571	7880RR
1353	RAD	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hz	7/15/2006	$571	7880RR
1361	RAD	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803j7	7/15/2006	$571	7880RR
1362	RAD	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803j8	7/15/2006	$571	7880RR
1363	RAD	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803j9	7/15/2006	$571	7880RR
1365	RAD	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803jo	7/15/2006	$571	7880RR
1366	RAD	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803jc	7/15/2006	$571	7880RR
1626	RAD	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	FKJ7DC1	1/11/2007	$1,735	7880Z
1664	RAD	N/A	OA	Electronic Dosimeter Rack	N/A	DSR-60	270002	6/12/2007	$795	7880B
1794	RAD	N/A	OA	Computer, Desktop	Dell	OptiplexN/A745	2CH47D1	7/12/2007	$1,330	7880Z
1801	RAD	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD820	GRMF2D1	5/25/2007	$2,800	7880RR
1815	RAD	N/A	OA	Digital Projector	N/A	LP70+	ANEN52400353	5/29/2003	$1,299	7880RR
1819	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1008	3/2/2006	$500	7880
1820	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	15120	5/19/2004	$500	7880
1821	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	15121	5/19/2004	$500	7880
1823	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	15123	5/19/2004	$500	7880
1824	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	15124	5/19/2004	$500	7880
1825	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	15127	5/19/2004	$500	7880
1826	RAD	N/A	OA	Battery Maintenance System	N/A	BMSN/AII	0512008N/ARev.N/AM	6/1/2006	$820	7880
1831	RAD	N/A	OA	Scale, Balance	Ohaus	AR-1530N/A-N/AMTE#34	H1551203100420P	7/9/2003	$805	7880B
1832	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1001	3/2/2006	$500	7880
1833	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1003	3/2/2006	$500	7880
1834	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1004	3/2/2006	$500	7880
1836	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1006	3/2/2006	$500	7880
1837	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1009	3/2/2006	$500	7880
1838	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1011	3/2/2006	$500	7880
1839	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1014	3/2/2006	$500	7880
1841	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	15114	5/19/2004	$500	7880
1842	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	15116	5/19/2004	$500	7880
1843	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	15117	5/19/2004	$500	7880
1844	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	15118	5/19/2004	$500	7880
1847	RAD	N/A	OA	Alpha CAM Base	N/A	AlphaN/A7A	101	(blank)	$7,000	7880
1848	RAD	N/A	OA	Alpha CAM Detector Head	N/A	AlphaN/A7A	101	(blank)	$6,921	7880
1851	RAD	N/A	OA	Alpha CAM Detector Head	N/A	AlphaN/A7A	102	(blank)	$6,921	7880

1852	RAD	N/A	OA	Alpha CAM Base	N/A	AlphaN/A7A	102	(blank)	$7,000	7880
1853	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	463/1996	6/17/2002	$3,110	7880
1854	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	477/2003	(blank)	$2,795	7880
1858	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	465/1999	6/17/2002	$3,110	7880B
1867	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	464/2000	6/17/2002	$3,110	7880B
1868	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1010	3/2/2006	$500	7880
1870	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	376/2002	6/17/2002	$3,110	CALIBRAT
1890	RAD	N/A	A	Low background counter	N/A	5XLB	78474	7/21/2003	$49,900	7880
1895	RAD	N/A	OA	Gamma Dose Rate Meter	N/A	RO-20	4223	(blank)	$2,895	7880
1896	RAD	N/A	OA	Neutron Dose Rate Instrument	N/A	LM12-4	215331	4/12/2005	$2,495	7880
1897	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	15119	5/19/2004	$500	7880
1898	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	15113	5/19/2004	$500	7880
1899	RAD	N/A	OA	Air Flow Calibrator	N/A	C812N/ACalibrator	1918	11/15/2002	$595	7880
1900	RAD	N/A	OA	Air Flow Calibrator	N/A	D-802-1	3313	9/27/2002	$1,600	7880
1941	RAD	N/A	OA	Neutron Dose Rate Instrument	N/A	LM12-4	215335	4/12/2005	$2,495	7880B
0000001942	RAD	N/A	OA	External Hard Drive	WesternN/ADigital	2.5"	1020908225856	(blank)	$200	7880RR
1951	RAD	N/A	OA	High range alpha contam meter	N/A	LMN/A195	232190	3/4/2010	$795	7880
1962	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	466/1991	6/17/2002	$3,110	7880
1963	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	468/1997	6/17/2002	$3,110	7880B
1964	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	469/1995	6/17/2002	$3,110	7880
1977	RAD	N/A	OA	Neutron Dose Rate Instrument	N/A	LM12-4	231188	9/14/2006	$2,495	7880
1978	RAD	N/A	OA	Neutron Dose Rate Instrument	N/A	LM12-4	215368	4/12/2005	$2,495	7880
1987	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	15126	5/19/2004	$500	7880
1988	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	476/1994	6/17/2002	$3,110	7880
1989	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	470/1993	6/17/2002	$3,110	7880B
1990	RAD	N/A	A	Personnel ContaminationMonitor	N/A	APM-3e	207620	5/29/2003	$40,950	7880
1991	RAD	N/A	A	Personnel ContaminationMonitor	N/A	APM-3e	207621	5/29/2003	$40,950	7880
1994	RAD	N/A	OA	Gamma Dose Rate Meter/Probe	N/A	ASP-2/2e/HPN/A270	1771/2984	9/23/2005	$1,030	7880
2000	RAD	N/A	OA	Alpha CAM Base	N/A	AlphaN/A7A	104	(blank)	$7,000	7880
2001	RAD	N/A	OA	Alpha CAM Detector Head	N/A	AlphaN/A7A	104	(blank)	$6,921	7880
2006	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	475/2001	6/17/2002	$3,110	7880
2007	RAD	N/A	OA	Alpha CAM Base	N/A	AlphaN/A7A	105	(blank)	$7,000	7880
2008	RAD	N/A	OA	Alpha CAM Detector Head	N/A	AlphaN/A7A	105	(blank)	$6,921	7880
2011	RAD	N/A	OA	High range alpha contam meter	N/A	LMN/A195	200139	8/21/2006	$795	7880
2012	RAD	N/A	OA	Alpha CAM Base	N/A	AlphaN/A7A	106	(blank)	$7,000	7880
2013	RAD	N/A	OA	Alpha CAM Detector Head	N/A	AlphaN/A7A	106	(blank)	$6,921	7880
2016	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	15125	5/19/2004	$500	7880
2017	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1002	3/2/2006	$500	7880
2018	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1013	3/2/2006	$500	7880
2019	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	1007	3/2/2006	$500	7880
2022	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	474/1992	6/17/2002	$3,110	7880B
2024	RAD	N/A	OA	Air Sampling Head	N/A	FlowN/ARotometer	6000-25-105	10/31/2005	$950	7880
2026	RAD	N/A	OA	Area Radiation Monitor	N/A	RMS-3/HP-270	467/1998	6/17/2002	$3,110	7880BB
2027	RAD	N/A	OA	Alpha CAM Base	N/A	AlphaN/A7A	103	(blank)	$7,000	7880

2028	RAD	N/A	OA	Alpha CAM Detector Head	N/A	AlphaN/A7A	103	(blank)	$6,921	7880
2030	RAD	N/A	OA	Air Flow Rotometer	N/A	FlowN/ARotometer	5702	9/27/2002	$1,675	7880
2144	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	10361542	1/1/2010	$500	7880
2145	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	9011353	1/1/2009	$500	7880
2146	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	10361543	1/1/2010	$500	7880
2147	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	9011328	1/1/2009	$500	7880
2148	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	9011354	1/1/2009	$500	7880
2149	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	10361547	1/1/2010	$500	7880
2150	RAD	N/A	OA	Electronic Dosimeter Rack	N/A	DSR-60	300022	1/1/2010	$1,400	7880B
2152	RAD	N/A	OA	Alpha CAM Detector Head	N/A	AlphaN/A7A	556	(blank)	$6,921	7880
2155	RAD	N/A	OA	Charger, High Flow Auto	N/A	HGATR-5	10361546	1/1/2010	$500	7880
2156	RAD	N/A	OA	Ultrasonic Tool Cleaner	N/A	N/A	10301-597844	1/1/2008	$550	7880
2161	RAD	N/A	OA	Alpha CAM Detector Head	N/A	AlphaN/A7A	560	(blank)	$6,921	7880
2162	RAD	750	A	Low background counter	N/A	5XLB	14496	11/5/2009	$51,588	7880
2163	RAD	N/A	A	Low background counter	N/A	5XLB	718724	9/11/2007	$46,757	7880
2173	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106918	7/22/2008	$1,402	7880B
2174	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106911	7/22/2008	$1,402	7880B
2176	RAD	N/A	OA	Alpha CAM Detector Head	N/A	AlphaN/A7A	557	(blank)	$6,921	7880
2189	RAD	N/A	OA	Alpha CAM Detector Head	N/A	AlphaN/A7A	559	(blank)	$6,921	7880
2191	RAD	N/A	OA	Electronic Dosimeter Rack	N/A	DSR-60	N/A	(blank)	$1,400	7880B
2439	RAD	N/A	OA	Computer, Desktop	Dell	DimensionN/A2400	622C531	11/21/2006	$1,515	7880RR
3051	RAD	N/A	A	Gamma/Neutron Digital Readout	N/A	FHT6020	934	1/23/2008	$14,530	7880
3052	RAD	N/A	A	Gamma/Neutron Digital Readout	N/A	FHT6020	935	1/23/2008	$14,530	7880
3056	RAD	N/A	OA	Alpha CAM Base	N/A	AlphaN/A7A	567	(blank)	$7,000	7880
3057	RAD	N/A	OA	Alpha CAM Base	N/A	AlphaN/A7A	575	(blank)	$7,000	7880
3058	RAD	N/A	OA	Alpha CAM Base	N/A	AlphaN/A7A	569	11/14/2007	$8,698	7880
3083	RAD	N/A	OA	Projector	Dell	IN-37	AWVB82400240	8/26/2008	$1,120	7880RR
3089	RAD	N/A	OA	Dosimeter Reader/Programmer	N/A	ACT-4	1754	7/22/2008	$2,200	7880B
3111	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3111	(blank)	$500	7880
3112	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	8041088	4/14/2009	$2,999	7880
3113	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3113	(blank)	$500	7880
3114	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3114	(blank)	$500	7880
3115	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3115	(blank)	$500	7880
3117	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3117	(blank)	$500	7880
3118	RAD	N/A	OA	Battery Maintenance System	N/A	BMSN/AII	902006	4/14/2009	$650	7880
3119	RAD	N/A	OA	Gamma/Neutron Digital Readout	N/A	FHTN/A6020	1177	2/3/2009	$7,318	7880
3120	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106917	7/22/2008	$1,402	7880B
3121	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106897	7/22/2008	$1,402	7880B
3122	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106773	7/22/2008	$1,402	7880B
3124	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106871	7/22/2008	$1,402	7880B
3126	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106929	7/22/2008	$1,402	7880B
3127	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106936	7/22/2008	$1,402	7880B
3128	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EDP-N2	7106958	7/22/2008	$1,402	7880B
3129	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106938	7/22/2008	$1,402	7880B

3130	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106865	7/22/2008	$1,402	7880B
3132	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106950	7/22/2008	$1,402	7880B
3133	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106937	7/22/2008	$1,402	7880B
3134	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7110138	7/22/2008	$1,402	7880B
3135	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106867	7/22/2008	$1,402	7880B
3136	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106967	7/22/2008	$1,402	7880B
3137	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106924	7/22/2008	$1,402	7880B
3138	RAD	N/A	OA	Electronic Dosimeter - GN	ThermoN/AScien	EPD-N2	7106912	7/22/2008	$1,402	7880
3139	RAD	N/A	OA	Electronic Dosimeter - GN	N/A	EPD-N2	7106856	7/22/2008	$1,402	7880B
3182	RAD	N/A	OA	Camcorder	N/A	VixiaN/AHG20	8.7269202213e+011	2/23/2009	$800	7880B
3183	RAD	N/A	OA	Digital Camera	N/A	RebelN/AEOS	4752521698	2/23/2009	$791	7880B
3197	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	301002	3/2/2006	$500	7880
3198	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	301005	3/2/2006	$500	7880
3225	RAD	N/A	OA	Projector	Dell	XGAN/A3000	AYUB83600444	4/23/2009	$917	7880RR
3244	RAD	N/A	A	Wide Area Neutron Detect Instr	N/A	FHTN/A642	239	2/3/2009	$12,420	7880
3245	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	8071167	4/14/2009	$2,999	7880
3246	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3246	(blank)	$500	7880
3247	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3247	(blank)	$500	7880
3248	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3248	(blank)	$500	7880
3249	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3249	(blank)	$500	7880
3250	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	8121303	4/14/2009	$2,999	7880
3251	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3251	(blank)	$500	7880
3252	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3252	(blank)	$500	7880
3253	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3253	(blank)	$500	7880
3254	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3254	(blank)	$500	7880
3255	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3255	(blank)	$500	7880
3256	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3256	(blank)	$500	7880
3257	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	8121300	4/14/2009	$2,999	7880
3258	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3258	(blank)	$500	7880
3259	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3259	(blank)	$500	7880
3260	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3260	(blank)	$500	7880
3274	RAD	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJR1946	5/4/2009	$517	7880RR
3286	RAD	N/A	OA	Alpha Beta Sample Counter	N/A	LM3030	259092	5/1/2009	$3,350	7880
3287	RAD	N/A	OA	Alpha Beta Sample Counter	N/A	LM3030	259093	5/1/2009	$3,350	7880
3288	RAD	N/A	OA	Alpha Beta Sample Counter	N/A	LM3030	259077	5/1/2009	$3,350	7880
3289	RAD	N/A	OA	Alpha Beta Sample Counter	N/A	LM3030	259088	5/1/2009	$3,350	7880
3360	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3360	10/15/2009	$600	7880
3361	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3361	10/15/2009	$600	7880
3362	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3362	10/15/2009	$600	7880
3363	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3363	10/15/2009	$600	7880
3364	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3364	10/15/2009	$600	7880
3365	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3365	10/15/2009	$600	7880
3366	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	20091001019	10/15/2009	$600	7880
3367	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3367	10/15/2009	$600	7880
3368	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3368	10/15/2009	$600	7880
3369	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3369	10/15/2009	$600	7880
3370	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3370	10/15/2009	$600	7880

3371	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3371	10/15/2009	$600	7880
3372	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3372	10/15/2009	$600	7880
3373	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3373	10/15/2009	$600	7880
3374	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3374	10/15/2009	$600	7880
3375	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3375	10/15/2009	$600	7880
3376	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3376	10/15/2009	$600	7880
3377	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3377	10/15/2009	$600	7880
3378	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3378	10/15/2009	$600	7880
3379	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3379	10/15/2009	$600	7880
0000003387	RAD	N/A	OA	External Dose Rate Probe	N/A	FHZ-612	11288	2/7/2013	$1,780	7880
0000003388	RAD	N/A	OA	Neutron Detection Instrument	N/A	FHTN/A762	10209	2/7/2013	$7,000	7880
0000003389	RAD	N/A	OA	Port for Intelligent Probes	N/A	FHTN/A6020	11989	2/7/2013	$3,660	7880
3390	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3390	10/15/2009	$600	7880
3391	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3391	10/15/2009	$600	7880
3392	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3392	10/15/2009	$600	7880
3393	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3393	10/15/2009	$600	7880
3394	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3394	10/15/2009	$600	7880
3396	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3396	10/15/2009	$600	7880
3397	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3397	10/15/2009	$600	7880
3398	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3398	10/15/2009	$600	7880
3399	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3399	10/15/2009	$600	7880
3473	RAD	N/A	OA	Alpha CAM Base	N/A	AlphaN/A7A	588	(blank)	$7,000	7880
3474	RAD	N/A	OA	Alpha CAM Detector Head	N/A	AlphaN/A7A	583	(blank)	$6,921	7880
3475	RAD	N/A	OA	Alpha CAM Base	N/A	AlphaN/A7A	586	(blank)	$7,000	7880
3476	RAD	N/A	OA	Alpha CAM Detector Head	N/A	AlphaN/A7A	588	(blank)	$6,921	7880
3493	RAD	N/A	OA	Lead Shielding Rack 3' x 5'	N/A	LI-261	N/A	8/17/2009	$675	ISOCS
0000003494	RAD	N/A	OA	Lead Shielding Rack 3' x 5'	N/A	LI-261	N/A	11/19/2012	$675	ISOCS
3502	RAD	N/A	OA	Battery Maintenance System	N/A	BMSN/AII	0908007N/AREV-P	10/15/2009	$662	7880
3546	RAD	N/A	OA	Telephone, Conference	N/A	Soundstation2	0G081003EB821	3/10/2010	$645	7880RR
3556	RAD	N/A	OA	Gamma dose Stretch Scope	N/A	LMN/A78	257678	3/30/2010	$3,435	7880B
3557	RAD	N/A	OA	Gamma dose Stretch Scope	N/A	LMN/A78	257686	3/30/2010	$3,435	7880B
3562	RAD	N/A	OA	Neutron Survey Meter	N/A	REM500	407	11/17/2009	$6,128	7880
3563	RAD	N/A	OA	Neutron Survey Meter	N/A	REM500	409	11/17/2009	$6,128	7880
3566	RAD	N/A	OA	Neutron Survey Meter	N/A	REM500	411	11/17/2009	$6,128	7880
0000003591	RAD	N/A	OA	A-B Data Logger	N/A	LM2360	297739	11/19/2012	$1,758	7880
0000003592	RAD	N/A	OA	A-B Data Logger	N/A	LM2360	297740	11/19/2012	$1,758	7880
0000003593	RAD	N/A	OA	A-B Data Logger	N/A	LM2360	297723	11/19/2012	$1,758	7880
0000003594	RAD	N/A	OA	A-B Data Logger	N/A	LM2360	297700	11/19/2012	$1,758	7880

0000003595	RAD	N/A	OA	A-B Data Logger	N/A	LM2360	297738	11/19/2012	$1,758	7880
0000003596	RAD	N/A	OA	A-B Data Logger	N/A	LM2360	297788	11/19/2012	$1,758	7880
0000003620	RAD	N/A	OA	A-B Data Logger	N/A	LM2360	297748	11/19/2012	$1,758	7880
0000003621	RAD	N/A	OA	A-B Data Logger	N/A	LM2360	297762	11/19/2012	$1,758	7880
0000003622	RAD	N/A	OA	100CM2 Alpha/Beta	N/A	M43-93	PR326736	3/28/2013	$1,174	7880
0000003623	RAD	N/A	OA	100CM2 Alpha/Beta	N/A	M43-93	PR323014	11/19/2012	$1,174	7880
0000003624	RAD	N/A	OA	100CM2 Alpha/Beta	N/A	M43-93	PR323015	11/19/2012	$1,174	7880
0000003625	RAD	N/A	OA	100CM2 Alpha/Beta	N/A	M43-93	PR326640	11/19/2012	$1,174	7880
0000003626	RAD	N/A	OA	100CM2 Alpha/Beta	N/A	M43-93	PR323094	11/19/2012	$1,174	7880
0000003627	RAD	N/A	OA	100CM2 Alpha/Beta	N/A	M43-93	PR323022	11/19/2012	$1,174	7880
0000003628	RAD	N/A	OA	100CM2 Alpha/Beta	N/A	M43-93	PR323021	11/19/2012	$1,174	7880
0000003629	RAD	N/A	OA	100CM2 Alpha/Beta	N/A	M43-93	PR326634	11/19/2012	$1,174	7880
0000003630	RAD	N/A	OA	100CM2 Alpha/Beta	N/A	M43-93	PR326635	2/20/2013	$1,174	7880RR
0000003651	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	Ludlum	LM2360/43-93	297831	(blank)	$2,528	7880
0000003652	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	Ludlum	LM2360/43-93	297761	(blank)	$2,528	7880
0000003653	RAD	N/A	OA	M 43-93 100CM2 Alpha/Beta	Ludlum	M43-93	PR326633	7/22/2013	$1,174	7880B
0000003670	RAD	N/A	OA	M 43-93 100CM2 Alpha/Beta	Ludlum	M43-93	PR326654	(blank)	$1,174	7880B
0000003671	RAD	N/A	OA	M 43-93 100CM2 Alpha/Beta	Ludlum	M43-93	PR326643	(blank)	$1,174	7880B
0000003672	RAD	N/A	OA	M 43-93 100CM2 Alpha/Beta	Ludlum	M43-93	PR326626	(blank)	$1,174	7880B
0000003673	RAD	N/A	OA	M 43-93 100CM2 Alpha/Beta	Ludlum	M43-93	PR326644	(blank)	$1,174	7880B
0000003674	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	Ludlum	LM2360/43-93	297793	(blank)	$2,528	7880
0000003675	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	Ludlum	LM2360/43-93	297710	(blank)	$2,528	7880
0000003676	RAD	N/A	OA	Alpha-Beta Sample	Ludlum	MN/A3030	302404	7/22/2013	$3,829	7880B

0000003677	RAD	N/A	OA	Alpha-Beta Sample	N/A	MN/A3030	299926	(blank)	$3,829	7880B
0000003678	RAD	N/A	OA	Dehumidifier	DRI-EAZ	F411	N/A	8/13/2013	$3,659	7880RR
0000003698	RAD	N/A	OA	RadEye GX Survey Meter	N/A	RadeyeN/AGX	00558	12/8/2011	$915	7880
0000003699	RAD	N/A	OA	RadEye GX Survey Meter	N/A	RadeyeN/AGX	00557	12/8/2011	$915	7880
3704	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	265953/237232	4/8/2010	$2,167	7880
3731	RAD	N/A	OA	Telephone, Conference	N/A	SoundstationN/A2	H81015026BHA	8/12/2010	$520	7880RR
0000003736	RAD	N/A	OA	Airless Paint Sprayer	N/A	TitanN/A840N/AImpact	1129200168	4/25/2011	$3,226	7880U
0000003739	RAD	N/A	OA	M78 Stretch Scope	N/A	MN/A78	293550	3/28/2013	$3,925	7880
3764	RAD	N/A	A	Alpha CAM Base	N/A	AlphaN/A7A	622	6/17/2010	$14,400	7880
3765	RAD	N/A	A	Alpha CAM Base	N/A	AlphaN/A7A	625	6/17/2010	$14,400	7880
3766	RAD	N/A	A	Alpha CAM Base	N/A	AlphaN/A7A	624	6/17/2010	$14,400	7880
3767	RAD	N/A	A	Alpha CAM Base	N/A	AlphaN/A7A	623	6/17/2010	$14,400	7880RR
3830	RAD	N/A	OA	Emergency Response Air Sampler	N/A	DF-40L-LI	10913	1/1/2010	$1,000	7880RR
3831	RAD	N/A	OA	Emergency Response Air Sampler	N/A	DF-40L-LI	10914	1/1/2010	$1,000	7880RR
3832	RAD	N/A	OA	Emergency Response Air Sampler	N/A	DF-40L-LI	10915	1/1/2010	$1,000	7880RR
3833	RAD	N/A	OA	Alpha CAM Detector Head	N/A	AlphaN/A7A	563	(blank)	$6,921	7880
3834	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	20100301012	3/9/2010	$775	7880
3835	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	20100301013	3/9/2010	$775	7880RR
3836	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	3836	3/9/2010	$775	7880
3837	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	01015	3/9/2010	$775	7880
3838	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	20100301011	3/9/2010	$775	7880RR
3851	RAD	N/A	OA	Gamma dose Stretch Scope	N/A	LM-78	238300	9/17/2007	$2,895	7880B
3859	RAD	N/A	OA	High range alpha contam meter	N/A	LMN/A195	232188	(blank)	$795	7880
3866	RAD	N/A	OA	Air Flow Rotometer	N/A	FlowN/ARotometer	6149	9/27/2002	$1,675	7880
3867	RAD	N/A	OA	Air Flow Rotometer	N/A	FlowN/ARotometer	6227	11/15/2002	$950	7880B
3868	RAD	N/A	OA	Air Flow Rotometer	N/A	FlowN/ARotometer	6150	9/27/2002	$1,675	7880
3869	RAD	N/A	OA	Air Flow Rotometer	N/A	FlowN/ARotometer	6225	1/15/2002	$950	7880
0000003955	RAD	N/A	OA	Charger, High Flow Auto	N/A	HFATR-5	0301006	(blank)	$500	7880B
0000003957	RAD	N/A	OA	GM Detector	N/A	133-6	PR280607	11/28/2011	$293	7880
0000003958	RAD	N/A	OA	Stretch Scope	N/A	MN/A78	290554	11/28/2012	$3,840	7880
3960	RAD	N/A	OA	High range alpha contam meter	N/A	LMN/A195	241731	3/4/2010	$795	7880
0000003962	RAD	N/A	OA	Data Logger	N/A	LMN/A2360	287571	11/28/2011	$1,714	7880
0000003964	RAD	N/A	OA	Data Logger	N/A	LMN/A2360	275715	11/28/2011	$1,714	7880

00000039 65	RAD	N/A	OA	Probe	N/A	43-93	PR312884	11/28/2011	$1,145	7880
00000039 66	RAD	N/A	OA	Data Logger	N/A	LMN/A2360	287594	11/28/2011	$1,714	7880
00000039 68	RAD	N/A	OA	High range alpha contam meter	N/A	LMN/A195	263619	11/28/2011	$1,086	7880
00000039 69	RAD	N/A	OA	High range alpha contam meter	N/A	LMN/A195	263643	11/28/2011	$1,086	7880
00000040 43	RAD	N/A	OA	Poly Storage Bin	SNOWEX	SB-1800	N/A	9/3/2013	$506	7880X
00000040 44	RAD	N/A	OA	Poly Storage Bin	N/A	SB-1800	N/A	(blank)	$506	7880VV
00000040 45	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	193684/226710	4/22/2005	$2,290	7880B
00000040 46	RAD	N/A	OA	Probe	N/A	43-93	PR312907	11/28/2011	$1,145	7880
00000040 47	RAD	N/A	OA	Probe	N/A	43-93	PR312910	11/28/2011	$1,145	7880
00000040 50	RAD	N/A	OA	Base Station	HMN/AElectronics	MB300	38R04865	11/20/2013	$1,949	7880RR
00000040 51	RAD	N/A	OA	Base Station	HMN/AElectronics	MB300	18R05280	(blank)	$1,949	7880RR
00000040 52	RAD	N/A	OA	Wireless Headset	HMN/AElectronics	WH300	44R03986N/A-N/ABaseN/AA	11/20/2013	$523	7880RR
00000040 53	RAD	N/A	OA	Wireless Headset	HMN/AElectronics	WH300	44R03531N/A-N/ABaseN/AA	(blank)	$523	7880RR
00000040 54	RAD	N/A	OA	Wireless Headset	HMN/AElectronics	WH300	44R03522N/A-N/ABaseN/AB	(blank)	$523	7880RR
00000040 55	RAD	N/A	OA	Wireless Headset	HMN/AElectronics	WH300	44R03527N/A-N/ABaseN/AB	(blank)	$523	7880RR
00000040 56	RAD	N/A	OA	Battery Charger	HMN/AElectronics	AC40A	43R08311	11/20/2013	$558	7880RR
00000040 57	RAD	N/A	OA	Battery Charger	HMN/AElectronics	AC40A	43R03366	(blank)	$558	7880RR
00000040 58	RAD	N/A	OA	Battery Charger	HMN/AElectronics	AC40A	43R03360	(blank)	$558	7880RR
00000040 59	RAD	N/A	OA	Battery Charger	HMN/AElectronics	AC40A	43R03340	(blank)	$558	7880RR
00000041 00	RAD	N/A	OA	Mid Range Ion Chamber	Ludlum	MN/A9-7-BM	324692	8/13/2013	$1,486	7880RR
00000041 01	RAD	N/A	OA	Mid Range Ion Chamber	Ludlum	MN/A9-7-BM	324679	(blank)	$1,486	7880RR
00000041 03	RAD	N/A	OA	Purge Detector	Canberra	LFP-400D/PURGE	1310LF4D000258	9/19/2013	$2,340	7880
00000041 04	RAD	N/A	OA	Purge Detector	Canberra	LFP-400D/PURGE	1310LF4D000259	(blank)	$2,340	7880

0000004105	RAD	N/A	OA	Purge Detector	Canberra	LFP-400D/PURGE	1310LF4D000260	(blank)	$2,340	7880
0000004106	RAD	N/A	OA	Purge Detector	Canberra	LFP-400D/PURGE	1310LF4D000261	(blank)	$2,340	7880
0000004107	RAD	N/A	OA	Purge Detector	Canberra	LFP-400D/PURGE	1310LF4D000262	(blank)	$2,340	7880
0000004144	RAD	N/A	OA	Probe	Ludlum	43-93	335838	12/2/2013	$1,174	7880RR
0000004145	RAD	N/A	OA	Probe	Ludlum	43-93	335810	(blank)	$1,174	7880RR
5054	RAD	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD830	1NQZNG1	6/24/2008	$2,404	123
5092	RAD	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	39PSLL1	11/18/2009	$1,302	7880RR
5160	RAD	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D310KG1	3/30/2009	$958	7880RR
5259	RAD	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	9GBH4J1	5/27/2009	$1,249	7880RR
5292	RAD	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	8Y7ZRK1	7/30/2009	$1,249	7880RR
5297	RAD	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	4Z7ZRK1	7/30/2009	$1,249	7880RR
5304	RAD	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D300KG1	3/30/2009	$958	7880RR
5332	RAD	N/A	OA	Computer, Desktop	Dell	OptiplexN/A760	D34YJG1	3/30/2009	$958	7880RR
5432	RAD	N/A	A	Utility Vehicle	N/A	Ranger	4XATH76A7A4198219	8/5/2010	$14,661	
5441	RAD	N/A	OA	Computer, Desktop	Dell	OptiplexN/A780	5WLBMM1	7/20/2010	$1,206	7880RR
5473	RAD	N/A	OA	Flow Calibrator Kit	BiosN/ADefender	520M	121593	1/19/2010	$1,475	CNTROOM
5475	RAD	N/A	OA	Computer, Desktop	Dell	OptiplexN/A780	1NBMFQ1	4/20/2011	$1,524	7880RR
7022	RAD	N/A	OA	Locker	N/A	N/A	N/A	11/9/2010	$551	123
7025	RAD	720	A	Personnel ContaminationMonitor	N/A	ArgosN/A4ABN/APlus	1011-159	9/27/2010	$91,445	7880
7027	RAD	N/A	OA	APC Smart-UPS	N/A	XLN/AModularN/A1500	N/A	11/30/2010	$998	7880B
7028	RAD	N/A	OA	APC Smart-UPS	N/A	XLN/AModularN/A1500	N/A	11/30/2010	$998	7880B
7091	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7091	12/14/2010	$631	7880
7092	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7092	12/14/2010	$631	7880
7093	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7093	12/14/2010	$631	7880
7094	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7094	12/14/2010	$631	7880
7095	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7095	12/14/2010	$631	7880
7096	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7096	12/14/2010	$631	7880
7097	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7097	12/14/2010	$631	7880
7098	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7098	12/14/2010	$631	7880
7099	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7099	12/14/2010	$631	7880
7100	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7100	12/14/2010	$631	7880
7101	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7101	12/14/2010	$631	7880
7102	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7102	12/14/2010	$631	7880
7103	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7103	12/14/2010	$631	7880
7104	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7104	12/14/2010	$631	7880
7105	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7105	12/14/2010	$631	7880
7106	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7106	12/14/2010	$631	7880
7107	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7107	12/14/2010	$631	7880
7108	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7108	12/14/2010	$631	7880
7109	RAD	N/A	OA	Lapel Air Sampler	Gilian	Gilair5	7109	12/14/2010	$631	7880
7142	RAD	N/A	OA	General Purpose Scaler	N/A	2000	277273	3/24/2011	$1,513	7880RR

0000007148	RAD	N/A	OA	Alpha Beta Sample Counter	N/A	LM3030	275923	4/25/2011	$3,602	7880RR
0000007149	RAD	N/A	OA	Alpha Beta Sample Counter	LM	3030	275940	7/26/2011	$3,602	7880RR
7150	RAD	N/A	A	Alpha Spectrometer System	N/A	7200	13000695	1/31/2011	$43,714	7880
7151	RAD	N/A	A	Neutron Detector and Ball Cart	N/A	N/A	N/A	11/18/2010	$15,875	7880RR
0000007190	RAD	N/A	OA	High range alpha contam meter	Ludlum	LMN/A195	263657	8/4/2011	$1,048	7880
0000007191	RAD	N/A	OA	High range alpha contam meter	Ludlum	LMN/A195	263641	8/4/2011	$1,048	7880
0000007199	RAD	N/A	OA	Mobile Air Sampler	N/A	HD-29A	6227	10/11/2012	$1,862	RCT
0000007217	RAD	N/A	OA	Hepa Filtered Vacuum Cleaner	N/A	S2N1AP50KT	3820112100372	1/24/2012	$3,657	CPE
0000007230	RAD	N/A	OA	Low Volume Air Sampler	LowN/AVolumeN/AAirN/ASampler	LV-1	003992	3/14/2012	$1,050	CPE
0000007231	RAD	N/A	OA	Low Volume Air Sampler	LowN/AVolumeN/AAirN/ASampler	LV-1	003993	3/14/2012	$1,050	CPE
0000007232	RAD	N/A	OA	Low Volume Air Sampler	LowN/AVolumeN/AAirN/ASampler	LV-1	003994	3/14/2012	$1,050	CPE
0000007233	RAD	N/A	OA	Low Volume Air Sampler	LowN/AVolumeN/AAirN/ASampler	LV-1	003995	3/14/2012	$1,050	CPE
0000007234	RAD	N/A	OA	Mobile Air Sampler	N/A	LV-14M	3997	3/14/2012	$1,700	CPE
0000007235	RAD	N/A	OA	RadEye G	RadEyeN/AG	RadEyeN/AG	3389	3/26/2012	$864	7880RR
0000007236	RAD	N/A	OA	RadEye G	RadEyeN/AG	RadEyeN/AG	3391	3/26/2012	$864	7880RR
0000007245	RAD	N/A	OA	Workbench Modular	EDSAL	6YE53	N/A	3/20/2012	$620	7880B
0000007246	RAD	N/A	OA	Modular Workbench	EDSAL	6YE53	N/A	3/20/2012	$620	CPE
0000007249	RAD	N/A	OA	Neutron Detector	Ludlum	LM12-4/42-31	290883	2/27/2012	$3,065	7880B
0000007250	RAD	N/A	OA	Neutron Detector	Ludlum	LM12-4/42-31	290908	4/25/2011	$3,065	7880B
0000007251	RAD	N/A	OA	Neutron Detector	Ludlum	LM12-4/42-31	290889	4/25/2011	$3,065	7880B
0000007252	RAD	N/A	OA	Neutron Detector	Ludlum	LM12-4/42-31	290926	4/25/2011	$3,065	7880B
0000007253	RAD	N/A	OA	Neutron Detector	Ludlum	LM12-4/42-31	290929	4/25/2011	$3,065	7880B
0000007254	RAD	N/A	OA	RedEye GX Survey Meter	ThermoN/AScientific	679	N/A	3/26/2012	$910	7880B
0000007255	RAD	N/A	OA	RadEye GX Survey Meter	ThermoN/AScientific	RadeyeN/AGX	680	4/25/2011	$910	7880B

0000007260	RAD	N/A	OA	Survey Meter	RadEyeN/AGXN/ASurveyN/AMeter	N/A	681	3/6/2012	$910	7880
0000007261	RAD	N/A	OA	RadEye GX Survey Meter	RadEyeN/AGXN/ASurveyN/AMeter	N/A	672N/A/N/A9091	4/11/2012	$910	7880
0000007262	RAD	N/A	OA	RadEye GX Survey Meter	RadEyeN/AGXN/ASurveyN/AMeter	HP-270	675N/A/N/A09093	4/11/2012	$910	7880
0000007264	RAD	N/A	OA	Work Table Cabinet	DurhamN/A	N/AGraingerN/APartN/A#N/A6RHJ0	N/A	3/29/2012	$1,358	CPE
0000007265	RAD	N/A	OA	Portable Air Conditioner	Whynter	ARC-14SH	202555706	6/21/2012	$589	7880
0000007288	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	225203/260615	(blank)	$2,290	7880
0000007307	RAD	N/A	OA	Floor Monitor Survey Instrumen	Ludlum	M-239-1F	PR315809	1/12/2012	$4,675	7880RR
0000007311	RAD	N/A	OA	HEPA Vacuum Cleaner	N/A	GM80i	3510122603820	10/31/2012	$1,623	7880RR
0000007338	RAD	N/A	OA	M78 Stretch Scope	N/A	MN/A78	301051	11/19/2012	$3,925	7880
0000007339	RAD	N/A	OA	M78 Stretch Scope	N/A	MN/A78	301067	11/19/2012	$3,925	7880
0000007349	RAD	N/A	OA	HEPA Vacuum Cleaner	N/A	GM80i	3510122305769	10/31/2012	$1,623	7880RR
0000007350	RAD	N/A	OA	Low Volume Air Sampler	N/A	LV-14M	004098	2/11/2013	$1,700	7880
0000007351	RAD	N/A	OA	Low Volume Air Sampler	N/A	LV-14M	004096	2/11/2013	$1,700	7880
0000007352	RAD	N/A	OA	Low Volume Air Sampler	N/A	LV-14M	004097	2/11/2013	$1,700	7880
0000007356	RAD	N/A	OA	AV Cart with Cabinet	N/A	24T897	N/A	2/19/2013	$578	7880RR
0000007357	RAD	N/A	OA	AV Cart with Cabinet	N/A	24T897	N/A	2/19/2013	$578	7880RR
0000007364	RAD	N/A	OA	Work Table Cabinet	DurhamN/A	N/AGraingerN/APartN/A#N/A1UBK4	N/A	3/29/2012	$814	CPE
0000009128	RAD	N/A	OA	My Book - Live Duo	WesternN/ADigital	WDBVHT0060JCH-00	WUZ231602475	11/25/2013	$359	7880RR
0000009129	RAD	N/A	OA	XP Computer Assembly	Canberra	814370	1311-371	8/6/2013	$3,630	7880
0000009179	RAD	N/A	OA	Computer, Desktop	Dell	OptiplexN/A7010	8CRGZV1	11/29/2012	$966	7880B
9368	RAD	N/A	OA	Computer, Desktop	HP	DC5100MT	2ub53803hm	7/15/2006	$571	7880RR
9414	RAD	N/A	OA	External Hard Drive	WesternN/ADigital	2.5"	1020908225850	(blank)	$200	7880RR
0000009499	RAD	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH031	7/1/2009	$517	7880B
01806/1807	RAD	N/A	OA	Survery inst. w/probe	N/A	ASP-2/2e/210L	1238	11/18/2002	$1,225	7880

01808/3857	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	202507/286740	7/12/2004	$1,300	7880
01810/NA	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	202588/277240	7/14/2004	$1,300	7880
01812/2142	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	202536/277222	7/13/2004	$1,300	7880
01827/	RAD	N/A	OA	Lapel Air Sampler Calibrator	N/A	Gillibrator/'20	0302400/'0303835-S	5/19/2004	$1,210	7880
01829/1830	RAD	N/A	OA	Lapel Air Sampler Calibrator	N/A	Gillibrator/'20	0601024/'0601002-S	3/2/2006	$1,210	7880
01845/1846	RAD	N/A	OA	Alpha Beta Sample Counter	N/A	LM3030E/43-10-1	217527/218258	1/24/2006	$2,490	7880
01856/1857	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	211328/228688	4/24/2005	$1,590	7880
01860/1861	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	211265/228692	4/22/2005	$1,590	7880
01862/1863	RAD	N/A	OA	Gamma Dose Rate Meter/Probe	N/A	ASP-2/2e/HPN/A270	1773/2982	9/23/2005	$1,030	7880
01955/1956	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	234854/244528	(blank)	$2,290	7880
01957/1958	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	225182/244530	(blank)	$2,290	7880
01959/1960	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	227411/238087	(blank)	$2,290	7880
01961/1936	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	225214/244518	(blank)	$2,290	7880
01965/1966	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	202420/226869	4/22/2005	$2,290	7880
01967/2039	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	202432/202039	4/22/2005	$2,290	7880
01969/1970	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	202453/238086	4/22/2005	$2,290	7880
01992/3841	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	225277/232023	1/30/2006	$2,290	7880
02002/2003	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	225234/236963	1/30/2006	$2,290	7880
02004/2005	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	225176/236981	4/3/2006	$2,290	7880
02009/2010	RAD	N/A	OA	Alpha Beta Sample Counter	N/A	LM3030E/43-10-1	217620/229372	12/17/2004	$2,490	7880
02014/2015	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	193659/238111	4/22/2005	$2,290	7880
02020/2021	RAD	N/A	OA	Alpha Beta Sample Counter	N/A	LM3030E/43-10-1	217535/218260	1/4/2006	$2,490	7880
02031/2032	RAD	N/A	A	Beta CAM	N/A	AMS-4/'InlineN/AP	1503/Inline1503	6/28/2002	$11,340	7880
02097/2098	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	214647/220415	4/27/2005	$1,590	7880

02099/2100	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	211338/228689	4/26/2005	$1,590	7880
02101/2102	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	211329/228693	4/25/2005	$1,590	7880
02103/2104	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	211294/228687	4/23/2005	$1,590	7880
1157/1940	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	245783/236958	9/17/2007	$2,290	7880B
1158/3952	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	245784/260618	9/17/2007	$2,290	7880B
1159/3842	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	245766/260619	9/17/2007	$2,290	7880B
1160/2184	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	245793/260616	9/17/2007	$2,290	7880B
1161/2151	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	245755/260617	9/17/2007	$2,290	7880B
2131/2132	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	257801/277223	(blank)	$1,300	7880
2133/2135	RAD	N/A	OA	Gamma Dose Rate Meter/Probe	N/A	LM3/43-38	245319/260043	(blank)	$2,895	7880
2133/2179	RAD	N/A	OA	Gamma Dose Rate Meter/Probe	N/A	LM3/43-38	245319/260043	(blank)	$2,895	7880
2136/1813	RAD	N/A	OA	Beta/Gamma Frisker/probe set	N/A	LM2241/44-40	258086/209572	(blank)	$500	7880
2137/2138	RAD	N/A	OA	Gamma Dose Rate Meter/Probe	N/A	LM3/43-38	245394/260036	(blank)	$2,895	7880
2139/2140	RAD	N/A	OA	Gamma Dose Rate Meter/Probe	N/A	LM3/43-38	245361/260035	(blank)	$2,895	7880
2164/2165	RAD	N/A	OA	Alpha Beta Sample Counter	N/A	LM3030E/43-10-1	217519/249059	(blank)	$2,995	7880
2166/2167	RAD	N/A	OA	Alpha Beta Sample Counter	N/A	LM3030E/43-10-1	217521/249087	(blank)	$2,995	7880
2171/2172	RAD	N/A	OA	Beta/Gamma Frisker/probe set	N/A	LM2241/44-40	258091/265475	(blank)	$500	7880
2178/2179	RAD	N/A	OA	Gamma Dose Rate Meter/Probe	N/A	LM3/43-38	245320/260030	(blank)	$2,895	7880
3280/3961	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	259714/278230	5/1/2009	$2,528	7880
3281/3956	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	259713/277360	5/1/2009	$2,528	7880
3282/2169	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	259746/277354	5/1/2009	$2,528	7880
3283/3850	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	259738N/A/277355	5/1/2009	$2,528	7880
3284/2168	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	259757/277356	5/1/2009	$2,528	7880

3285/2183	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	259747/278240	5/1/2009	$2,528	7880
3570/2180	RAD	N/A	OA	Gamma Dose Rate Meter/Probe	N/A	AMP-100	5008-063	5/3/2010	$2,650	7880
3571/2182	RAD	N/A	OA	Gamma Dose Rate Meter/Probe	N/A	AMP-100	5007-254	5/3/2010	$2,650	7880
3704/2140	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	265953/237232	4/8/2010	$2,167	7880
3705/2143	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	265906/286738	4/8/2010	$2,167	7880
3706/2187	RAD	N/A	OA	Alpha Frisker/probe set	N/A	LM177/43-92	265945/281519	4/8/2010	$2,167	7880
3707/2193	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	268440/286555	4/8/2010	$2,719	7880
3708/3951	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	268448/286578	4/8/2010	$2,719	7880
3709/2170	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	268446/286569	4/8/2010	$2,719	7880
3710/3840	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	268430/286571	4/8/2010	$2,719	7880
3711/3963	RAD	N/A	OA	A/B Contam Survey Inst w/Probe	N/A	LM2360/43-93	268510/286570	4/8/2010	$2,719	7880
3845/3846	RAD	N/A	OA	Beta/Gamma Frisker/probe set	N/A	LM2241/44-40	258082/265472	(blank)	$500	7880
3847/3848	RAD	N/A	OA	Gamma Dose Rate Meter/Probe	N/A	LM3/43-38	245517/260034	(blank)	$2,895	7880
3860/1811	RAD	N/A	OA	Beta/Gamma Frisker/probe set	N/A	LM2241/44-40	258107/209564	(blank)	$500	7880
3861/1809	RAD	N/A	OA	Beta/Gamma Frisker/probe set	N/A	LM2241/44-40	258120/209569	(blank)	$500	7880
N/A	RAD	N/A	OA	Gamma Dose Rate Meter/Probe	N/A	ASP-2/2e/HPN/A270	1772/3230	9/23/2005	$1,030	7880
TBD	RAD	N/A	OA	Neutron Detection Instrument	N/A	FHTN/A762	103	(blank)	$7,000	7880
1096	RH	N/A	OA	Lid Manual Tool Assembly	N/A	N/A	N/A	8/14/2007	$1,610	7880
1097	RH	N/A	OA	Canister Lifting Tool (72-B)	N/A	N/A	N/A	8/28/2007	$1,085	
1149	RH	N/A	OA	Drum Funnel, 55 gallon	N/A	N/A	N/A	10/8/2007	$835	
1167	RH	N/A	OA	Chain Hoist with Trolley	N/A	SNERM005L-L	104933	10/24/2007	$3,733	HOT CELL
1204	RH	N/A	OA	Manual Lift - 500lb capacity	N/A	A-Lift-R	S507225	1/23/2008	$657	7880
1205	RH	N/A	OA	Filtration Unit	N/A	SP125A	10799-16	1/28/2008	$5,395	231
1206	RH	N/A	OA	Filtration Unit	N/A	SP125A	10799-17	1/28/2008	$5,395	7880U
1726	RH	N/A	OA	Receiver, Outdoor	N/A	ERD2200	713-9867	4/18/2007	$748	127
2255	RH	N/A	OA	Camera - TV Zoom Lens - 5-50 m	N/A	CL-550	N/A	(blank)	$400	HOT CELL
3155	RH	N/A	OA	Digital Tension Force Gauge	N/A	WT-362020018	DEDX2300363	1/12/2009	$2,504	231
3533	RH	N/A	OA	Digital Tension Force Gauge	N/A	36189-0031	DEDX2300454	12/13/2009	$2,354	7880
3553	RH	N/A	OA	Ladder, Steel Platform	N/A	8188T57	N/A	4/1/2010	$732	7880
3717	RH	670	A	Hot Cell Maint Area Crane	N/A	10-ton	35211	4/20/2010	$74,677	322
3730	RH	N/A	OA	Portable 48" Fan w/Stand	N/A	Valu-Cool	C-10	8/3/2010	$979	7880

0000003753	RH	N/A	OA	Air Conditioner/Heat Pump	N/A	MR12Y3H	AKMC00113	6/6/2012	$1,808	CPE
0000003797	RH	N/A	OA	Storage Chest	N/A	60	0922414635	4/1/2013	$0	7880-NST
0000004291	RH	735	A,H	Powered Remote Manipulator	N/A	N/A		11/9/2010	$558,946	7880QQ
0000004292	RH	735	A,H	Powered Remote Manipulator	N/A	N/A		11/9/2010	$558,946	7880QQ
5382	RH	N/A	OA	Heavy Duty Steel Storage Chest	N/A	6758A26	KN809025550	2/23/2010	$648	7880
7005	RH	N/A	OA	High Capacity Shelving	EDSAL	BoltlessN/AW96	N/A	9/23/2010	$701	30-TON
7035	RH	710	A	Forklift - Battery Powered	Hoist	E220	29253	9/29/2010	$225,212	MOBILE
7158	RH	N/A	OA	Flam Cabinet, Bench Height	N/A	A105	N/A	4/18/2011	$547	7880
0000007207	RH	N/A	OA	Stronghold Fixed Leg Workbench	N/A	T6036SS	205069	1/30/2012	$2,399	CPE
0000007208	RH	N/A	OA	Wilton Vise	N/A	TradesmanN/A1765	9000450N/A0911	1/26/2012	$588	7880B
0000007209	RH	N/A	OA	Wilton Vise	N/A	TradesmanN/A1765	9000450N/A1011	1/26/2012	$588	7880B
0000007220	RH	N/A	OA	Jumbo Storage Cabinet	Tennsco	J1878SU-Black	CabinetN/A1	1/31/2012	$525	CPE
0000007221	RH	N/A	OA	Jumbo Storage Cabinet	N/A	J1878SU-Black	CabinetN/A2	1/31/2012	$525	CPE
0000007224	RH	N/A	OA	Scale, Floor	MettlerN/AToledo	2158-002011-AN/A-WIPP-161;IND560	11832731A;00774796EN	1/12/2012	$5,872	CPE
0000007225	RH	N/A	OA	Containment Pallet	N/A	DeniosN/AK3120	N/A	2/8/2012	$1,982	CPE
0000007226	RH	N/A	OA	Containment Pallet	N/A	DeniosN/AK3120	N/A	2/8/2012	$1,982	CPE
0000007280	RH	N/A	A	5-Ton Hoist	CMN/ALodestar	5285MCF	XL-4797VG	7/2/2012	$13,329	CPE
0000001020	SA	N/A	OA	Automated Ext Defibrillator	N/A	AEDN/APlus	X03C012131	4/3/2006	$1,595	7880CC
0000001026	SA	N/A	OA	Automated Ext Defibrillator	N/A	AEDN/APlus	X05L075604	4/3/2006	$1,595	7880Y
1037	SA	N/A	OA	Automated Ext Defibrillator	N/A	AEDN/APlus	X05L075924	4/3/2006	$1,595	CNTRLPT
1089	SA	N/A	OA	Multi RAE Plus	N/A	PGM50-5P	095-521104	8/8/2007	$2,440	7880KK
1091	SA	N/A	OA	Dosimeter - 5 pack	N/A	DL	SeeN/ANotes	8/8/2007	$6,899	7880KK
1092	SA	N/A	OA	DEC 1/3 Analyzer Kit	N/A	SPN/ADL	BIG080001	8/8/2007	$3,499	7880KK
1094	SA	N/A	OA	Haz Dust Monitor Kit	N/A	HD-1004	7072127	8/8/2007	$4,272	7880KK
1098	SA	N/A	OA	Detector Tube Pump Kit	N/A	Accuro	ARYB-F002	8/8/2007	$517	7880KK
1101	SA	N/A	OA	Digital Camera	Canon	PowershotN/AA570	4722107900	9/10/2007	$172	HOT CELL
1135	SA	N/A	OA	Portable Eyewash Station	N/A	10N/Agallon	N/A	9/25/2007	$746	7880YY
1222	SA	N/A	OA	Emergency Eyewash Station	N/A	10-Gallon	N/A	1/29/2008	$746	231
1243	SA	N/A	OA	Portable Eyewash/ShowerBlanket	N/A	S19-690HR	N/A	2/22/2008	$782	7880QQ
1244	SA	N/A	OA	Portable Eyewash/ShowerBlanket	N/A	S19-690HR	N/A	2/22/2008	$782	7880BB

1245	SA	N/A	OA	Portable Eyewash/ShowerBlanket	N/A	S19-690HR	N/A	2/22/2008	$782	7880QQ
1246	SA	N/A	OA	Portable Eyewash/ShowerBlanket	N/A	10-Gallon	N/A	2/22/2008	$782	7880AA
1703	SA	N/A	OA	AirCon2 Power Module & Charger	N/A	GIL-801000-1	20070102005	2/21/2007	$567	7880KK
1704	SA	N/A	OA	AirCon2 Power Module & Charger	N/A	GIL-801000-1	20070102002	2/21/2007	$567	7880KK
1705	SA	N/A	OA	Gil Air 5-Pack	N/A	80883-111-1205	7010817	2/21/2007	$3,258	7880KK
1706	SA	N/A	OA	Gil Air 5-Pack	N/A	800883-111-1205	7010820	2/21/2007	$3,258	7880KK
1707	SA	N/A	OA	Aircon 2 Programmable Sampler	N/A	GIL-801012-100	20070201010	2/21/2007	$1,851	7880KK
1708	SA	N/A	OA	Aircon 2 Programmable Sampler	N/A	GIL-801012-100	20070201009	2/21/2007	$1,851	7880KK
1709	SA	N/A	OA	Mobile Cabinet / Workbench	N/A	4624-T43	N/A	2/7/2007	$792	7880KK
1723	SA	N/A	OA	Automated Ext Defibrillator	N/A	AEDN/APlus	X06L102844	3/27/2007	$1,813	7880Z
2339	SA	N/A	OA	Multi RAE Plus	N/A	PGM50-5P	095-518829	6/1/2006	$3,485	7880KK
2465	SA	N/A	OA	Multi RAE Plus	N/A	PGM50-5P	095-518808	6/1/2006	$3,485	7880KK
3087	SA	N/A	OA	Battery Maintenance System	N/A	850086	0808005N/ARevN/AM0	8/12/2008	$660	7880KK
3102	SA	N/A	OA	Calibrator	N/A	Defender-H	113491	7/15/2008	$1,425	7880KK
3103	SA	N/A	OA	Calibrator	N/A	Defender-M	114776	7/15/2008	$1,425	7880KK
3105	SA	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJSP945	9/15/2008	$517	7880KK
3107	SA	N/A	OA	Multi RAE Plus	N/A	PGM50-5P	095-524217	9/18/2008	$3,485	7880KK
3108	SA	N/A	OA	Heat Stress Monitor	QuestN/ATemp	36	TKH090022	9/11/2008	$2,585	7880KK
3109	SA	N/A	OA	Air Particle Monitor	N/A	PDR-1000AN	6838-08	10/10/2008	$3,995	7880KK
3221	SA	N/A	OA	Portable Eyewash/ShowerBlanket	N/A	10-Gallon	N/A	2/22/2008	$782	7880AA
3226	SA	N/A	OA	Automated Ext Defibrillator	N/A	AEDN/APlus	X09A387357	4/30/2009	$1,649	231
3227	SA	N/A	OA	Automated Ext Defibrillator	N/A	AEDN/APlus	X09C401520	4/30/2009	$1,649	7880RR
3354	SA	N/A	OA	Portable Eyewash Station	N/A	10-Gallon	B07T0303	3/6/2007	$746	7880BB-S
3355	SA	N/A	OA	Portable Eyewash Station	N/A	10-Gallon	B07T0276	3/6/2007	$746	30-TON
3356	SA	N/A	OA	Portable Eyewash Station	N/A	10-Gallon	B07T0313	3/6/2007	$746	7880BB-N
3484	SA	N/A	OA	Sound Level Metering Kit	N/A	2200	Multiple	9/4/2009	$1,594	7880KK
3485	SA	N/A	OA	AC XR5M Pump Kit	N/A	XR5000	Multiple	9/4/2009	$4,825	7880KK
3496	SA	N/A	OA	Aircon 2 Programmable Sampler	N/A	801012-100	200908002	10/6/2009	$1,935	7880KK
3497	SA	N/A	OA	Aircon 2 Programmable Sampler	N/A	801012-100	200908003	10/6/2009	$1,935	7880KK
3498	SA	N/A	OA	AirCon2 Power Module & Charger	N/A	801000-2	200908002	10/6/2009	$510	7880KK
3499	SA	N/A	OA	AirCon2 Power Module & Charger	N/A	801000-2	200908003	10/6/2009	$510	7880KK
3569	SA	N/A	OA	Multi RAE Plus	N/A	PGM50-5P	095-526937	4/6/2010	$3,661	7880B
3588	SA	N/A	OA	Polar Team2 Pro System	N/A	Team2N/APro	CO12U60500033	5/13/2010	$6,189	7880KK
0000003610	SA	N/A	OA	Multi RAE Plus	N/A	PGM50-5P	095-521115	8/8/2007	$2,440	7880KK
0000003611	SA	N/A	OA	Heat Stress Monitor	QuestN/ATemp	056-910	HUI090008	9/4/2009	$1,630	7880KK
0000003612	SA	N/A	OA	Heat Stress Monitor	QuestN/ATemp	056-910	JHI090006	9/4/2009	$1,630	7880KK

0000003613	SA	N/A	OA	Heat Stress Monitor	QuestN/ATemp	36	TKG080013	8/8/2007	$1,995	7880KK
0000003614	SA	N/A	OA	Calibrator	N/A	DefenderN/A520-L	111948	8/8/2007	$1,575	7880KK
3688	SA	N/A	OA	Portable Eyewash/ShowerBlanket	N/A	10-Gallon	N/A	(blank)	$782	HOT CELL
3722	SA	N/A	OA	Heat Stress Estimator	N/A	46	TSJO50014-1	6/15/2010	$2,742	7880KK
3723	SA	N/A	OA	Heat Stress Estimator	N/A	46	TSJO50015-1	6/15/2010	$2,742	7880KK
0000004030	SA	N/A	OA	Portable Eyewash Station	Bradley	S19-690	N/A	11/4/2013	$916	MOBILE
0000004048	SA	N/A	OA	Eyewash Station, 10 Gallon	Bradley	B75S19-690	N/A	1/21/2014	$916	WH-42
0000004049	SA	N/A	OA	Eyewash Station, 10 Gallon	Bradley	B75S19-690	N/A	1/21/2014	$916	WH-42
0000004108	SA	N/A	OA	Portable Eyewash Station	Bradley	S19-690	N/A	11/4/2013	$916	MOBILE
0000004109	SA	N/A	OA	Portable Eyewash Station	Bradley	S19-690	N/A	11/4/2013	$916	MOBILE
5247	SA	N/A	OA	Portable Eyewash Station	N/A	S19-690	N/A	2/10/2010	$805	7880AA
5249	SA	N/A	OA	Portable Eyewash Station	N/A	S19-690	N/A	2/10/2010	$805	134
5250	SA	N/A	OA	Portable Eyewash Station	N/A	4T004	N/A	2/10/2010	$805	CPE
7152	SA	N/A	OA	Portable Eyewash Station	N/A	10-Gallon	N/A	3/2/2011	$810	231
7153	SA	N/A	OA	Portable Eyewash Station	N/A	10-Gallon	N/A	3/2/2011	$810	7880QQ
7154	SA	N/A	OA	Portable Eyewash Station	N/A	10-Gallon	N/A	3/2/2011	$810	7880HH
7155	SA	N/A	OA	Portable Eyewash Station	N/A	10-Gallon	N/A	3/2/2011	$810	WH-42
7156	SA	N/A	OA	Portable Eyewash Station	N/A	10-Gallon	N/A	3/2/2011	$810	7880A
0000007180	SA	N/A	OA	ISAFE Starter Kit Scanner	N/A	9000046	A213J0037133	4/7/2011	$3,327	7880KK
0000007216	SA	N/A	OA	Multi RAE Plus	RAEN/ASystems	PGM50-5P	095-532843	12/22/2011	$3,775	7880KK
0000007223	SA	N/A	OA	Polar Team2 System Kit	N/A	N/A	C130U60501089	12/21/2011	$3,999	CPE
3682	SL	N/A	A	1000 CFM Rotary Screw Air Comp	N/A	H250	TS6833	9/10/2009	$134,243	ACS
5120	SL	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD830	8YBFCF1	12/26/2007	$1,704	7880XX
0000007424	SL	N/A	OA	Balance	DenverN/AInstruments	UNK	UNK	7/8/2013	$500	SLCNX
0000007425	SL	N/A	OA	Furnace	N/A	UNK	UNK	(blank)	$500	SLCNX
0000007426	SL	N/A	OA	Flammable Materials Cabinet	N/A	UNK	UNK	(blank)	$700	SLCNX
0000007427	SL	N/A	OA	Video Disc Recorder	Sony	Handycam	1282648	(blank)	$400	SLCNX
1182	SN	N/A	OA	Bar Code Scanner Kit	N/A	P360	M1K49G19G	12/20/2007	$1,954	7880A
1183	SN	N/A	OA	Bar Code Scanner Kit	N/A	P360	M1K65Y94N	12/20/2007	$1,954	7880A
1468	SN	N/A	OA	Bar Code Scanner Kit	N/A	P360	M1J70V20R	9/25/2006	$961	7880Y
1469	SN	N/A	OA	Bar Code Scanner Kit	DataProN/ASolutio	P360	M1J74J52L	9/25/2006	$961	7880B
1470	SN	N/A	OA	Bar Code Scanner Kit	DataProN/ASolutio	P360	M1J74J69R	9/25/2006	$961	7880B

1471	SN	N/A	OA	Bar Code Scanner Kit	N/A	P360	M1J70V17D	9/25/2006	$961	7880CC
1472	SN	N/A	OA	Bar Code Scanner Kit	N/A	P360	M1J70V21Y	9/25/2006	$961	231
1473	SN	N/A	OA	Bar Code Scanner Kit	N/A	P360	M1J74J46Y	9/25/2006	$961	7880AA
1474	SN	N/A	OA	Bar Code Scanner Kit	N/A	P360	M1J70V18J	9/25/2006	$961	7880A
1475	SN	N/A	OA	Bar Code Scanner Kit	N/A	P360	M1J73F61H	9/25/2006	$961	7880BB
3009	SN	N/A	OA	Bar Code Scanner Kit	N/A	P360	M1K41V68M	(blank)	$1,211	7880B
3681	SN	N/A	OA	Bar Code Scanner Kit	N/A	P360	M1K41V80D	(blank)	$961	7880B
3936	SN	N/A	OA	Portable Breathing Purifier	N/A	BB100	47728	7/27/2009	$1,822	7880B
3937	SN	N/A	OA	Portable Breathing Purifier	N/A	BB100	47729	7/27/2009	$1,630	7880B
3938	SN	N/A	OA	CO Monitor	N/A	C091-14LAC	48197	7/27/2009	$1,162	7880B
0000004013	SN	N/A	OA	iPad Mini	Apple	A1432	F4KL6036F194	8/29/2013	$416	7880B
0000004014	SN	N/A	OA	iPad, 64GB	Apple	A1458	DMPKKC19F184	(blank)	$416	7880B
0000004088	SN	N/A	OA	iPad, 64GB	Apple	A1458	DMPL8475F184	10/9/2013	$735	7880B
0000004090	SN	N/A	OA	iPad, 64GB	Apple	A1458	DMPL82KHF184	(blank)	$735	7880B
0000004092	SN	N/A	OA	iPad, 64GB	Apple	A1458	DMPL85ULF184	(blank)	$735	7880B
0000004094	SN	N/A	OA	iPad, 64GB	Apple	A1458	DMPL8349F184	(blank)	$735	7880B
0000004096	SN	N/A	OA	iPad, 64GB	Apple	A1458	DMPL81M6F184	(blank)	$735	7880B
0000004098	SN	N/A	OA	iPad, 64GB	Apple	A1458	DMPL73NCF184	(blank)	$735	7880B
0000007177	SN	N/A	OA	RFID Scanner	Motorola	MC9090	1202600503269	(blank)	$3,274	7880BB
0000007178	SN	N/A	OA	RFID Scanner	Motorola	MC9090	1126500503577	(blank)	$3,274	7880A
0000007179	SN	N/A	OA	RFID Scanner	Motorola	MC9090	1201100504084	(blank)	$3,274	7880B
0000007228	SN	N/A	OA	RFID Scanner	Motorola	MC9090	1201100504100	2/13/2012	$3,274	MOBILE
0000007229	SN	N/A	OA	RFID Scanner	Motorola	MC9090	1202600503273	(blank)	$3,274	CPE
0000007300	SN	N/A	OA	RFID Scanner	Motorola	MC9090	1201100504088	(blank)	$3,274	7880CC
0000007301	SN	N/A	OA	RFID Scanner	Motorola	MC9090	1201100504104	(blank)	$3,274	231
0000007302	SN	N/A	OA	RFID Scanner	Motorola	MC9090	1201100504083	(blank)	$3,274	7880B
0000007303	SN	N/A	OA	RFID Scanner	Motorola	MC9090	1201100504105	(blank)	$3,274	7880B
0000007304	SN	N/A	OA	RFID Scanner	Motorola	MC9090	1201100504085	(blank)	$3,274	7880B

0000007305	SN	N/A	OA	RFID Scanner	Motorola	MC9090	1201100504102	(blank)	$3,274	7880B
0000007306	SN	N/A	OA	RFID Scanner	Motorola	MC9090	1202600503281	(blank)	$3,274	ROE-DVS
1068	STORES	N/A	OA	20' sea land container	N/A	N/A	STORES-27	(blank)	$3,600	WH-11
1069	STORES	N/A	OA	20' sea land container	N/A	N/A	STORES-28	(blank)	$3,600	WH-25
1070	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-26	(blank)	$3,600	LAYDWNYD
1071	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-29	(blank)	$3,600	LAYDWNYD
1072	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-7	(blank)	$3,600	LAYDWNYD
1073	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-27	(blank)	$3,600	LAYDWNYD
1077	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-24	(blank)	$3,600	LAYDWNYD
1111	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-21	(blank)	$3,600	LAYDWNYD
1112	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	STORES-22	(blank)	$3,600	LAYDWNYD
1113	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-23	(blank)	$3,600	LAYDWNYD
1114	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-2	(blank)	$3,600	7880U
1115	STORES	N/A	OA	40' Sea land container	MobileN/AMini	N/A	WH-58	(blank)	$6,000	7880AA
1116	STORES	N/A	OA	40' Sea land container	MobileN/AMini	N/A	WH-57	(blank)	$6,000	7880AA
1117	STORES	N/A	OA	40' Sea land container	MobileN/AMini	N/A	WH-56	(blank)	$6,000	7880AA
1118	STORES	N/A	OA	40' Sea land container	MobileN/AMini	N/A	WH-55	(blank)	$6,000	7880AA
1119	STORES	N/A	OA	20' sea land container	N/A	N/A	WH-3	(blank)	$3,600	WAREHOUS
1120	STORES	N/A	OA	20' sea land container	N/A	N/A	WH-4	(blank)	$3,600	WAREHOUS
1122	STORES	N/A	OA	20' sea land container	N/A	N/A	WH-33	(blank)	$3,600	WAREHOUS
1445	STORES	N/A	OA	Wall Mount Enclosure	Blackbox	BLA-RM232A-R2	N/A	7/7/2006	$635	7880NN
1566	STORES	N/A	OA	Computer, Desktop / FAS Desk	Dell	OptiflexN/A745	CKJ7DC1	1/11/2007	$1,735	7880NN
1573	STORES	N/A	OA	Computer, Desktop / FAS Desk	Dell	OptiflexN/A745	BKJ7DC1	1/11/2007	$1,735	7880NN
1690	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-1	(blank)	$3,600	WAREHOUS
1693	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	OpsN/ASealand	(blank)	$3,600	CPE
1694	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-14	(blank)	$3,600	WAREHOUS
1695	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-15	(blank)	$3,600	WAREHOUS
1696	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-16	(blank)	$3,600	WAREHOUS
1697	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-17	(blank)	$3,600	WAREHOUS
1698	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-8	(blank)	$3,600	WAREHOUS
1699	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-18	(blank)	$3,600	WAREHOUS
1700	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	STORES-19	(blank)	$3,600	LAYDWNYD
1734	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	STORES-11	(blank)	$3,600	LAYDWNYD
1750	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	STORES-12	(blank)	$3,600	LAYDWNYD
1751	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	STORES-10	(blank)	$3,600	LAYDWNYD
1752	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	STORES-09	(blank)	$3,600	LAYDWNYD
1753	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	STORES-20	(blank)	$3,600	LAYDWNYD
1758	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	STORES-36	(blank)	$3,684	LAYDWNYD
2067	STORES	N/A	OA	Small Tool Cart	N/A	N/A	N/A	1/1/2002	$500	WH-7
2209	STORES	N/A	OA	Cage, gas bottle / CAGE #2	N/A	N/A	N/A	(blank)	$600	WAREHOUS
2211	STORES	N/A	OA	Cage, gas bottle / CAGE #6	N/A	N/A	N/A	(blank)	$600	WAREHOUS
2212	STORES	N/A	OA	Cage, gas bottle / CAGE #7	N/A	N/A	N/A	(blank)	$600	WAREHOUS
2213	STORES	N/A	OA	Cage, gas bottle	AmericanN/AStandard	N/A	N/A	(blank)	$600	7880NN
2214	STORES	N/A	OA	Spill container, rotary top	N/A	1646RTC	N/A	(blank)	$500	UPLAYDWN
2232	STORES	N/A	OA	Cage, gas bottle / CAGE #1	AmericanN/AStandard	N/A	N/A	(blank)	$600	WAREHOUS

2233	STORES	N/A	OA	Cage, gas bottle / CAGE #4	N/A	N/A	N/A	(blank)	$600	WAREHOUS
2234	STORES	N/A	OA	Cage, gas bottle / CAGE #3	N/A	N/A	N/A	(blank)	$600	WAREHOUS
2490	STORES	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THQP502	8/23/2007	$517	7880NN
3153	STORES	N/A	OA	Fuel Tank - Above Ground	N/A	120-gallon	C963068	10/29/2008	$1,733	WAREHOUS
3154	STORES	N/A	OA	Fuel Tank - Above Ground	N/A	120-gallon	C963067	10/29/2008	$1,733	WAREHOUS
3171	STORES	N/A	A	Electric Motor - 200HP	N/A	ECP4407T-4	N/A	11/24/2008	$12,150	WH-9
3400	STORES	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THAF695	2/6/2007	$517	7880NN
3481	STORES	N/A	A	Utility Vehicle	Polaris	4x4	4XAHH68A782874480	8/27/2009	$13,170	MOBILE
0000003633	STORES	N/A	OA	Storage Chest	KNAAK	109	911718696	5/11/2009	$1,212	WH-7
0000003634	STORES	N/A	A	Temp/Humidity Data Logger	Extech	RH520	CH26386	7/1/2013	$698	7880YY
0000003639	STORES	N/A	OA	Television - 22" Outdoor	SunbriteN/ATV	SB2220HD	2220T1210	1/16/2013	$2,661	7880UU
3770	STORES	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TJR1940	5/7/2009	$517	7880NN
3870	STORES	N/A	OA	Uninterupted Power Supply	APC	SmartUPSN/A2200	JS0849006253	(blank)	$683	7880NN
3871	STORES	N/A	OA	Uninterupted Power Supply	APC	SmartUPSN/A2200	WS101726089	(blank)	$683	7880NN
3909	STORES	N/A	OA	Cage, gas bottle / CAGE #8	N/A	N/A	N/A	(blank)	$600	WAREHOUS
3930	STORES	N/A	OA	Portable Eyewash/ShowerBlanket	N/A	10-Gallon	N/A	(blank)	$782	231
0000004040	STORES	N/A	OA	Storage Cabinet	N/A	4477T3	N/A	2/27/2007	$712	7880YY
0000004041	STORES	N/A	OA	Storage Cabinet	N/A	4477T3	N/A	2/27/2007	$712	7880YY
0000004042	STORES	N/A	OA	Storage Cabinet	N/A	4477T3	N/A	(blank)	$712	7880YY
0000004110	STORES	N/A	OA	Dolly, Easy Turn, Cleated, 8k	Hevi-Haul	9914T34	N/A	1/16/2014	$672	WAREHOUS
0000004111	STORES	N/A	OA	Dolly, Easy Turn, Cleated, 8k	Hevi-Haul	9914T34	N/A	1/16/2014	$672	WAREHOUS
0000004112	STORES	N/A	OA	Dolly, Easy Turn, Cleated, 8k	Hevi-Haul	9914T34	N/A	1/16/2014	$672	WAREHOUS
0000004113	STORES	N/A	OA	Dolly, Easy Turn, Cleated, 8k	Hevi-Haul	9914T34	N/A	1/16/2014	$672	WAREHOUS
0000004159	STORES	N/A	OA	Utility Vehicle	Kubota	RTV-X1100CWL-H	A5KC2GDBPEG012671	(blank)	$19,025	MOBILE
0000004160	STORES	N/A	OA	Jobsite Storage Cabinet	Knaack	112	N/A	3/12/2014	$3,969	7880NN
0000004170	STORES	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TPYM964	2/18/2014	$517	7880YY
0000004171	STORES	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TQA3060	(blank)	$517	7880YY
0000004172	STORES	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TQA3227	(blank)	$517	7880YY
0000004173	STORES	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TQCF648	(blank)	$517	7880YY

00000041 74	STORES	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TQCF649	(blank)	$517	7880YY
00000041 75	STORES	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TQCF650	(blank)	$517	7880YY
5085	STORES	N/A	OA	FE-26 Digital Camera	Olympus	OLY-227095	ULA11032	11/9/2009	$88	7880NN
5137	STORES	N/A	OA	Computer, Desktop	Dell	OptiplexN/A755	FN90YF1	3/19/2008	$619	7880NN
5154	STORES	N/A	OA	Computer, Desktop	N/A	OptiplexN/A755	GZCD4G1	3/19/2008	$619	7880NN
5461	STORES	N/A	OA	Air Conditioner	Freidrich	14/13.8	ALKM01613	1/3/2011	$923	WH-56
00000072 66	STORES	N/A	OA	Television - 22" Outdoor	SunbriteN/ATV	SB2220HD	2220A1233	6/21/2012	$2,109	RAG
00000072 69	STORES	N/A	OA	Rotary Hammer Drill	N/A	N/A	N/A	8/21/2012	$870	7880NN
00000072 94	STORES	N/A	OA	Mobile Scissor Lift Table	Global	954852	N/A	8/16/2012	$519	WH-13
00000072 96	STORES	N/A	OA	20' sea land container	Allstate	N/A	STORES-02	(blank)	$3,600	7880U
00000072 97	STORES	N/A	OA	20' sea land container	N/A	SeaN/ALand	WH-28	(blank)	$3,600	LAYDWNYD
00000091 37	STORES	N/A	OA	Computer, Laptop	Dell	Latitude	FCYNFX1	(blank)	$1,346	7880NN
9322	STORES	N/A	OA	Cell Phone	LG	LG--VX5500	865-809-8375	(blank)	$100	7880NN
9332	STORES	N/A	OA	Cell Phone	Samsung	Haven	865-803-5867	(blank)	$100	7880NN
9367	STORES	N/A	OA	External Hard Drive	WesternN/ADigital	WD5000C035	WCAS85644915	(blank)	$150	7880NN
00000010 14	TRNG	N/A	OA	File Cabinet, Fireproof	N/A	FireN/AKingN/A4N/Adr	FL20052700188	12/1/2006	$1,275	7880P
00000010 28	TRNG	N/A	OA	File Cabinet, Fireproof	N/A	FireN/AKingN/A4N/Adr	FL2005271046	1/5/2006	$1,275	7880P
1030	TRNG	N/A	OA	File Cabinet, Fireproof	N/A	FireN/AKingN/A4N/Adr	FL2006012240	1/5/2006	$1,275	7880P
1031	TRNG	N/A	OA	File Cabinet, Fireproof	N/A	4N/ADrawer	FL2005293191	1/5/2006	$1,275	7880P
1300	TRNG	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fh	7/15/2006	$571	7880P
1302	TRNG	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fk	7/15/2006	$571	7880P
1306	TRNG	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fp	7/15/2006	$571	7880P
1308	TRNG	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fr	7/15/2006	$571	7880P
1316	TRNG	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803fz	7/15/2006	$571	7880P
1317	TRNG	N/A	OA	Computer, Desktop	HP	DC5100SFF	2ub53803g0	7/15/2006	$571	7880P
1418	TRNG	N/A	OA	Computer, Laptop	Dell	PrecisionN/AM65	GKZKQB1	8/29/2006	$2,902	7880P
1458	TRNG	N/A	OA	Laser Printer	N/A	LaserJetN/A2430n	CNGKJ57266	4/24/2006	$799	7880JJ
1546	TRNG	N/A	OA	Computer, Desktop	N/A	OptiplexN/A745	D97Z3D1	6/18/2007	$1,347	7880P
1569	TRNG	N/A	OA	Computer, Desktop	N/A	OptiflexN/A745	2LJ7DC1	1/11/2007	$1,735	7880P
1759	TRNG	N/A	OA	Telephone, Conference	N/A	2200-16200-001	H80703021F59	8/6/2007	$520	7880P
2460	TRNG	N/A	OA	Television	N/A	CT-32E13-1G	MA31140035	(blank)	$500	7880JJ
2477	TRNG	N/A	OA	Digital Camera	N/A	MVC-CD500	361533	8/28/2007	$579	7880P
3190	TRNG	N/A	OA	Refrigerator	N/A	TopMount	ET8MHKXMQ	11/10/2006	$500	7880P
3222	TRNG	N/A	OA	Television	N/A	KDL40S5100	8016838	4/29/2009	$889	7880JJ
3223	TRNG	N/A	OA	Projector	N/A	XGAN/A3000	AYUB83600658	4/23/2009	$917	7880P
3228	TRNG	N/A	OA	Conference Table - 10'	N/A	N/A	N/A	4/21/2009	$500	7880P
3230	TRNG	N/A	OA	Electronic Whiteboard	N/A	M-11WN/ASeries	N/A	7/24/2007	$2,095	7880JJ

3358	TRNG	N/A	OA	TurningPoint 2008 RF Receiver	N/A	XRC-R01	7303	10/7/2009	$549	7880JJ
3359	TRNG	N/A	OA	TurningPoint 2008 RF Receiver	N/A	XRC-R01	7304	10/7/2009	$549	7880P
3512	TRNG	N/A	OA	Digital Camera	N/A	D90	N/A	11/11/2009	$1,370	7880P
3680	TRNG	N/A	OA	XGA Visual Presenter	Elmo	P10	861922	7/28/2008	$1,597	7880P
0000003733	TRNG	N/A	OA	Podium	N/A	VRIN/ALE3040	N/A	6/27/2011	$879	7880JJ
0000003734	TRNG	N/A	OA	Podium	N/A	VFIN/ALE3040	N/A	6/27/2011	$879	7880JJ
3776	TRNG	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THZ0071	1/30/2008	$517	7880P
3792	TRNG	N/A	OA	Projector	In-Focus	LP600	1SAMRV60100176	4/25/2006	$1,449	7880P
3895	TRNG	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH182	7/1/2009	$517	7880
3901	TRNG	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TKLH215	7/1/2009	$517	7880P
0000004119	TRNG	N/A	OA	Projector	Panasonic	PT-VW330U	DB1620050	10/31/2013	$889	7880P
5004	TRNG	N/A	OA	Printer	N/A	CPN/A3505NN/AColor	CNBC77J20C	11/27/2007	$888	7880P
5031	TRNG	N/A	OA	Computer, Laptop	Dell	LatitudeN/AD830	5XR8ZD1	6/24/2008	$2,404	7880JJ
5036	TRNG	N/A	OA	Printer, Color	N/A	3505N	CNBC7281BV	11/27/2007	$888	7880P
5140	TRNG	N/A	OA	External Hard Drive	N/A	MyN/ABook	WCAVY0082266	6/17/2009	$375	7880W
5145	TRNG	N/A	OA	Scanner	N/A	DocumateN/A252	712TW1073Q5L	7/24/2007	$850	7880P
5197	TRNG	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018TFQ7438	(blank)	$517	7880P
5218	TRNG	N/A	OA	Radio, CP 200, 16 Channel	Motorola	CPN/A200	018THYZ599	1/30/2008	$517	7880P
5256	TRNG	N/A	OA	Computer, Desktop	N/A	OptiplexN/A760	9GBG4J1	5/27/2009	$1,249	7880P
5295	TRNG	N/A	OA	Computer, Desktop	N/A	OptiplexN/A760	FY7ZRK1	7/30/2009	$1,249	7880P
5387	TRNG	N/A	OA	Projector	In-Focus	INF-IN2102EP	AZMB005000950	3/3/2010	$489	7880P
5444	TRNG	N/A	OA	Computer, Desktop	N/A	OptiplexN/A780	5WL8MM1	7/20/2010	$1,206	7880P
5474	TRNG	N/A	OA	Computer, Desktop	N/A	OptiplexN/A780	1NBLFQ1	4/2/2011	$1,524	7880P
5479	TRNG	N/A	OA	Computer, Desktop	N/A	OptiplexN/A780	1NCLFQ1	4/20/2011	$1,524	7880P
7117	TRNG	N/A	OA	Storage Locker	N/A	N/A	N/A	(blank)	$500	7880JJ
7120	TRNG	N/A	OA	Junction Table	N/A	JT7224-BC	N/A	3/23/2011	$760	7880JJ
7121	TRNG	N/A	OA	Junction Table	N/A	JT7224-BC	N/A	3/23/2011	$760	7880JJ
7122	TRNG	N/A	OA	Junction Table	N/A	JT7224-BC	N/A	3/23/2011	$760	7880JJ
7123	TRNG	N/A	OA	Junction Table	N/A	JT7224-BC	N/A	3/23/2011	$760	7880JJ
7124	TRNG	N/A	OA	Junction Table	N/A	JT7224-BC	N/A	3/23/2011	$760	7880JJ
7125	TRNG	N/A	OA	Junction Table	N/A	JT7224-BC	N/A	3/23/2011	$760	7880JJ
7126	TRNG	N/A	OA	Junction Table	N/A	JT7224-BC	N/A	3/23/2011	$760	7880JJ
7127	TRNG	N/A	OA	Junction Table	N/A	JT7224-BC	N/A	3/23/2011	$760	7880JJ
7128	TRNG	N/A	OA	Junction Table	N/A	JT7224-BC	N/A	3/23/2011	$760	7880JJ
7129	TRNG	N/A	OA	Junction Table	N/A	JT7224-BC	N/A	3/23/2011	$760	7880JJ
0000007172	TRNG	N/A	OA	SmartBoard	N/A	685ix	N/A	6/27/2011	$5,624	7880JJ
0000007316	TRNG	N/A	OA	Printer - Badge Maker	Magicard	3633-9001	54C6377	(blank)	$1,195	7880P
9124	TRNG	N/A	OA	Laminator	N/A	H535N/ATurbo	WH-12195-X	4/5/2011	$732	7880P
9339	TRNG	N/A	OA	Digital Camera	N/A	2N/AMegapixel	N/A	2/10/2011	$147	7880P
0000009444	XCESS	N/A	OA	Cell Phone	N/A	DroidN/AX2	865-809-4757	(blank)	$100	7880N
					N/A				$500	

COMPLIANCE DOCUMENTS

List A - Laws, Regulations, and DOE Directives

DOE is providing a list of laws and regulations (List A) applicable to work performed under this contract. Unless relief has been granted in writing by the appropriate regulatory agency, the Contractor shall comply with all applicable Federal and State Laws, Statutes, Codes, Rules, Regulations, and Orders; Executive Orders; Consensus Standards; and agreement documents applicable to work performed under this contract. The federal laws and regulations listed in the table below contain requirements normally relevant to the Contractor scope of work. These laws and regulations, and others, apply regardless whether they are explicitly stated in the Contract. In addition, laws and regulations typically apply to all persons or organizations such as subcontractors, suppliers, and federal employees.

Omission of any such applicable law or regulation in from List A does not affect the obligation of the Contractor to comply with such law or regulation. The Contractor must be aware of changes in the Code of Federal Regulations (CFR), Federal Acquisition Regulations (FAR), the United States Code (USC), Public Laws (PL) or other regulatory entities that have applicability to the Department of Energy and that impact the work scope. The Contractor shall notify the DOE Contracting Officer of any changes, and DOE will make a determination regarding modification to the contract.

10 CFR 830	Nuclear Safety Management
10 CFR 835	Occupational Radiation Protection
10 CFR 851	Worker Safety and Health
10 CFR 719	Contractor Legal Management Requirements
41 CFR 101	Federal Property Management Regulations
29 CFR 1910	Occupational Safety and Health Standards
36 CFR Chapter XII	National Archives and Records Administration
41 CFR 109	Department of Energy Property Management Regulations
Executive Order 13423	Strengthening Federal Environmental, Energy, and Transportation Management
Executive Order 13514	Federal Leadership in Environmental, Energy, and Economic Performance
ANSI/SIA A92.2	Vehicle-Mounted Elevating and Rotating Aerial Devices

ANSI B30.5	Mobile and Locomotive Cranes
ANSI B30.9	Slings
ANSI B30.11	Monorails & Under-hung cranes
ANSI B30.16	Overhead Hoists
ANSI B30.20	Below the Hook Lifting Devices
ANSI B30.21	Manually Operated Hoists
ANSI Z358.1	Standard for Emergency Eyewash and Shower Equipment
NFPA 1	Fire Code
NFPA 13	Standard or the installation of Sprinkler Systems
NFPA 30	Flammable and Combustible Liquids Code
NFPA 45	Standard on Fire Protection for Laboratories using Chemicals
NFPA 70e, 2009 Edition	Standard for Electrical Safety in the Workplace
NFPA 72	National Fire Alarm and Signaling Code
NFPA 101	Life Safety Code

List B - Applicable DOE Directives

The Contractor shall comply with the requirements of DOE Directives identified under List B and any other DOE Directive that is applicable to this contract, whether specifically listed below or in any other contract documents. Omission of any such directive does not affect the obligation of the Contractor to comply with such directive. DOE directives may be found at http://www.directives.doe.gov/.

The contractor shall comply with the requirements of DOE Directives identified under List B – List of Required Compliance Documents included in this contract. Requirements Documents of DOE Directives are applicable in whole or in part. In addition, the Contractor shall ensure compliance with all relevant laws of the United States.

Executive Orders, DOE Orders, DOE and EM policies, and DOE and EM guidelines that address environmental and energy performance that relates to the planning, operations, management, procurement, and disposal of electronics and Information Technology (IT) infrastructure and assets needed to execute DOE-related work set forth in this contract.

Directive	Title
DOE O 130.1	Budget Formulation
DOE M 140.1-1B	Interface with the Defense Nuclear Facilities Safety Board
DOE O 142.3A	Unclassified Foreign Visits and Assignments Program
DOE O 151.1~~C~~D	Comprehensive Emergency Management System
DOE O 200.1A	Information Technology Management
DOE O 205.1B, Change 3	Department of Energy Cyber Security Management Program
DOE M 205.1-4	National Security System Manual
DOE M 205.1-6	Media Sanitization Manual
DOE M 205.1-7	Security Controls for Unclassified Information Systems Manual
DOE M 205.1-8	Cyber Security Incident Management Manual
DOE O 206.1	DOE Privacy Program
DOE N 206.4	Personal Identity Verification
DOE O 210.2A	DOE Corporate Operating Experience Program
DOE O 221.2A	Cooperation with the Office of Inspector General
DOE O 225.1B	Accident Investigations
DOE O 226.1B	Implementation of Department of Energy Oversight Policy
DOE O 227.1	Independent Oversight Program
DOE O 231.1B, Admin Change 1	Environment Safety & Health Reporting
DOE O 232.2, Admin Change 1	Occurrence Reporting and Processing of Operations Information
DOE O 243.1B, Admin Change 1	Records Management Program
DOE O 251.1C	Departmental Directives Program
DOE O 252.1A, Admin Change 1	Technical Standards Program
DOE O 350.1, Change 4	Contractor Human Resource Management Programs
DOE O 413.1B	Internal Control Program
DOE O 413.3B	Program and Project Management for Acquisition of Capital Assets
DOE O 414.1D, Admin Change 1	Quality Assurance

DOE G 414.1-1C	Management & Independent Assessments Guide
DOE G 414.1-4	Safety Software Guide for Use with 10 CFR 830, Subpart A, Quality Assurance Requirements, and DOE O 414.1C, Quality Assurance
DOE O 420.1C, Admin Change 1	Facility Safety
DOE G 420.1-1A	Non-Reactor Nuclear Safety Design Guide for use with DOE O 420.1C, Facility Safety
DOE O 422.1, Admin Change 1	Conduct of Operations
DOE O 425.1D, Admin Change 1	Verification of Readiness to Start-up or Re-start Nuclear Facilities
DOE O 426.2, Admin Change 1	Personnel Selection, Training, Qualification and Certification Requirements for DOE Nuclear Facilities
DOE O 430.1B, Admin Change 2	Real Property Asset Management
DOE O 433.1B, Admin Change 1	Maintenance Management Program for DOE Nuclear Facilities
DOE O 435.1, Change 1	Radioactive Waste Management
DOE M 435.1-1, Change 2	Radioactive Waste Management Manual
DOE O 436.1, Change 1	Departmental Sustainability
DOE O 442.1A	Department of Energy Employee Concerns Program
DOE O 442.2	Differing Professional Opinions for Technical Issues Involving Environment, Safety and Health
DOE O 450.2	Integrated Safety Management
DOE P 450.4A	Integrated Safety Management Policy
DOE O 451.1B, Admin Change 3	National Environmental Policy Act Compliance Program
DOE O 458.1, Admin Change 3	Radiation Protection of the Public and the Environment
DOE O 460.1C	Packaging and Transportation Safety
DOE O 460.2A	Departmental Materials Transportation and Packaging Management
DOE M 460.2-1A	Radioactive Material Transportation Practices Manual
DOE O 470.3B	Graded Security Protection (GSP) Policy
DOE O 470.4B, Admin Change 1	Safeguards and Security Program

DOE O 471.1B	Identification and Protection of Unclassified Controlled Nuclear Information
DOE O 471.3, Admin Change 1	Identifying and Protecting Official Use Only Information
DOE O 471.6, Admin Change 1	Information Security
DOE O 472.2, Admin Change 1	Personnel Security
DOE O 473.3	Protection Program Operations
DOE O 474.2, Admin Change 2	Nuclear Material Control and Accountability
DOE O 534.1B	Accounting
DOE O 580.1A, Admin Change 1	DOE Personal Property Management Program
DOE-STD-5506-2007	Preparation of Safety Basis Documents for Transuranic (TRU) Waste Facilities
DOE STD-1066-99	Fire Protection Design Criteria
DOE STD-1088-95	Fire Protection for Relocatable Structures
DOE STD-1090-2007	Hoisting and Rigging (Formerly Hoisting and Rigging Manual)
DOE STD-3007-2007	Guidelines for Preparing Criticality Safety Evaluations at Department of Energy Non-Reactor Nuclear Facilities
DOE STD-1134-1999	Review Guide for Criticality Safety Evaluations
DOE STD-1135-1999	Guidance for Nuclear Criticality Safety Evaluations
DOE STD-1158-2010	Self-Assessment Standard for DOE Contractor Criticality Safety Programs
DOE-STD-1186-2004	Specific Administrative Controls
	Policy and Protocol for Office of Environmental Management. Operations Activities, dated March 2012

SECTION J, ATTACHMENT E
SUPPORTING REPORT OF COST AND FEE
CLIN 3

See attached example format for the preparation of the Supporting Report of Cost and Fee. This format may be modified to include further cost details as required by DOE.

Final required format including further breakdown of costs will be established.

(1) The Contractor, making due allowances for the Contractor's cost accounting and project management systems, shall complete the Supporting Report(s) of Cost and Fee.

(2) The Contractor shall complete the Report(s) of Cost and Fee for each assignment supporting the total invoiced cost.

(3) Costs claimed must be only those recorded costs authorized for billing by the provisions of the contract and supported by the Contractor's cost accounting system.

(4) A separate line item should be identified for claimed overtime cost by each assignment.

(5) The funds expended for the current billing period as well as for the cumulative contract period will be shown.

(6) The certification statement, signed by a responsible official of the Contractor, will be placed at the bottom of the report(s) of cost and fee and appear as follows:

CERTIFICATION: I certify that this voucher is correct, was prepared in accordance with the terms of the contract and is supported by the Contractor's cost accounting system. The costs included herein have been incurred; represent payments made by the contractor except as otherwise authorized in the payments provisions of the contract; and properly reflect the level of effort required by DOE.

_____

Signature Title

_____

Name of Preparer Telephone Number

_____

Company Address

(7) Additional supporting data for claimed costs shall be provided in such form and reasonable detail as an authorized representative of the Contracting Officer may require.

EXAMPLE
VOUCHER SUPPORTING REPORT OF COST AND FEE
FOR THE PERIOD MM/DD/YY THROUGH MM/DD/YY

Firm Name: _____
Firm Street Address: _____ B&R #: _____ Contract No.: _____
Firm City, State, Zip Code: _____ Cost Center #:: _____ Voucher No.: _____
Taxpayer Identification # (TIN): _____ ADS #: _____ Through Modification: _____

COST ELEMENT	APPLIED RATE	CLAIMED AMOUNT THIS BILL	CUMULATIVE COST/FEE TO DATE
Labor	_____.		
Fringe Benefits	0.00%		
Labor Overhead	0.00%		
Subcontracts			
Materials			
Material Overhead	0.00%		
Equipment			
Other Direct Costs (ODC)			
G&A Expenses	0.00%		
Total Cost		$0.00	$0.00
Fee		$0.00	$0.00
Total Invoice		**$0.00**	**$0.00**

AMOUNT AUTHORIZED FOR EXPENDITURE (OBLIGATION):	
Basic Contract	$0.00
All Modifications	$0.00
Contract To Date	$0.00

CERTIFICATION: I certify that this voucher is correct, was prepared in accordance with the terms of the contract and is supported by the Contractor's cost accounting system. The costs included herein have been incurred; represent payments made by the contractor except as otherwise authorized in the payments provisions of the contract; and properly the level of effort required by DOE.

_____

Signature Title

_____

Name of Preparer Telephone Number

_____

Company Address

WD 05-2493 (Rev.-19) was first posted on www.wdol.gov on 08/05/2014
****

REGISTER OF WAGE DETERMINATIONS UNDER | U.S. DEPARTMENT OF LABOR
THE SERVICE CONTRACT ACT | EMPLOYMENT STANDARDS ADMINISTRATION
By direction of the Secretary of Labor | WAGE AND HOUR DIVISION
| WASHINGTON D.C. 20210
||
| Wage Determination No.: 2005-2493
Diane C. Koplewski Division of | Revision No.: 19
Director Wage Determinations | Date Of Revision: 07/25/2014

State: Tennessee

Area: Tennessee Counties of Anderson, Blount, Campbell, Claiborne, Cumberland, Fentress, Grainger, Hamblen, Jefferson, Knox, Loudon, Monroe, Morgan, Pickett, Roane, Scott, Sevier, Union

Fringe Benefits Required Follow the Occupational Listing

OCCUPATION CODE - TITLE	FOOTNOTE	RATE
01000 - Administrative Support And Clerical Occupations		
01011 - Accounting Clerk I		13.03
01012 - Accounting Clerk II		14.63
01013 - Accounting Clerk III		16.36
01020 - Administrative Assistant		20.11
01040 - Court Reporter		16.87
01051 - Data Entry Operator I		11.59
01052 - Data Entry Operator II		13.19
01060 - Dispatcher, Motor Vehicle		16.87
01070 - Document Preparation Clerk		12.91
01090 - Duplicating Machine Operator		12.91
01111 - General Clerk I		11.31
01112 - General Clerk II		12.58
01113 - General Clerk III		14.12
01120 - Housing Referral Assistant		19.92
01141 - Messenger Courier		11.54
01191 - Order Clerk I		11.86
01192 - Order Clerk II		13.65
01261 - Personnel Assistant (Employment) I		12.84
01262 - Personnel Assistant (Employment) II		16.41
01263 - Personnel Assistant (Employment) III		18.30
01270 - Production Control Clerk		18.25
01280 - Receptionist		11.72
01290 - Rental Clerk		13.05
01300 - Scheduler, Maintenance		16.31
01311 - Secretary I		16.31
01312 - Secretary II		18.10
01313 - Secretary III		19.92
01320 - Service Order Dispatcher		17.05

01410 - Supply Technician 20.11
01420 - Survey Worker 17.19
01531 - Travel Clerk I 12.72
01532 - Travel Clerk II 13.54
01533 - Travel Clerk III 14.58
01611 - Word Processor I 12.27
01612 - Word Processor II 13.62
01613 - Word Processor III 16.87
05000 - Automotive Service Occupations
05005 - Automobile Body Repairer, Fiberglass 19.72
05010 - Automotive Electrician 16.03
05040 - Automotive Glass Installer 15.26
05070 - Automotive Worker 15.26
05110 - Mobile Equipment Servicer 13.68
05130 - Motor Equipment Metal Mechanic 16.78
05160 - Motor Equipment Metal Worker 15.26
05190 - Motor Vehicle Mechanic 16.55
05220 - Motor Vehicle Mechanic Helper 13.06
05250 - Motor Vehicle Upholstery Worker 14.47
05280 - Motor Vehicle Wrecker 15.26
05310 - Painter, Automotive 18.18
05340 - Radiator Repair Specialist 15.26
05370 - Tire Repairer 11.03
05400 - Transmission Repair Specialist 16.55
07000 - Food Preparation And Service Occupations
07010 - Baker 11.17
07041 - Cook I 10.08
07042 - Cook II 11.24
07070 - Dishwasher 8.55
07130 - Food Service Worker 9.61
07210 - Meat Cutter 13.97
07260 - Waiter/Waitress 7.86
09000 - Furniture Maintenance And Repair Occupations
09010 - Electrostatic Spray Painter 17.03
09040 - Furniture Handler 11.85
09080 - Furniture Refinisher 17.03
09090 - Furniture Refinisher Helper 13.66
09110 - Furniture Repairer, Minor 15.32
09130 - Upholsterer 17.03
11000 - General Services And Support Occupations
11030 - Cleaner, Vehicles 8.96
11060 - Elevator Operator 10.49
11090 - Gardener 13.21
11122 - Housekeeping Aide 10.49
11150 - Janitor 11.25
11210 - Laborer, Grounds Maintenance 10.88
11240 - Maid or Houseman 8.45

11260 - Pruner	10.69
11270 - Tractor Operator	13.81
11330 - Trail Maintenance Worker	10.88
11360 - Window Cleaner	12.03
12000 - Health Occupations	
12010 - Ambulance Driver	14.54
12011 - Breath Alcohol Technician	14.98
12012 - Certified Occupational Therapist Assistant	21.99
12015 - Certified Physical Therapist Assistant	20.94
12020 - Dental Assistant	15.28
12025 - Dental Hygienist	28.09
12030 - EKG Technician	18.35
12035 - Electroneurodiagnostic Technologist	18.35
12040 - Emergency Medical Technician	14.54
12071 - Licensed Practical Nurse I	14.14
12072 - Licensed Practical Nurse II	15.82
12073 - Licensed Practical Nurse III	17.64
12100 - Medical Assistant	12.76
12130 - Medical Laboratory Technician	14.52
12160 - Medical Record Clerk	11.72
12190 - Medical Record Technician	14.89
12195 - Medical Transcriptionist	13.42
12210 - Nuclear Medicine Technologist	25.05
12221 - Nursing Assistant I	9.62
12222 - Nursing Assistant II	10.81
12223 - Nursing Assistant III	11.80
12224 - Nursing Assistant IV	13.24
12235 - Optical Dispenser	14.65
12236 - Optical Technician	13.21
12250 - Pharmacy Technician	16.23
12280 - Phlebotomist	13.24
12305 - Radiologic Technologist	23.63
12311 - Registered Nurse I	22.82
12312 - Registered Nurse II	27.91
12313 - Registered Nurse II, Specialist	27.91
12314 - Registered Nurse III	31.51
12315 - Registered Nurse III, Anesthetist	31.51
12316 - Registered Nurse IV	37.40
12317 - Scheduler (Drug and Alcohol Testing)	18.51
13000 - Information And Arts Occupations	
13011 - Exhibits Specialist I	17.10
13012 - Exhibits Specialist II	21.18
13013 - Exhibits Specialist III	25.90
13041 - Illustrator I	16.64
13042 - Illustrator II	21.18
13043 - Illustrator III	25.90
13047 - Librarian	23.03

13050 - Library Aide/Clerk 11.41
13054 - Library Information Technology Systems Administrator 20.21
13058 - Library Technician 13.65
13061 - Media Specialist I 13.27
13062 - Media Specialist II 14.85
13063 - Media Specialist III 16.63
13071 - Photographer I 15.35
13072 - Photographer II 17.17
13073 - Photographer III 21.27
13074 - Photographer IV 26.03
13075 - Photographer V 31.48
13110 - Video Teleconference Technician 16.55
14000 - Information Technology Occupations
14041 - Computer Operator I 15.77
14042 - Computer Operator II 17.64
14043 - Computer Operator III 19.67
14044 - Computer Operator IV 21.86
14045 - Computer Operator V 24.20
14071 - Computer Programmer I 22.54
14072 - Computer Programmer II 25.40
14073 - Computer Programmer III (see 1)
14074 - Computer Programmer IV (see 1)
14101 - Computer Systems Analyst I (see 1)
14102 - Computer Systems Analyst II (see 1)
14103 - Computer Systems Analyst III (see 1)
14150 - Peripheral Equipment Operator 15.77
14160 - Personal Computer Support Technician 21.86
15000 - Instructional Occupations
15010 - Aircrew Training Devices Instructor (Non-Rated) 28.52
15020 - Aircrew Training Devices Instructor (Rated) 34.53
15030 - Air Crew Training Devices Instructor (Pilot) 37.97
15050 - Computer Based Training Specialist / Instructor 28.52
15060 - Educational Technologist 27.39
15070 - Flight Instructor (Pilot) 37.97
15080 - Graphic Artist 20.60
15090 - Technical Instructor 19.44
15095 - Technical Instructor/Course Developer 23.78
15110 - Test Proctor 15.69
15120 - Tutor 15.69
16000 - Laundry, Dry-Cleaning, Pressing And Related Occupations
16010 - Assembler 9.06
16030 - Counter Attendant 9.06
16040 - Dry Cleaner 11.68
16070 - Finisher, Flatwork, Machine 9.06
16090 - Presser, Hand 9.06
16110 - Presser, Machine, Drycleaning 9.06

16130 - Presser, Machine, Shirts 9.06
16160 - Presser, Machine, Wearing Apparel, Laundry 9.06
16190 - Sewing Machine Operator 12.50
16220 - Tailor 13.31
16250 - Washer, Machine 10.02
19000 - Machine Tool Operation And Repair Occupations
19010 - Machine-Tool Operator (Tool Room) 18.19
19040 - Tool And Die Maker 21.73
21000 - Materials Handling And Packing Occupations
21020 - Forklift Operator 13.12
21030 - Material Coordinator 18.25
21040 - Material Expediter 18.25
21050 - Material Handling Laborer 12.62
21071 - Order Filler 11.31
21080 - Production Line Worker (Food Processing) 13.12
21110 - Shipping Packer 13.01
21130 - Shipping/Receiving Clerk 13.01
21140 - Store Worker I 11.64
21150 - Stock Clerk 15.74
21210 - Tools And Parts Attendant 13.12
21410 - Warehouse Specialist 13.12
23000 - Mechanics And Maintenance And Repair Occupations
23010 - Aerospace Structural Welder 21.76
23021 - Aircraft Mechanic I 20.73
23022 - Aircraft Mechanic II 21.76
23023 - Aircraft Mechanic III 22.84
23040 - Aircraft Mechanic Helper 15.54
23050 - Aircraft, Painter 19.79
23060 - Aircraft Servicer 17.43
23080 - Aircraft Worker 18.43
23110 - Appliance Mechanic 17.46
23120 - Bicycle Repairer 12.77
23125 - Cable Splicer 22.18
23130 - Carpenter, Maintenance 16.19
23140 - Carpet Layer 16.89
23160 - Electrician, Maintenance 20.79
23181 - Electronics Technician Maintenance I 19.62
23182 - Electronics Technician Maintenance II 20.63
23183 - Electronics Technician Maintenance III 21.72
23260 - Fabric Worker 15.86
23290 - Fire Alarm System Mechanic 17.63
23310 - Fire Extinguisher Repairer 14.94
23311 - Fuel Distribution System Mechanic 21.26
23312 - Fuel Distribution System Operator 17.14
23370 - General Maintenance Worker 16.16
23380 - Ground Support Equipment Mechanic 20.73
23381 - Ground Support Equipment Servicer 17.43

23382 - Ground Support Equipment Worker 18.43
23391 - Gunsmith I 14.94
23392 - Gunsmith II 16.89
23393 - Gunsmith III 18.71
23410 - Heating, Ventilation And Air-Conditioning Mechanic 17.84
23411 - Heating, Ventilation And Air Contditioning Mechanic (Research Facility) 18.67
23430 - Heavy Equipment Mechanic 18.57
23440 - Heavy Equipment Operator 16.47
23460 - Instrument Mechanic 22.57
23465 - Laboratory/Shelter Mechanic 17.77
23470 - Laborer 12.10
23510 - Locksmith 17.77
23530 - Machinery Maintenance Mechanic 19.89
23550 - Machinist, Maintenance 19.55
23580 - Maintenance Trades Helper 13.60
23591 - Metrology Technician I 22.57
23592 - Metrology Technician II 23.62
23593 - Metrology Technician III 24.64
23640 - Millwright 19.19
23710 - Office Appliance Repairer 17.77
23760 - Painter, Maintenance 17.03
23790 - Pipefitter, Maintenance 18.64
23810 - Plumber, Maintenance 17.78
23820 - Pneudraulic Systems Mechanic 18.71
23850 - Rigger 18.71
23870 - Scale Mechanic 16.89
23890 - Sheet-Metal Worker, Maintenance 19.73
23910 - Small Engine Mechanic 16.18
23931 - Telecommunications Mechanic I 24.51
23932 - Telecommunications Mechanic II 25.71
23950 - Telephone Lineman 22.01
23960 - Welder, Combination, Maintenance 17.74
23965 - Well Driller 17.84
23970 - Woodcraft Worker 18.71
23980 - Woodworker 14.94
24000 - Personal Needs Occupations
24570 - Child Care Attendant 9.61
24580 - Child Care Center Clerk 11.97
24610 - Chore Aide 10.00
24620 - Family Readiness And Support Services Coordinator 12.40
24630 - Homemaker 14.87
25000 - Plant And System Operations Occupations
25010 - Boiler Tender 23.32
25040 - Sewage Plant Operator 18.97

25070 - Stationary Engineer 23.32
25190 - Ventilation Equipment Tender 16.78
25210 - Water Treatment Plant Operator 19.10
27000 - Protective Service Occupations
27004 - Alarm Monitor 14.85
27007 - Baggage Inspector 10.97
27008 - Corrections Officer 14.96
27010 - Court Security Officer 16.11
27030 - Detection Dog Handler 12.66
27040 - Detention Officer 14.96
27070 - Firefighter 17.33
27101 - Guard I 10.97
27102 - Guard II 12.66
27131 - Police Officer I 17.61
27132 - Police Officer II 19.56
28000 - Recreation Occupations
28041 - Carnival Equipment Operator 10.86
28042 - Carnival Equipment Repairer 11.58
28043 - Carnival Equpment Worker 8.63
28210 - Gate Attendant/Gate Tender 13.05
28310 - Lifeguard 11.12
28350 - Park Attendant (Aide) 14.60
28510 - Recreation Aide/Health Facility Attendant 10.66
28515 - Recreation Specialist 16.58
28630 - Sports Official 11.63
28690 - Swimming Pool Operator 16.20
29000 - Stevedoring/Longshoremen Occupational Services
29010 - Blocker And Bracer 18.16
29020 - Hatch Tender 18.16
29030 - Line Handler 18.16
29041 - Stevedore I 17.22
29042 - Stevedore II 19.28
30000 - Technical Occupations
30010 - Air Traffic Control Specialist, Center (HFO) (see 2) 35.77

30011 - Air Traffic Control Specialist, Station (HFO) (see 2) 24.66
30012 - Air Traffic Control Specialist, Terminal (HFO) (see 2) 27.16
30021 - Archeological Technician I 17.11
30022 - Archeological Technician II 17.39
30023 - Archeological Technician III 21.62
30030 - Cartographic Technician 23.50
30040 - Civil Engineering Technician 20.21
30061 - Drafter/CAD Operator I 15.66
30062 - Drafter/CAD Operator II 17.58
30063 - Drafter/CAD Operator III 21.02
30064 - Drafter/CAD Operator IV 26.04
30081 - Engineering Technician I 15.84

30082 - Engineering Technician II 17.79
30083 - Engineering Technician III 20.11
30084 - Engineering Technician IV 24.92
30085 - Engineering Technician V 30.15
30086 - Engineering Technician VI 36.50
30090 - Environmental Technician 27.69
30210 - Laboratory Technician 21.05
30240 - Mathematical Technician 21.56
30361 - Paralegal/Legal Assistant I 16.72
30362 - Paralegal/Legal Assistant II 20.02
30363 - Paralegal/Legal Assistant III 24.49
30364 - Paralegal/Legal Assistant IV 29.63
30390 - Photo-Optics Technician 22.28
30461 - Technical Writer I 19.92
30462 - Technical Writer II 24.36
30463 - Technical Writer III 29.48
30491 - Unexploded Ordnance (UXO) Technician I 22.74
30492 - Unexploded Ordnance (UXO) Technician II 27.51
30493 - Unexploded Ordnance (UXO) Technician III 32.97
30494 - Unexploded (UXO) Safety Escort 22.74
30495 - Unexploded (UXO) Sweep Personnel 22.74
30620 - Weather Observer, Combined Upper Air Or Surface Programs (see 2) 21.02
30621 - Weather Observer, Senior (see 2) 22.04
31000 - Transportation/Mobile Equipment Operation Occupations
31020 - Bus Aide 9.72
31030 - Bus Driver 13.65
31043 - Driver Courier 14.65
31260 - Parking and Lot Attendant 9.36
31290 - Shuttle Bus Driver 15.63
31310 - Taxi Driver 11.14
31361 - Truckdriver, Light 15.63
31362 - Truckdriver, Medium 16.51
31363 - Truckdriver, Heavy 18.00
31364 - Truckdriver, Tractor-Trailer 18.00
99000 - Miscellaneous Occupations
99030 - Cashier 9.65
99050 - Desk Clerk 10.96
99095 - Embalmer 25.37
99251 - Laboratory Animal Caretaker I 11.14
99252 - Laboratory Animal Caretaker II 13.06
99310 - Mortician 25.37
99410 - Pest Controller 15.93
99510 - Photofinishing Worker 11.95
99710 - Recycling Laborer 14.64
99711 - Recycling Specialist 17.31
99730 - Refuse Collector 13.25

99810 - Sales Clerk	11.51
99820 - School Crossing Guard	11.87
99830 - Survey Party Chief	18.72
99831 - Surveying Aide	12.40
99832 - Surveying Technician	17.02
99840 - Vending Machine Attendant	13.52
99841 - Vending Machine Repairer	16.05
99842 - Vending Machine Repairer Helper	13.52

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: $4.02 per hour or $160.80 per week or $696.79 per month

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 5 years, and 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of ten paid holidays per year, New Year's Day, Martin Luther King Jr's Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitute for any of the named holidays another day off with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4174)

THE OCCUPATIONS WHICH HAVE NUMBERED FOOTNOTES IN PARENTHESES RECEIVE THE FOLLOWING:

1) COMPUTER EMPLOYEES: Under the SCA at section 8(b), this wage determination does not apply to any employee who individually qualifies as a bona fide executive, administrative, or professional employee as defined in 29 C.F.R. Part 541. Because most Computer System Analysts and Computer Programmers who are compensated at a rate not less than $27.63 (or on a salary or fee basis at a rate not less than $455 per week) an hour would likely qualify as exempt computer professionals, (29 C.F.R. 541.400) wage rates may not be listed on this wage determination for all occupations within those job families. In addition, because this wage determination may not list a wage rate for some or all occupations within those job families if the survey data indicates that the prevailing wage rate for the occupation equals or exceeds $27.63 per hour conformances may be necessary for certain nonexempt employees. For example, if an individual employee is nonexempt but nevertheless performs duties within the scope of one of the Computer Systems Analyst or Computer Programmer occupations for which this wage determination does not specify an SCA wage rate, then the wage rate for that employee must be conformed in accordance with the conformance procedures described in the conformance note included on this wage determination.

Additionally, because job titles vary widely and change quickly in the computer industry, job titles are not determinative of the application of the computer professional exemption. Therefore, the

exemption applies only to computer employees who satisfy the compensation requirements and whose primary duty consists of:
(1) The application of systems analysis techniques and procedures, including consulting with users, to determine hardware, software or system functional specifications; (2) The design, development, documentation, analysis, creation, testing or modification of computer systems or programs, including prototypes, based on and related to user or system design specifications; (3) The design, documentation, testing, creation or modification of computer programs related to machine operating systems; or (4) A combination of the aforementioned duties, the performance of which requires the same level of skills. (29 C.F.R. 541.400).

2) AIR TRAFFIC CONTROLLERS AND WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a regular tour of duty, you will earn a night differential and receive an additional 10% of basic pay for any hours worked between 6pm and 6am.
If you are a full-time employed (40 hours a week) and Sunday is part of your regularly scheduled workweek, you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on Sunday outside the normal tour of duty is considered overtime work).

HAZARDOUS PAY DIFFERENTIAL: An 8 percent differential is applicable to employees employed in a position that represents a high degree of hazard when working with or in close proximity to ordinance, explosives, and incendiary materials. This includes work such as screening, blending, dying, mixing, and pressing of sensitive ordance, explosives, and pyrotechnic compositions such as lead azide, black powder and photoflash powder. All dry-house activities involving propellants or explosives. Demilitarization, modification, renovation, demolition, and maintenance operations on sensitive ordnance, explosives and incendiary materials. All operations involving regrading and cleaning of artillery ranges.

A 4 percent differential is applicable to employees employed in a position that represents a low degree of hazard when working with, or in close proximity to ordance, (or employees possibly adjacent to) explosives and incendiary materials which involves potential injury such as laceration of hands, face, or arms of the employee engaged in the operation, irritation of the skin, minor burns and the like; minimal damage to immediate or adjacent work area or equipment being used. All operations involving, unloading, storage, and hauling of ordance, explosive, and incendiary ordnance material other than small arms ammunition. These differentials are only applicable to work that has been specifically designated by the agency for ordance, explosives, and incendiary material differential pay.

** UNIFORM ALLOWANCE **

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of $3.35 per week (or $.67 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations", Fifth Edition, April 2006, unless otherwise indicated. Copies of the Directory are available on the Internet. A links to the Directory may be found on the WHD home page at http://www.dol. gov/esa/whd/ or through the Wage Determinations On-Line (WDOL) Web site at http://wdol.gov/.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE {Standard Form 1444 (SF 1444)}

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. {See Section 4.6 (C)(vi)} When multiple wage determinations are included in a contract, a separate SF 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

1) When preparing the bid, the contractor identifies the need for a conformed occupation(s) and computes a proposed rate(s).

2) After contract award, the contractor prepares a written report listing in order proposed classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), including information regarding the agreement or disagreement of the authorized representative of the employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later than 30 days after such unlisted class(es) of employees performs any contract work.

3) The contracting officer reviews the proposed action and promptly submits a report of the action, together with the agency's recommendations and pertinent information including the position of the contractor and the employees, to the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, for review. (See section 4.6(b)(2) of Regulations 29 CFR Part 4).

4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or disapproves the action via transmittal to the agency contracting officer, or notifies the contracting officer that additional time will be required to process the request.

5) The contracting officer transmits the Wage and Hour decision to the contractor.

6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

When preparing a conformance request, the "Service Contract Act Directory of Occupations" (the Directory) should be used to compare job definitions to insure that duties requested are not performed by a classification already listed in the wage determination. Remember, it is not the job title, but the required tasks that determine whether a class is included in an established wage determination. Conformances may not be used to artificially split, combine, or subdivide classifications listed in the wage determination.

Contract No. DE-EM0003760
Section J, Attachment G
List of Intellectual Property

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
BB--I-OP-001	1	T			5/23/2006
BB--I-OP-002	2	S			8/2/2007
BB--I-OP-003	1	S			5/21/2007
BB--R-EG-001	0	A			12/28/2005
BB--R-IC-001	0	A			6/20/2005
CH--A-AD-002	1	T			6/15/2006
CH--A-AD-011	6	T			5/17/2007
CH--A-OP-009	1	T			7/25/2005
CH--A-OP-010	1	T			12/23/2004
CH--A-OP-011	18	SS	CH-REF-WP-001	2	8/8/2007
CH--A-QP-005	7	T			5/22/2006
CH--I-OP-001	6	SS	CH-REF-OP-001	1	9/28/2005
CH--I-OP-002	6	SS	CH-UET-OP-006	1	3/10/2006
CH--I-OP-003	2	T			6/22/2006
CH--I-OP-006	1	S			11/16/2006
CH--I-OP-007	1	T			4/9/2007
CH--I-OP-008	1	S			2/19/2007
CH--I-OP-009	3	T			4/11/2007
CH--I-OP-010	4	SS	CH-UET-OP-010	1	4/11/2007
CH--I-OP-011	5	SS	CH-UET-OP-007	2	3/19/2007
CH--I-OP-012	1	SS	CH-REF-OP-012	2	7/3/2007

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CH--I-OP-013	7	SS	CH-REF-OP-014	1	8/8/2007
CH--I-OP-014	1	S			8/1/2000
CH--I-QA-007	7	T			6/28/2007
CH--L-OP-005	2	S			7/30/2007
CH--L-OP-006	0	A			7/25/2005
CH--L-OP-007	2	A			10/19/2006
CH--L-OP-008	4	A			1/11/2007
CH--L-OP-009	3	T			1/11/2007
CH--L-OP-010	4	A			10/16/2006
CH--L-OP-011	2	S			10/16/2006
CH--L-OP-012	8	A			4/2/2007
CH--L-OP-013	5	A			9/12/2005
CH--L-OP-016	1	S			12/21/2005
CH--L-OP-017	3	A			3/28/2006
CH--L-OP-018	0	A			1/4/2006
CH--L-OP-019	0	A			1/30/2006
CH--L-OP-020	1	S			3/28/2007
CH--L-OP-021	1	S			9/6/1989
CH--L-OP-022	1	S			3/28/2007
CH--L-OP-023	1	S			3/28/2007
CH--L-OP-024	1	T			2/12/2007
CH--L-OP-025	1	T			2/12/2007

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CH--L-OP-026	2	A			12/20/2006
CH--L-OP-027	1	A			1/3/2007
CH--L-OP-028	1	S			1/11/2007
CH--L-OP-029	1	S			4/11/2007
CH--L-OP-030	2	T			5/16/2007
CH--L-OP-031	1	A			7/3/2007
CH--L-OP-032	0	A			7/25/2007
CH--L-OP-033	1	SS			7/26/2007
CH--M-AD-001	3	A			5/22/2006
CH--P-AD-006	5	T			2/7/2006
CH--P-AD-009	6	T			4/19/2006
CH--P-AD-010	4	T			4/3/2006
CH--P-AD-011	4	T			5/10/2006
CH--P-AD-013	4	T			5/23/2006
CH--P-AD-014	4	T			5/23/2006
CH--P-AD-015	4	T			3/16/2006
CH--P-AD-016	4	T			12/8/2005
CH--P-AD-044	6	A			3/22/2007
CH--P-AD-045	1	T			2/19/2007
CH--P-MT-401	8	SS	CH-UET-MT-401	0	1/17/2005
CH--P-MT-402	4	SS	CH-REF-MT-402	0	8/10/2006
CH--P-MT-403	2	SS	CH-REF-MT-403	0	12/17/2004
CH--P-MT-404	2	T			7/6/2005
CH--P-MT-405	8	SS	CH-UET-MT-405	2	10/23/2006

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CH--P-MT-406	3	T			5/21/2007
CH--P-MT-410	1	SS	CH-REF-MT-402	0	1/6/2005
CH--P-MT-411	1	SS	CH-REF-MT-402	0	1/6/2005
CH--P-OP-001	29	SS	CH-UET-OP-001	4	4/30/2007
CH--P-OP-002	24	SS	CH-UET-OP-002	3	4/30/2007
CH--P-OP-003	25	SS	CH-UET-OP-003	6	8/7/2007
CH--P-OP-004	27	SS	CH-UET-OP-004	7	8/7/2007
CH--P-OP-005	10	SS	CH-UET-OP-005	1	7/3/2007
CH--P-OP-006	9	SS	CH-UET-OP-006	1	8/30/2006
CH--P-OP-008	11	SS	CH-UET-OP-008	1	11/15/2006
CH--P-OP-009	11	T			8/2/2007
CH--P-OP-010	4	T			10/7/2005
CH--P-OP-011	23	SS	CH-REF-OP-011	3	7/17/2007
CH--P-OP-013	15	SS	CH-REF-OP-013	6	4/30/2007
CH--P-OP-014	24	SS	CH-UET-OP-014	7	8/13/2007
CH--P-OP-015	1	T			10/7/2005
CH--P-OP-019	6	S			5/3/2006
CH--P-OP-020	10	SS	CM-A-OP-005	5	6/7/2007
CH--P-OP-021	5	T			4/27/2006
CH--P-OP-022	10	SS	CH-P-OP-044	2	2/14/2007
CH--P-OP-030	3	T			5/4/2006
CH--P-OP-033	12	SS	CH-UET-OP-033	3	5/8/2007
CH--P-OP-034	14	SS	CH-UET-OP-034	5	6/28/2007
CH--P-OP-035	7	SS	CH-UET-OP-035	1	3/12/2007
CH--P-OP-036	7	SS	CH-UET-OP-036	0	5/1/2007
CH--P-OP-037	9	SS	CH-UET-OP-037	1	3/15/2007

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CH--P-PC-001	6	T			2/21/2007
CH--R-AD-001	0	A			6/16/2005
CH--R-AD-002	2	A			7/19/2007
CH--R-AD-004	9	A			8/2/2007
CH--R-OP-001	2	A			10/7/2005
CH--R-OP-002	1	A			10/20/2005
CH--R-OP-003	0	A			9/20/2005
CH--R-OP-004	0	A			8/31/2006
CH--R-OP-005	3	A			5/3/2007
CH--R-OP-007	0	A			3/6/2007
CH--R-OP-008	0	A			1/29/2007
CH--X-AD-001	25	A			10/11/2006
CH--X-RP-001	1	T			5/10/2005
CH--X-WP-001	0	A			8/7/2007
CM--A-00-001	3	T			3/21/2006
CM--A-00-002	2	T			2/28/2001
CM--A-AD-001	16	A			10/17/2005
CM--A-AD-002	1	T			11/3/2000
CM--A-AD-003	9	A			10/24/2006
CM--A-AD-004	20	A			8/24/2007
CM--A-AD-008	11	A			12/5/2006

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--A-AD-009	3	A			1/27/2003
CM--A-AD-010	1	T			11/25/2003
CM--A-AD-011	4	A			11/8/2005
CM--A-AD-012	0	A			9/16/2005
CM--A-AD-015	1	T			10/25/2006
CM--A-AD-017	1	A			8/30/2007
CM--A-AD-018	4	A			4/17/2007
CM--A-AD-019	2	A			5/15/2007
CM--A-AD-021	4	A			8/1/2407
CM--A-CS-001	1	T			12/8/2000
CM--A-EG-001	0	A			11/30/2000
CM--A-EG-004	16	A			3/15/2007
CM--A-EG-005	0	A			12/10/2003
CM--A-EG-008	6	A			7/17/2009
CM--A-EG-009	0	A			2/27/2006
CM--A-EN-004	5	T			10/17/2005
CM--A-EN-005	3	A			8/28/2007
CM--A-EN-006	5	A			8/28/2007
CM--A-FP-001	1	T			10/17/2005
CM--A-FP-002	7	A			5/9/2007
CM--A-GM-001	1	T			8/22/2007
CM--A-HR-001	5	A			8/30/2007
CM--A-HS-001	8	SS	T-CM-FW-M-EM-100		6/29/2006

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--A-HS-003	1	A			1/13/2001
CM--A-HS-020	1	T			11/20/2001
CM--A-IS-001	1	T			5/17/2007
CM--A-ME-001	6	A			6/29/2006
CM--A-MT-001	7	A			5/23/2006
CM--A-MT-002	5	SS	CM-A-MT-001	7	5/23/2006
CM--A-MT-003	8	SS	CM-A-MT-001	7	11/6/2006
CM--A-OP-001	5	SS	CM-A-WP-006	1	6/13/2007
CM--A-QP-001	16	A			4/30/2007
CM--A-QP-002	1	T			8/20/2001
CM--A-RP-001	8	SS	CM-A-RP-005	5	9/12/2003
CM--A-RP-002	7	SS	CM-A-RP-005	5	3/28/2003
CM--A-RP-004	8	SS	CM-A-RP-005	5	11/13/2004
CM--A-TT-001	3	T			1/22/2003
CM--I-AD-003	4	A			2/8/2007
CM--I-BO-001	1	SS	CM-M-BO-004	1	8/13/2007
CM--I-EN-001	4	A			7/18/2006
CM--I-EN-004	2	SS	CM-P-EN-010	1	8/28/2007
CM--I-IH-101	2	A			5/21/2007
CM--I-IH-201	0	A			5/21/2007
CM--I-MT-001	1	S			2/14/2003
CM--I-MT-002	7	SS			1/17/2005
CM--I-MT-003	2	S			9/9/2003
CM--I-MT-004	3	S			10/29/2003
CM--I-MT-005	1	S			9/2/2003
CM--I-OP-001	5	A			9/28/2005
CM--I-OP-002	3	A			9/28/2005

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--I-OP-003	5	A			9/28/2005
CM--I-OP-004	7	A			9/28/2005
CM--I-OP-005	6	A			9/28/2005
CM--I-OP-006	9	A			9/28/2005
CM--I-OP-007	7	P			9/28/2005
CM--I-OP-008	3	A			9/28/2005
CM--I-OP-009	10	A			5/8/2007
CM--I-OP-010	2	S			10/7/2005
CM--I-OP-011	1	T			10/24/2006
CM--I-OP-013	3	SS	CM-REF-OP-013	1	1/21/2006
CM--I-OP-014	2	SS	CM-G-WP-001	1	1/31/2007
CM--I-PA-001	1	A			8/23/2007
CM--I-PC-001	11	A			3/5/2007
CM--I-PC-002	9	A			11/8/2006
CM--I-PC-003	4	A			6/1/2006
CM--I-PC-004	1	T			5/25/2006
CM--I-QA-001	5	A			6/13/2006
CM--L-AD-001	3	A			12/13/2005
CM--L-AD-003	6	A			7/16/2007
CM--L-AD-004	4	A			3/2/2006
CM--L-AD-005	0	A			2/21/2006
CM--L-AD-007	0	A			2/21/2006
CM--L-AD-008	0	A			3/7/2006
CM--L-AD-009	1	S			5/3/2007
CM--L-AD-010	1	A			6/21/2007
CM--L-AD-011	1	T			5/16/2006

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--L-AD-014	1	A			9/27/2006
CM--L-AD-015	0	A			10/18/2006
CM--L-AD-016	2	A			11/14/2006
CM--L-AD-017	2	S			4/11/2007
CM--L-AD-018	0	A			7/12/2007
CM--L-AD-019	1	S			7/17/2007
CM--L-AD-020	0	A			8/21/2007
CM--L-EM-001	3	S			4/12/2007
CM--L-EM-002	4	A			8/2/2006
CM--L-EN-001	9	A			5/7/2007
CM--L-EN-002	8	A			6/5/2007
CM--L-EN-003	2	S			4/24/2007
CM--L-EN-004	1	S			2/6/2007
CM--L-EN-005	3	A			5/16/2007
CM--L-EN-006	2	S			5/1/2007
CM--L-EN-007	1	S			5/9/2007
CM--L-EN-008	1	S			6/20/2007
CM--L-EN-009	1	S			8/7/2007
CM--L-HS-001	1	A			6/21/2007
CM--L-HS-002	2	A			6/21/2007
CM--L-IS-001	4	A			4/30/2003
CM--L-IS-002	6	A			5/18/2005
CM--L-IS-003	1	A			4/5/2006

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--L-IS-004	8	A			4/2/2007
CM--L-IS-005	12	A			8/13/2007
CM--L-IS-006	3	A			4/11/2006
CM--L-IS-007	2	A			5/9/2006
CM--L-IS-008	1	A			5/9/2006
CM--L-IS-009	2	T			5/18/2006
CM--L-IS-010	3	T			9/20/2006
CM--L-IS-011	1	A			12/5/2006
CM--L-IS-012	4	A			12/2/2006
CM--L-IS-013	4	A			3/15/2007
CM--L-OP-001	1	T			5/17/2006
CM--L-OP-002	0	A			6/8/2006
CM--L-OP-003	1	S			4/12/2007
CM--L-OP-006	1	S			4/11/2007
CM--L-OP-007	3	A			10/16/2006
CM--L-OP-008	0	A			12/13/2006
CM--L-PC-001	1	A			7/12/2006
CM--L-PC-002	0	A			7/31/2006
CM--L-QP-001	2	A			3/3/2006
CM--L-QP-002	1	T			8/21/2006
CM--L-QP-003	1	T			8/21/2006
CM--L-RP-001	0	A			8/24/2005
CM--L-RP-002	1	T			4/3/2006
CM--L-RP-003	1	A			8/14/2006

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--L-RP-004	1	A			4/25/2004
CM--L-RP-005	5	A			4/25/2007
CM--L-RP-006	1	A			5/17/2007
CM--L-RP-007	0	A			5/17/2007
CM--L-RP-008	0	A			7/18/2007
CM--L-WP-001	0	A			3/15/2007
CM--M-BO-002	6	SS	CM-M-WP-003, CM-M-WP-004, and CM-M-WP-006	R0; R0; and R2	8/13/2007
CM--M-BO-003	1	A			7/12/2007
CM--M-EM-100	5	A			6/29/2006
CM--M-EN-001	7	SS	CM-P-EN-011	3	3/20/2007
CM--P-AD-001	1	T			10/2/2000
CM--P-AD-027	12	A			10/24/2006
CM--P-AD-034	2	A			10/15/2004
CM--P-AD-035	7	A			3/23/2006
CM--P-AD-036	2	T			10/8/2005
CM--P-AD-037	7	A			7/16/2007
CM--P-AD-038	11	A			2/22/2004
CM--P-AD-039	7	A			12/28/2004
CM--P-AD-041	12	SS	CM-P-AD-083	2	12/28/2005
CM--P-AD-042	10	SS	CM-P-AD-083	2	12/28/2005
CM--P-AD-043	10	A			1/23/2006
CM--P-AD-046	7	A			1/4/2006
CM--P-AD-047	7	A			12/30/2004
CM--P-AD-048	12	A			5/10/2007
CM--P-AD-049	7	A			2/28/2007

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--P-AD-059	7	A			4/19/2006
CM--P-AD-060	10	A			2/21/2006
CM--P-AD-061	11	A			6/12/2007
CM--P-AD-064	2	A			4/30/2007
CM--P-AD-065	9	A			5/1/2007
CM--P-AD-066	5	SS	CM-P-FS-007	0	3/28/2007
CM--P-AD-067	1	A			4/24/2007
CM--P-AD-068	2	A			7/25/2007
CM--P-AD-069	3	A			3/7/2007
CM--P-AD-070	4	A			3/13/2007
CM--P-EG-001	1	T			3/13/1998
CM--P-EG-002	1	T			3/13/1998
CM--P-EG-003	4	A			9/2/1999
CM--P-EG-005	1	SS	CM-P-EG-007	2	9/2/1999
CM--P-EG-006	2	A			9/2/1999
CM--P-EG-007	2	A			9/2/1999
CM--P-EG-008	1	SS	CM-P-EG-003	4	3/13/1998
CM--P-EG-009	1	T			9/2/1999
CM--P-EM-100	8	A			6/29/2006
CM--P-EM-101	11	A			8/15/2006
CM--P-EM-102	4	A			6/30/2006
CM--P-EN-002	10	A			10/11/2006
CM--P-EN-003	7	A			7/3/2007
CM--P-IS-001	4	A			10/31/2003
CM--P-IS-002	7	A			3/5/2007
CM--P-IS-003	3	A			4/4/2007
CM--P-IS-004	5	A			6/30/2004

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--P-IS-005	7	SS	CM-REF-IS-005	0	10/11/2006
CM--P-IS-006	5	A			11/4/2002
CM--P-IS-007	10	A			2/20/2007
CM--P-IS-008	7	SS	CM-REF-MT-008	0	4/10/2006
CM--P-IS-009	14	A			3/9/2006
CM--P-IS-010	1	T			11/4/2002
CM--P-IS-011	0	SS	CM-P-AD-049	7	9/23/2002
CM--P-IS-012	10	A			3/7/2007
CM--P-IS-013	4	A			7/25/2005
CM--P-IS-014	4	A			9/23/2002
CM--P-IS-015	6	SS	CM-P-AD-083	2	6/4/2004
CM--P-IS-016	4	A			9/20/2002
CM--P-IS-017	15	A			10/3/2002
CM--P-IS-018	4	SS	CM-P-FP-001	22	11/7/2005
CM--P-IS-019	9	SS	CM-UET-IS-019	3	11/7/2005
CM--P-IS-021	8	SS	CM-REF-IS-021	1	2/7/2006
CM--P-IS-022	8	SS	CM-REF-IS-022	1	11/11/2003
CM--P-IS-023	3	A			9/23/2002
CM--P-IS-024	4	A			12/28/2005
CM--P-IS-025	14	SS	CM-REF-IS-025	2	8/2/2007
CM--P-IS-026	3	A			10/7/2002
CM--P-IS-027	7	A			4/29/2003
CM--P-IS-039	5	A			9/23/2002
CM--P-MT-001	3	SS	CM-REF-MT-001	1	3/21/2005
CM--P-MT-003	10	SS	CM-UET-MT-003	0	5/24/2007
CM--P-MT-005	10	SS	CM-REF-MT-005	10	8/10/2006
CM--P-MT-007	2	SS	CM-UET-MT-007	1	6/9/2003

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--P-MT-012	9	SS	CM-REF-MT-012	3	4/22/2004
CM--P-MT-506	10	SS	CM-UET-MT-506	2	10/17/2005
CM--P-MT-512	18	SS			8/23/2006
CM--P-MT-900	3	A			11/21/2006
CM--P-OP-003	6	SS	CM-REF-OP-003	1	2/7/2006
CM--P-OP-010	12	SS	CM-A-OP-004	4	12/15/2005
CM--P-OP-011	9	SS	CM-REF-OP-011	0	10/16/2006
CM--P-OP-012	6	A			11/1/2006
CM--P-OP-013	9	SS	CM-P-EM-100	8	6/29/2006
CM--P-OP-110	1	SS	CH-I-QA-007	7 (T)	5/18/2005
CM--P-OP-404	15	SS	CM-P-WP-003	2	2/26/2007
CM--P-OP-406	3	A			6/27/2003
CM--P-OP-407	5	SS	CM-REF-OP-407	0	11/9/2005
CM--P-PA-001	1	A			5/10/2007
CM--P-PA-002	2	A			5/10/2007
CM--P-PC-002	16	A			11/28/2006
CM--P-PC-300	1	T			10/7/1998
CM--P-PC-400	1	T			1/4/2001
CM--P-PC-401	1	T			12/4/2000
CM--P-PC-402	1	T			10/2/2000
CM--P-PC-403	1	T			12/13/2000
CM--P-PC-404	1	T			12/11/2001
CM--P-PC-405	1	T			8/4/2000
CM--P-PC-406	1	T			10/24/2000
CM--P-PC-407	1	T			8/4/2000
CM--P-PC-408	1	T			1/17/2001
CM--P-PP-001	1	SS	CM-A-HR-001	5	9/28/2000

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--P-QA-004	7	A			6/12/2007
CM--P-QA-005	11	A			2/21/2006
CM--P-QA-016	7	A			2/21/2006
CM--P-QA-018	8	A			2/21/2006
CM--P-QA-020	8	A			3/28/2007
CM--P-RP-301	9	A			6/10/2005
CM--P-RP-302	7	A			3/22/2006
CM--P-RP-305	10	A			1/13/2006
CM--P-RP-306	9	SS	CM-REF-RP-306	1	1/20/2004
CM--P-RP-307	12	SS	CM-REF-RP-307	0	7/27/2006
CM--P-RP-309	26	A			8/8/2007
CM--P-RP-310	8	SS	CM-REF-WP-003	1	6/25/2007
CM--P-RP-312	6	SS	CM-REF-RP-312	0	5/11/2005
CM--P-RP-313	3	A			1/15/2004
CM--P-RP-314	5	SS	CM-REF-RP-314	1	11/23/2005
CM--P-RP-316	8	A			5/14/2007
CM--P-RP-317	8	A			6/5/2007
CM--P-RP-318	8	A			5/7/2007
CM--P-RP-319	6	SS	CM-REF-RP-319	1	9/27/2002
CM--P-RP-320	5	A			9/12/2003
CM--P-RP-321	5	A			10/6/2003
CM--P-RP-322	12	SS	CM-REF-RP-322	3	6/25/2007
CM--P-RP-324	6	SS	CM-REF-RP-324	0	9/11/2003
CM--P-RP-326	3	T			9/11/2003
CM--P-RP-327	7	SS	CM-REF-RP-327	1	2/3/2006
CM--P-RP-328	1	S			3/3/2003
CM--P-RP-329	3	SS	CM-REF-RP-329	0	12/18/2003

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--P-RP-330	8	SS	CM-REF-RP-330	3	8/8/2007
CM--P-RP-331	3	T			9/11/2003
CM--P-RP-332	5	SS	CM-REF-RP-332	0	2/3/2006
CM--P-RP-333	1	A			6/25/2007
CM--P-WD-001	1	A			10/31/2001
CM--P-WD-002	1	S			10/31/2001
CM--P-WD-003	3	S			12/20/2002
CM--P-WD-004	1	S			12/30/2001
CM--R-AD-001	28	A			3/1/2007
CM--R-AD-002	19	A			8/20/2007
CM--R-AD-003	3	A			7/28/2003
CM--R-AD-004	0	A			2/9/2006
CM--R-AD-005	1	A			9/20/2006
CM--R-AD-007	0	A			3/29/2007
CM--R-AD-008	0	A			7/9/2007
CM--R-EG-002	0	A			10/18/2005
CM--R-EG-003	0	A			8/17/2006
CM--R-EG-004	0	A			12/6/2006
CM--R-GM-001	8	A			8/31/2007
CM--R-IS-001	0	A			4/5/2006
CM--R-ME-001	8	A			9/26/2006
CM--R-MT-001	**???**	**???**			8/17/2004
CM--R-OP-001	1	A			7/25/2005
CM--R-OP-002	0	A			6/14/2006
CM--R-PA-001	5	A			8/24/2007

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--R-SC-001	0	A			1/14/2004
CM--X-AA-001	9	A			12/12/2005
CM--X-AD-001	6	A			3/14/2005
CM--X-AD-002	4	A			3/22/2006
CM--X-AD-003	1	T			8/2/2007
CM--X-AD-004	1	A			7/1/1996
CM--X-AD-005	1	T			8/2/2007
CM--X-AD-006	3	A			1/7/1999
CM--X-AD-007	1	T			8/2/2007
CM--X-AD-008	0	A			1/7/1999
CM--X-AD-009	5	T			3/22/2001
CM--X-AD-010	5	T			3/22/2001
CM--X-AD-011	1	A			1/4/2001
CM--X-AD-012	2	A			1/4/2001
CM--X-AD-013	8	A			7/30/2004
CM--X-AD-014	1	A			1/4/2001
CM--X-AD-015	1	T			8/2/2007
CM--X-AD-016	1	SS	CM-P-BO-007	1	1/4/2001
CM--X-AD-017	3	A			9/26/2001
CM--X-AD-018	2	A			1/10/2001
CM--X-AD-019	1	T			9/14/2001
CM--X-AD-020	2	A			9/17/2001
CM--X-AD-021	2	A			10/31/2001
CM--X-AD-022	28-1	A			3/8/2007

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--X-AD-023	22-1	A			5/30/2007
CM--X-AD-024	13	A			6/6/2007
CM--X-AD-026	1	A			7/20/2006
CM--X-AD-028	5	A			3/12/2007
CM--X-AD-029	2	A			3/12/2007
CM--X-AD-030	1	SS	CM-P-AD-073	2	10/5/2006
CM--X-AD-031	3	A			5/14/2007
CM--X-FP-001	0	A			11/30/2006
CM--X-HS-001	1	T			2/4/2002
CM--X-HS-002	4	T			12/1/2004
CM--X-HS-003	1	T			2/4/2002
CM--X-HS-005	0	A			6/30/2003
CM--X-IS-001	1	A			3/29/2007
CM--X-OP-001	11	S			5/26/2004
CM--X-OP-002	11	T			4/22/2004
CM--X-OP-003	7	T			4/16/2004
CM--X-OP-004	11	A			11/4/2005
CM--X-OP-005	8	A			7/6/2005
CM--X-OP-006	31	A			6/4/2007
CM--X-PP-001	0	A			10/3/2005
CM--X-PP-002	0	A			11/22/2005
CM--X-PP-003	1	A			3/13/2006
CM--X-QP-001	1	T			6/1/2001
CM--X-RP-001	5	A			2/3/2006
CM--X-RP-002	8	A			2/3/2006
CM--X-RP-003	1	S			12/12/2005

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
CM--X-RP-004	2	T			10/22/2003
CM--X-RP-006	4	A			3/16/2006
CM--X-RP-007	3	A			1/20/2006
CM--X-RP-008	13	A			6/5/2007
CM--X-RP-009	1	S			10/3/2002
CM--X-RP-010	0	A			10/31/2005
CM--Y-BO-001	1	A			4/27/2007
CM--Y-EN-001	5	A			8/20/2007
CM--Y-GM-001	2	A			4/10/2007
CM--Y-HR-001	2	SS	CM-Y-AD-004	0	2/27/2007
CM--Y-HR-002	5	SS	CM-Y-HR-003	4	8/30/2007
CM--Y-HS-001	1	A			8/28/2007
GB--I-OP-001	2	T			1/3/2007
GB--I-OP-002	2	S			8/9/2007
GB--I-OP-003	1	S			8/22/2007
GB--R-EG-001	0	A			10/11/2005
GB--R-EG-002	0	A			1/23/2007
HC--I-OP-001	1	S			5/23/2007
HC--I-OP-003	1	S			6/27/2007
HC--X-ME-001	0	A			8/10/2006
LL--A-OP-004	9	A			2/15/2007
LL--A-OP-005	9	A			2/14/2006
LL--A-OP-006	9	A			4/4/2007
LL--A-OP-007	7	A			3/14/2007

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
LL--A-OP-008	9	A			2/20/2007
LL--A-OP-009	8	A			2/14/2007
LL--A-OP-010	8	A			3/27/2007
LL--A-QP-001	16	A			2/13/2007
LL--L-OP-001	4	A			6/7/2007
LL--L-OP-002	2	S			2/19/2007
LL--L-WP-001	0	A			5/1/2007
LL--P-OP-001	6	T			3/22/2007
LL--R-AD-001	0	A			8/7/2007
LL--R-AD-002	1	A			8/28/2007
RH--R-AD-001	2	A			2/20/2007
SL--A-CE-001	**???**	**???**			3/18/2002
SN--A-AD-001	2	T			9/9/2002
SN--A-AD-002	2	T			6/11/2003
SN--A-AD-003	3	T			6/25/2003
SN--I-OP-102	0	R			1/12/2005
SN--I-OP-110	0	SS	SN-OP-004	0	1/10/2005
SN--I-RP-001	3	T			1/20/2004
SN--P-MT-100	8	SS	SN-REF-MT-100	0	6/29/2006
SN--P-OP-113	5	S			10/24/2006
SN--R-AD-001	0	A			10/23/2003
SN--R-OP-001	1	A			5/27/2003
SN--R-RP-001	**???**	**???**			3/2/2004

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
SN--R-TT-003	0	A			11/26/2003
SN--X-MT-001	0	A			11/13/2003
SN--X-OP-001	1	S			11/1/2002
SN--X-OP-002	1	S			11/1/2002
SN--X-OP-003	1	S			10/31/2002
SN--X-OP-004	1	S			11/1/2002
SN--X-OP-005	1	S			11/1/2002
SN--X-OP-006	1	S			11/1/2002
SN--X-OP-007	1	S			11/1/2002
SN--X-OP-008	1	S			11/1/2002
SN--X-OP-009	1	S			11/1/2002
SN--X-OP-010	1	S			11/1/2002
SN--X-OP-011	1	S			11/1/2002
SN--X-OP-012	1	S			11/1/2002
SN--X-OP-013	1	S			11/1/2002
SN--X-OP-014	1	S			11/1/2002
SN--X-OP-015	1	S			11/1/2002
SN--X-OP-016	0	A			11/1/2002
SN--X-OP-017	0	A			11/1/2002
SN--X-OP-018	0	A			11/1/2002
SN--X-OP-019	0	A			11/1/2002
SN--X-OP-020	0	A			11/18/2002
SN--X-OP-021	0	A			11/20/2002

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
SN--X-OP-022	0	A			12/23/2002
SN--X-OP-023	0	A			12/23/2002
SN--X-OP-024	0	A			5/14/2003
SN--X-OP-026	0	A			6/9/2004
SN--X-OP-027	0	A			6/11/2004
SN--X-OP-028	0	A			12/6/2004
SN--X-TT-001	1	S			8/1/2003
SN--X-TT-002	1	S			8/1/2003
SN--X-TT-003	1	S			8/1/2003
UT--P-MT-503	3	SS	UT-UET-MT-503	0	5/8/2007
UT--P-MT-505	11	SS	UT-REF-MT-505	2	8/21/2006
UT--P-MT-507	9	SS	UT-UET-MT-507	2	10/25/2006
UT--P-OP-500	9	SS	UT-REF-MT-500	4	6/29/2006
UT--P-OP-501	8	SS	UT-REF-MT-501	2	6/12/2006
UT--P-OP-502	10	SS	UT-REF-MT-502	2	11/30/2006
UT--P-OP-503	8	SS	UT-REF-MT-503	0	6/29/2006
UT--P-OP-505	10	SS	UT-UET-MT-505	4	5/14/2007
UT--P-OP-506	20	SS	UT-UET-MT-506	3-1	9/16/2005
UT--P-OP-507	6	SS	UT-UET-MT-507	1	6/29/2006
UT--P-OP-508	7	SS	UT-REF-MT-508	1	7/13/2006
UT--P-OP-509	6	SS	UT-REF-MT-509	0	7/11/2006
UT--P-OP-511	4	SS	UT-REF-MT-511	1	10/16/2006
UT--P-OP-512	13	SS	UT-UET-MT-512	1	5/14/2007
UT--P-OP-516	12	SS	UT-UET-MT-516	3-1	8/16/2006
UT--R-EE-001	1	A			4/1/2003
UT--R-EE-002	0	A			5/12/2003

Doc. #	New Rev. #	Status	Superseded	SS Rev.#	Revision Date
UT--R-EE-003	0	A			5/19/2003
UT--R-EE-004	0	A			5/22/2003
UT--R-EE-005	0	A			8/18/2003
UT--X-OP-001	1	A			12/6/2004

Title
BAS Vortex Cooler Test Instructions (Ref:T-BB-FW-WI-OP-051706-1017, R0)
Room 226 BBA Inner Airlock Ventilation Adjustment/Acceptance Instructions
Filter Housing F-213B, Train B1 & B2 Differential Pressure Comparison/Adjustment Instructions
BBA & CHSA Door Airflow Direction Test Report
Breathing Air System Evaluation of CO Monitor High Pressure Protection
Software Quality Assurance Plan Transuranic Data Management System
WIPP Related Training Program Description
Contact Handled Waste Initial Radioactive Operations Plan
Contact Handled Waste Operational Test Plan
Contact Handled Waste Container Selection Process
Contact Handled TRU Waste Characterization Program Quality Assurance Project Plan
BBA Material Handling Recipes
Drum Filter Replacement or Refitting, Drum Lid or Ring Replacement
Opening & Sampling CH Waste Container Boxes
Foam Fill Test Work Instruction
BBA Glove Box Processing Flowchart
Tramex Column Cutting & Sizing
Macro Encapsulation Unit Demonstrate Test Instruction
Macro Encapsulation Unit Functional Test Instruction
Waste Container Labeling
Drum Out Station Glove Change Out

Title
Absorbing Liquids
ME of Surrogate Waste Box for Off-site DOT 7A Cert. Testing
Receipt Inspection Checklists for Designated Waste Related Items
Visual Examination Process **SUSPENDED**
Evolution Saw Lesson Plan T-CH-FW-L-OP-006, Rev. 0
Portable Power Tools
Contact Handled Waste Glovebox Fire Control
Water Mist System Operability, Surveillance, and Maintenance
Fire Emergency Response and Facility Evacuation
Safety Conscious Work Environment
Documented Safety Analysis (DSA) & Technical Safety Requirements (TSRs)
Drum Handling (pressurized and explosive gas) Instructor Guide & Student Text
NDE/RTR Comprehensive Examination Student Reference Guide
WIPP Awareness Training
WIPP Waste Information System Indoctrination
WIPP Waste Information System Practical Training
Operations Continuing Training 2006-02, Visual Examination in Lieu of Radiography--(SUSPEND)
Operations Continuing Training 2006-04, Software Quality Management Lessons Learned
Operations Continuing Training 2006-05, Fork Truck Lessons Learned Student Text (SUSPEND)
Operations Continuing Training 2006-07, Change Summary of DSA, (12), & TSR, (11) SUSPEND
Control of Waste Drum Movement (MoveControl Training)
Waste Inventory Tracking System

Title
Macroencapsulation Orientation Training - Operations Continuing Training 2006-08
Macroencapulation OJT Instructor Guide
Macroencapsulation OJT Guide - Operations Continuing Training 2006-09
DSA/TSR Change Summary - Operations Continuing Training 2006-10--SUSPENDED--
Ops Cont Trg 2007-2 Operate Inventory Bar Code Scanner
Create / Revise Waste Containers in WICS
Size Reduce CH Waste with Powered Tools
Size Reduce CH Waste w/Powered Tools, OJT Guide (Ops Continuting Training 2007-03)
Transuranic Waste Management Manual
WIPP Graded Approach
Project Level Verification & Validation
Reconciliation of Data Quality Objectives
CH-TRU Waste Certification Procedure
WIPP Software Quality Assurance
WIPP Waste Information System (WWIS) Data Entry
Use of Acceptable Knowledge
Statistical Sampling & Analysis
Waste Corrective Action & Non-Conformances
Waste Program Data Validation
Hot Cell BBA Supply and Exhaust Blowers Preventive Maintenance
Glovebox Preventive Maintenance
Box Breakdown Area Enclosure Preventive Maintenance
Contact Handled Waste Scales Preventive Maintenance
Breathing Air Compressor System Preventive Maintenance

Title
Water Mist System Preventive Maintenance
Glovebox Station 1 Drum Crusher Preventive Maintenance
Glovebox Station 5 Waste Compactor Preventive Maintenance
Receipt of CH Solid Waste to Contact Handled Staging Area
Contact Handled Staging Area Operations
Box Breakdown Area Operations
Glove Box Operations
F-213 Filter Replacement
Return Transfer to DOE
BBA and GB DP Requirements/Ventilation
Breathing Air Compressor System
Water Mist Fire Protection System
Drum Bag In/Bag Out & Glove Ports
Contact Handled Waste Repackaging
CH Waste and Activity Inventory Control
Temperature Data Logger Operation
Non-Destructive Assay, Non-Destructive Examination, & Head Space Gas Operations, And Summa Sampling Training Program Description
Operations Training Program Description
Visual Examination to Confirm Radiography
Non-Compliant Containers
Visual Examination in Lieu of Radiography
Continuous Flow Breathing Air Purifier
Macro-Encapsulation
Container Fill
Foam Receipt, Storage, & Transfer
Diesel Fuel Receipt

Title
Procurement of Waste Items and Services
Glove Box Design Basis Fire Impacts Analysis on Main Building Ventilation HEPA Trains
Crosswalk - Documented Safety Analysis, Rev. 10 **SUSPENDED**
Technical Safety Requirements/Procedure Matrix, Rev. 13
Determination of Training Requirements for Contact Handled Solid Waste Operations
Determination of Training Requirement for NDE, NDA and HSG
Inventory Control Spreadsheet (ICS) Functional Design, Verification, and Validations Document
Inventory Control Spreadsheet (ICS) Ver. 2 Vertification & Valifidation Document
Inventory Control Spreadsheet (ICS) Ver. 6.0 Vertification & Valifidation Document
Surface Contaminated Object (SCO) - Low Level Waste (LLW), Worksheets, Verification and Validation Document
Foam Test Report, (Test Date: November 17, 2006)
Contact Handled Waste Acceptance Criteria
CH Waste Dose Evaluation
DOE ORO Strategy for Contact Handled Transuranic Waste Disposition
Small Business Subcontracting Plan
Project Decontamination and Decommissioning (D&D) Plan
Safety Management System Description
Site Occupancy Plan
Training Program
TWPC Project Management Plan
Site Access Plan

Title
Communication Plan
Implementation of the Quality Categorization Process
Configuration Management Program
TRU/Alpha LLW Treatment Project Documented Safety Analysis Implementation Validation Review (IVR) Plan
TWPC Contract Conversion Transition Plan
Nuclear Criticality Safety Program
Start-up and Restart of Nuclear Activities
Performance Assurance Program Plan
Risk Management Plan
Construction Work Plan
Design Criteria Package
Safety Significant Structures, Systems and Components
Justification for not providing automatic sprinklers within certain areas of the Process Building
System Engineer Program Description
Crosswalk of DOE-STD-1073 to Project Implementing Procedures
Air Permit Compliance Matrix
Sustainable Environmental Stewartship Plan
Regulatory Management Plan (Reg MP)
Justification for not Conducting Hydrostatic Pressure Test After Water Mist Pressure Gauge Replacement
Fire Prevention Program
TRU Waste Management Transition Assessment Plan
Workplace Substance Abuse Program (WSAP) Plan
Emergency Management Project Plan

Title
FWENC Project Rules Handbook
General Employee Radiological Training Lesson Plan
Worker Health and Safety Program
Main Building Ventilation System Description
Reliability Assurance Program Description
Preventive Maintenance
Corrective Maintenance Plan
Hazardous Materials Transportation Security Plan
Quality Assurance Program Description
Construction Quality Plan
Radiation Protection Program Confirmation Matrix
Radiation Protection Program Implementation Plan
Implementation of Radiation Protection Practices
Treatability Testing
Document Numbering System
FileMaker Development Guidelines
Work Instruction for Pump and Haul Escort
Environmental Checklist
Air Sampling for Beryllium
Surface Wipe Sampling for Beryllium
Dryer Gland(s) Work Instruction
Rotating Equipment Preventive Maintenance Work Instruction
Gear Drive & Mixer Preventive Maintenance Work Instruction
Tank Bottom Valve Work Instruction
Tank Level Element Repair/Replacement Work Instruction
Timely Orders to Operators
Independent Verification

Title
Operator Aids
Required Reading
Communications
Turnover
Log Keeping
Shift Operations and Practices
Pre and Post Job Brief
Emergency Radios
Jib Crane Installation Instruction
F-231 HEPA Filter Change Out
Surface Contaminated Objects Work Instructions
Risk Assessment Form
Using Approved Blanket Purchase Orders
Using P-Cards
Material Receiving
Allocation of Costs to Fixed Price & Cost Reimbursable Contract Work Instructions
Lessons Learned Work Instruction
Senior Supervisory Watch Training
On-The-Job Instructor Training
SME Instructor Training
Instructor Qualification
OJT Instructor Qualification
DOT Security Awareness Training
DOT Emergency Response for Access Control Personnel--SUSPENDED--
Unreviewed Safety Question Evaluator Training
Intergrated Safety Management System Orientation

Title
Light Vehicle Operator
Advanced Mixed Waste Shipper Certification
Maintaining a Safe & Drug Free Workplace for Management
General Employee Training Addendum # 1---(TWPC Substance Abuse, Employee Assistance, and Reporting Fraud, Waste and Abuse Policy)--SUSPENDED--
Unreviewed Safety Question Evaluator Qualification
TWPC General Employee Training Supplement
Hazardous Material General Awareness Training
General Employee Emergency Management**SUSPENDED**
Building Warden Orientation
Resource Conservation and Recovery Act Training (RCRA)
RCRA Permit Position Training Requirements
General Hazardous Waste Management (RCRA) Training **SUSPENDED**
RCRA Macroencapsulation Treatment & General Permit Conditions Training. (Operations Continuing Training 2007-01
RCRA Inspector Training
RCRA Annual Training Summary
RCRA Permit Update Continuing Training 2007-001
RCRA Permit Update Continuing Training 2007-02, (Treatment of Liquids & Mercury)
RCRA Continuing Training 2007-03 (Inspection for Liquid Treatment)
Peer Safety Observer Communication
Hazard Recognition Training
Respiratory Protection Lesson Plan
Airline Respirator Lesson Plan
Powered Air Purified Respirator Lesson Plan

Title
General Employee Training
Hazard Waste Training Requirements to Meet 29 CFR 1910.120(p)
Electrical Worker Qualification
Crane & Rigging Training
Floor-Operated Cranes Performance Evaluation
Designated Lift Supervisor
Lockout/Tagout Training
Bloodborne PathogenS Training
Hyster H360-HD Fork Truck Training
Utility Vehicle Safety
Operations Continuing Training 2006-03, Electrical Safety Lessons Learned -- TERMINATED
Acceptable Knowledge General Training
Operations Continuing Training 2006-03, Conduct of Operations Refresher Training **SUSPENDED**
Operations Continuing Training, 2006-06, Surface Contamination Only (SCO) Transportation Requirements--SUSPENDED
Conduct of Operations
Occurrence Reporting Training
Requisitioner Training
P-Card User Training
Suspect/Counterfiet Items Awareness Training - March 2004
Non-WIPP Auditor Qualification
Non-WIPP Lead Auditor Qualification
Neutron Dosimetry Lesson Plan
RCT Continuing Training 2005-01, Alpha/Beta Instrumentation
RCT Continuing Training 2006-01 Internal Dosimetry II

Title
Radiological. Worker I Training
Radiological. Worker II Training
RCT Core Academics
RCT Site-Specific Academics
Radiological Containment Basics
Skolnik Waste Comtainer Equivalent Packaging Certification Notification
Waste Inventory Control System User Manual
Finance and Accounting Manual
Local Emergency Manual
Miscellaneous Waste Management Manual
PO-1, Project Management Planning
Personnel Qualification and Training
Project Personnel Exit Interviews
Subcontractor Document Control
Change Management
Unreviewed Safety Question Process
Occurrence Reporting
Graded Approach
Nonconformance Control
Corrective Action
Work Suspension and Restart
Lessons Learned
Evaluation and Reporting of Potential Price-Anderson Amendments Act Noncompliances (PAAA)
Issues Management
Records Management

Title
Controlled Document Distribution
Management Assessment
Document Preparation, Review & Approval
Obtaining Exceptions to TWPC Training Requirements
TWPC Software Quality Assurance
Site Access and Identity Verification
Requirements Management
Foreign Travel Authorization
Personal Property Management and Control Program
Material Stores
ENG-1, General Procedure for Professional Activities
ENG-2, Engineering Interface
ENG-3, Developing & Issuing Engineering Documents
ENG-5, Design Classification Levels & Project Engineering Reviews
ENG-6, Preparation of Calculations
ENG-7, Design Verification
ENG-8, Record Drawings
ENG-10, Training in Engineering Procedures
Emergency Events
Atypical Events
Conduct of Drills
Environmental Assessments
Chemical Management
Light Vehicle Operation
Equipment Operation
General Employee and Visitor Training
Hazard Communication

Title
Compressed Gases
Safety/Committee Meetings
Activity Hazards Analysis
Electrical Safety
Inspections
Industrial Hygiene Monitoring
EHS Recordkeeping
Powered Industrial Trucks
Medical Services and Bloodborne Pathogens Program
Posting and Labeling
Incident Reporting and Investigation
Materials Handling
Personal Protective Equipment
Fire Prevention
Lock-out/Tag-Out
Hot Work
Confined Space Entry
Scaffolding
Fall Protection
Hoisting and Rigging
Hearing Conservation
Respiratory Protection
Hand and Portable Power Tools
Preventive Maintenance of Idle Equipment
Waste Processing Facility Building and Structure Preventive Maintenance
Hoists, Cranes, and Rigging Preventive Maintenance
Post Maintenance/Extended Downtime Insulation Resistance Testing

Title
Emergency Equipment Preventive Maintenance
Main Building Ventilation Systems Preventive Maintenance
Fire Detection and Suppression System Preventive Maintenance
EarthWork and Excavation
Control of Process Bldg. Doors
Waste Processing Facility Conduct of Operations
Programmable Logic Controller and Human Machine Interface Operations
Employee Notification System
Emergency/Atypical Events
Waste Container Handling
Waste Transportation
Verification and Validation Guidance for Operations Procedures
Temporary Modifications
Performance Measures
Managing TWPC Performance for Continuous Improvement
Procurement of Items and Services
PD-300, Commercial Procurement
PD-400, Procurement Overview
PD-401, Acquisition Planning
PD-402, Solicitation Evaluation
PD-403, Procurement Administration - Project Execution
PD-404, Procurement Closeout
PD-400-1, Standards of Conduct, Procurement Integrity & Anti-Kickback
PD-400-4, Unauthorized Commitments & Ratifications
PD-401-4, Use of Contract Types
PD-402-1, Cost & Price Analysis
PP-14, Substance Abuse Program

Title
Material Receipt Inspection
Surveillances
Control of Measuring & Test Equipment
Assessment Planning
Independent Assessment
External Dosimetry Program
Internal Dosimetry Program
Sealed Radioactive Source Control
Radiation/Contamination Surveys
Radiological Air Monitoring
Environmental Permits - Inspections/Monitoring and Reporting
DOT Shipment Surveys
Instrument Use, Calibration, and Daily Checks
Radiological Work Permits
Personnel Decontamination and Skin Dose Calculation
Radiological Worker Training
Radiological Control Technician Training
As Low As Reasonably Achievable (ALARA) Program
Radiological Posting and Labeling
Dose Reporting and Records
Radiological Protection Records
Contamination Control
Operation of the Personnel Contamination Monitor
Area Radiation Monitor Operation
Low Background Counter Operation
Operation of the Alpha/Beta Smear Counter
Electronic Dosimetry System Operation

Title
Alpha Continuous Air Monitor Operation
RadNet Operation
Operation of the Ludlum Model 3030E Alpha-Beta Sample Counter
Internal Audit of Radiological Protection Program
Filler Metal Control
Gas Tungsten Arc Welding (GTAW) General Welding Procedure
Welding Procedure Specifications and Procedure Qualification Records
Shielded Metal Arc Welding (SMAW) General Welding Procedure
Documented Safety Analysis (DSA)
Fire Hazards Analysis (FHA)
RAM
Management Assessment Package to Verify Implementation of DSA Rev. 11 and TSR Rev 10 (Implementation Matrix)
Intellectual Property Documents
Contractor Readiness Assessment Final Report for Macro-Encapsulation
TWPC Baseline Document
Instrument Calibration Self-Assessment
TRU Waste Process Building Room Volumes
DNFSB Recommendation 2004-2 Process Building Ventilation System Evaluation (DOE's Implementation Plan)
Monthly Progress Report--July 2007
Electricialy Safety Awareness Investigation Report
HVAC Supply & Exhaust Damper Position Verification
Main Building Ventilation Blower Grout Report
Procedure Grading Matrix
Critique for Waste Processing in the BBA
Risk Register Report

Title
Qualitative Evaluation of Selected Cracks in the Process Building
Authorization Agreement for TRU Bldg. 7880 Complex, ORNL (November 2005)
Subcontract Exhibit A-2, Prime Contract Statement of Work
Subcontract Exhibit B-2, Time and Materials Policy, Rev. 2
Subcontract Exhibit C, Insurance Requirements-" TERMINATED"
Subcontract Exhibit D, Subcontract Release Form
Subcontract Exhibit E, Security Agreement" TERMINATED"
Subcontract Exhibit F, Representations and Certifications
Subcontract Exhibit G, Y2K Compliance" TERMINATED"
Subcontract Exhibit H, Waste Management Qualifications and Data Questionnaire
FAR/DEAR Flowdown Clauses (fixed price)
FAR/DEAR Flowdown Clauses (cost reimbursable/time-and-material)
Exhibit A-14, Special Provisions - Environmental Health and Safety
Exhibit A-15, Subcontractor Profile - Environmental Health and Safety Program Areas
Exhibit A-16, Construction Labor Agreement
Exhibit A-17, Letter of Assent
Exhibit A-18, Service Contract Wage Determination--" TERMINATED"
Exhibit A-19, Anti-Kickback Letter
Exhibit A-22, Certificate of Compliance
Exhibit I, Credit References (Trade References)
Exhibit A-25, Safety Incentive Program
Exhibit A-28, Certification of Seller Understanding/Preparedness
Exhibit A-29, Project Location and Directions
Technical Safety Requirements (TSR)

Title
Inventory and Container Management
Safety Basis Document List and Safety Basis Change Tracking System
Records Inventory & Disposition Schedule (RIDS)
Project File Index
Waste Records Filing Matrix
Safety Basis Implementation and Maintenance
TWPC Training Implementation Matrix for DOE O 5480.20A
Fire Protection Program Cross-Walk To key Requirement of DOE Order O 420.1A Facility Safety
General Employee Radiological Training Lesson Plan
Radiological Worker Training Classroom Lesson Plan
RWT Practical Factors Lesson Plan
Critique Report - EMPP Drill (March 21, 2003)
TWPC Source Documents for Existing Hazard Assessment Information
WPF Log Sheets
WPF Round Sheets
WPF Standby Round Sheet
Conduct of Operations Matrix
WPF Turnover Checklist
WPF CH Round Sheets
Timesheet Approval and Submittal
Filling Permanent Project Positions
Overtime Requirements for Exempt and Non-Exempt Personnel
Standard Checklist Form - Grounding
Technical Basic Document on Personnel Monitoring
Technical Basis Document on Contamination Monitoring
Technical Basis Document on Environmental Monitoring

Title
Technical Basis Document on Continuous Air Monitor Selection
Technical Basis Document for Internal Dosimetry
TBD on Air Sampling and Analysis
RCT Training Qualification Standard
Radiological Control Technician Training Site Academic Training Self Study Guide
Technical Basis Document on Alpha CAM Alarm Set Points
Reimbursing Travel and Living Expenses to Personnel on Long-Term Travel Status
Environmental Management System Policy
Reporting Fraud, Waste and Abuse
Employee Concerns Policy
Workplace Substance Abuse Policy
Safety Policy Statement
GB/BBA Pass through Adjustment/ Acceptance Instructions Approval
Instructions to Establish Damper Positions and Air Flow thru the Glovebox (Stations 1, 2 & 3)
Adjust Damper Positions and Air Flow thru the Glovebox (Stations 1, 2 & 3)
Glovebox Pressure Test Report
GB/BBA Pass Through Adjustment / Acceptance Report
Hot Cell Interim Supply Air Ventilation Start Up Instructions
Hot Cell Interim Exhaust Air Ventilation Start Up Instructions
Hot Cell Air Balance Evaluation
Mixed Low Level/Low Level Waste Analysis Plan
Low Level Waste Profile
Mixed Low Level Waste /Low Level Waste Verification and Certification
Mixed Low Level Waste/Low Level Waste Process Control Program

Title
NTSWAC, Rev. 6, Mixed Low Level Waste/Low Level Waste Implementation Crosswalk (NIC)
Mixed Low Level Waste/Low Level Waste Characterization Plan
NTS WAC Rev 6, Mixed Low Level Waste Profile
Quality Assurance Plan (QAP) for Certification & Acceptance of Mixed Low Level Waste/Low Level Waste at the Nevada Test Site
General NTS Orientation Training
Waste Package Certifier Training
NDA Performance Demonstration. Program
Mixed Low Level Waste/Low Level Waste Tracking
Nevada Test Site Characterization Event Technical Status Report
Nevada Test Site Characterization Event Corrective Action Plan
RH Debris and Sludge Operability Review
Shielding Eval. Sludge Processing Area
Contractor ORR Plan of Action for Supernate….
Contractor ORR Implementation Plan
Management Self-Assessment Review Criteria & Required Evidence for the Supernate Process
Barrier Plan for Nitrogen Layup (T-SN-FW-I-OP-102004.1600, Rev. R0)
Nitrogen Sweep and Padding of Supernate and Auxiliary Support Systems
Radiation Survey during Initial FW Operation
Supernate Transfer Pipe Secondary Containment Pressure Indicating Transmitter Preventive Maintenance
F-202 Evaporator Filter Replacement
CORR Final Report for Supernate Process
Determination of Training Requirement for SN Operations
Supernate Shield Survey Report

Title
Dryer Discharge Soak Demonstration Report
SN Campaign Purchased Spare Parts
Plant and Instrument Air Checklist Task # TO-101
Boiler, Steam and Condensate Checklist Task # TO-106
SN Pump Seal Water Check List
Environmental Chiller Check List Task TO-501
Supernate Tank Farm Check List Task # TO-203
Supernate Tank Farm Check List Task # TO-202
Supernate Tank Farm Check List Task # TO-201
Process Chiller and Chill Water (SN Only) Check List Task # TO-104
Subsystem Test Check List Task-30 Ton Crane
Supernate Drying Subsystem Test Check List Task # TO-300
Supernate Bogies Handling System Check List Task # TO-301
Chemical Addition System Check List Task TO-111
Supernate Evaporation System Checklist Task # TO-400, 401, 402, 403
1st Floor Isolock Sampler Check List Task # TO-208
Vertical Reciprocating Conveyor Check List Task # T0-605
WPF Supernate (SN) System (Plant Wide) Check List Task # System Integrated Operation (SIO)
WPF Supernate (SN) System (Plant Wide) Check List Task # Surrogate Demonstration Number 1
WPF Supernate (SN) System (Plant Wide) Check List Task # Surrogate Demonstration Number 2
WFP Supernate (SN) System (Plant Wide) Check List Task # Surrogate Demonstration Number 3
WPF SN System Stand By Diesel Generator Checklist (TO-103)
UPS Checklist (TO-107)

Title
Test of Audible Annuciator GAI-Tronics System
CCTV (TO-603)
SN System Testing May 2003 Checklist
SN Final Form Requirements Memorandum with CD's
SN Final Form Requirements Memorandum Dated 6/11/04
SN Alastro Summary
Surrogate Demo 1A
Surrogate Demo 1B
Surrogate Demo 1C
Water Supply System Preventive Maintenance
Diesel Generator Preventive Maintenance
Uninterruptible Power Supply Preventive Maintenance
Environmental Chilled Water System and Air Handling Units
Process Chill Water System
Plant and Instrument Air System
Water Supply System
Diesel Generator System
Main Building Ventilation and HEPA Systems
Uninterruptible Power Supply
HVAC Duct Heaters
Vertical Reciprocating Conveyor Operation
Motor Control Center Operations and Electrical Distribution
Fire Suppression System
Main Building Ventilation HEPA Filter Changeout
Investigative Report TRU Alpha Project Boiler Electrical Short Circuit
Boiler Control Panel Incidents at the Foster Wheeler TRU/Alpha LLW Treatment Project in March and April 2003

Title
Investigative Report: Boiler Control Cabinet Faults at the TRU/Alpha LLW Treatment Project in March and April of 2003
Fault Tree and Causal Factor Chart for the Investigation of the Boiler Control Panel Incidents at the Foster Wheeler TRU/Alpha LLW Treatment Project in March and April of 2003
Surrogate Waste Spill from F-202
MBV Minimum Speed Setting Test Summary

Controlled
Copy

CCP-PO-027

Revision 5

CCP/TRU Waste Processing Center/Oak Ridge National Laboratory Interface Document

EFFECTIVE DATE: 10/02/2013

Mike Ramirez

PRINTED NAME

APPROVED FOR USE

Contract No. DE-EM0003760
Section J, Attachment H

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	10/02/2007	Initial issue.
1	02/17/2010	Revised due to the deployment of the Mobile IQ3 Nondestructive Assay (NDA) system to the transuranic (TRU) Waste Processing Center (TWPC).
2	04/22/2010	Revised to remove the requirement to apply Central Characterization Project (CCP) hold tags to containers which are returned to the host facility as permanent rejects.
3	12/29/2010	Minor revision to update references to the *Waste Isolation Pilot Plant Hazardous Waste Facility Permit.*
4	10/01/2012	Revised to incorporate Nuclear Waste Partnership (NWP) transition changes.
5	10/02/2013	Revised to incorporate Class 2 Permit Modification changes, dated March 13, 2013 and to include the freeze file as of 11/20/2012. Changes in the freeze file include: 1. Measuring and testing equipment (M&TE) changes proposed by S. Burns to make CCP-PO-027 similar to other interface documents that were affected by CAR-LANL-003-12. 2. An “Any documentation required for Central Characterization Program (CCP) to perform its scope” added. 3. Training information in Section 4.1.3 revised. 4. Removed references to drum venting system (DVS) as equipment is no longer on site. 5. Section 4.13.6 [A] revised to generalize CCP Project Manager (PM’s) approval of CCP-CM-001, *CCP Equipment Change Authorization and Documentation* information. 6. “CCP or CCP Vendor owned equipment” added where needed.

TABLE OF CONTENTS

LIST OF FIGURES

1.0 PURPOSE

The Central Characterization Program (CCP) is a mobile program designed to characterize, certify, and transport Transuranic (TRU) waste from various U.S. Department of Energy (DOE) sites to the Waste Isolation Pilot Plant (WIPP) in New Mexico. The CCP is operated by Nuclear Waste Partnership (NWP), at the direction of the DOE Carlsbad Field Office (CBFO).

CBFO has deployed the CCP to the TRU Waste Processing Center (TWPC), located on the Oak Ridge National Laboratory (ORNL). CCP has been deployed to this site to process both the legacy contact-handled (CH) and remote-handled (RH) TRU waste. The Oak Ridge Operations Office (ORO) manages all activities at the ORNL, including waste management, for the DOE.

This document defines the interfaces between the CCP and the Host facility organization(s) necessary to perform this work. This document is intended to clarify and expand on details contained in the Inter-Entity Work Order (IEWO) with its associated upper tier Statement of Work (SOW) and program documents. It is not intended to be used in lieu of a task-specific subcontract.

CCP has primary responsibility for TRU waste characterization activities. CCP services include compilation, reporting, and confirmation of Acceptable Knowledge (AK), Nondestructive Examination (NDE), Nondestructive Assay (NDA), Radiological Characterization (RC), Visual Examination (VE), Flammable Gas Analysis (FGA) for transportation, data validation and verification, waste certification, WIPP Waste Information System/Waste Data System (WWIS/WDS) data entry, and transportation activities.

These services will be performed with CCP and/or Host facility equipment with appropriate DOE/CBFO-certified procedures. All services provided by CCP will comply with DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WIPP WAC), DOE/WIPP-02-3214, *Remote-Handled TRU Waste Characterization Program Implementation Plan* (WCPIP), requirements, including those pertaining to waste disposal and transportation. This work will be performed under a DOE/CBFO-certified quality assurance (QA) program that meets the requirements defined in DOE/CBFO-94-1012, *U.S. Department of Energy Carlsbad Field Office Quality Assurance Program Document* (QAPD). CCP will also support TWPC in their mission to dispose of Low Level and Low Level Mixed Waste (LLW/MLLW). This support will be primarily in providing NDE and NDA data for LLW/MLLW waste containers. CCP will work with the TWPC to ensure that the data meets the requirements for TWPC to ship the LLW/MLLW.

The Host facility may augment CCP characterization efforts as requested by CCP. Where required, all augmented services provided by the Host facility shall comply with CCP-certified procedures.

The Host facility has primary responsibility for assuring that requirements for safety, (i.e., Radiological Controls, Occupational Safety and Health, Industrial Hygiene, and Environment/Hazardous Waste programs), adherence to TWPC Safety Authorization Basis and Emergency Management Program Requirements. Additionally, the Host site is responsible for assuring that any chemical sampling and analysis deemed necessary by the WIPP Permittees, and other areas are met for CCP activities, and that CCP activities support the scheduled objectives.

Throughout this document the Host facility Management and Operating (M&O) Contractors' responsibilities are limited to the specific CCP activities being conducted within their facilities.

The CCP will certify DOE TRU waste at the ORNL for disposal in accordance with the certification authority that has been granted by the DOE/CBFO.

This document addresses specific requirements for the following areas:

- Training and qualification
- Container management
- Deficiencies and nonconformances
- VE
- NDA
- Radiological Characterization (Dose-to-Curie [DTC]) (including sampling and analysis, if required)
- NDE
- Additional Waste Sampling Analysis
- Flammable Gas Analysis for transportation requirements
- Performance Demonstration Program (PDP)
- Source control

- AK
- Data validation and reconciliation
- Measuring and Test Equipment (M&TE)
- Work standards
- QA
- Project Control
- Procedures
- Document Transmittals
- Procurements
- Records
- TRU Waste Certification and WWIS/WDS data entry
- Transportation
- Configuration Management

The Host facility will report conditions or concerns that have or may have safety, health, QA, security, and operational or environmental implications to CCP and to the DOE ORO. CCP shall report their similar issues to the Host facility and to DOE/CBFO.

2.0 REQUIREMENTS

This document implements the applicable requirements of the following:

- CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*
- CCP-PO-002, CCP *Transuranic Waste Certification Plan*
- CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*
- CCP-PO-005, *CCP Conduct of Operations*
- CCP-PO-026, *CCP Configuration Management*
- CCP-PO-505, *CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)*
- DOE/WIPP-02-3183, *CH Packaging Program Guidance*
- DOE/WIPP-02-3214*, Remote-Handled TRU Waste Characterization Program Implementation Plan*
- DOE/WIPP-02-3283, *RH Packaging Program Guidance*
- DOE/WIPP-06-3345, *Waste Isolation Pilot Plant Flammable Gas Analysis*
- DOE/WIPP-94-1012, *U. S. Department of Energy Carlsbad Field Office Quality Assurance Program Document (QAPD)*
- WP13-1, *Nuclear Waste Partnership LLC, Quality Assurance Program Description*

3.0 RESPONSIBILITIES

3.1 Initial Setup

3.1.1 CCP is responsible for the following during initial setup:

[A] Providing information and procedures to the Host facility Subcontract Technical Representative (STR)/Designee, who will coordinate facility, QA, and Environmental Safety & Health (ES&H) reviews to determine satisfactory compliance with Host facility safety basis requirements, RC requirements, and other safety and operational requirements.

[B] Completing readiness activities as needed to support authorization of CCP activities at the Host facility.

[C] Providing project support to complete administrative reviews and approvals of technical and administrative procedures or processes.

[D] Mobilization of project staff.

3.2 Operations

3.2.1 CCP is responsible for the following activities to support start-up operations:

[A] Performing system start-up and calibration of characterization equipment at the Host facility.

[B] Participating successfully in the PDP, as needed.

[C] Performing safety walk-downs prior to operation.

[D] Responding to and resolving assessment and surveillance findings for CCP start-up activities.

[E] Ensuring CCP and Host facility personnel are trained and qualified in accordance with the requirements specified in Section 4.1.

[F] Successful completion of DOE/CBFO Certification Audit.

[G] Provides container tracking support for the containers introduced into characterization activities to ensure characterization completion using the CCP container management system.

3.2.2 The Host facility provides the following support for CCP activities:

[A] Radiological controls as needed to support characterization activities, including:

- Radiological postings.
- Radiation protection surveys, both initial and routine, on characterization equipment and provide approved survey reports to the CCP Site Project Manager (SPM) as required.
- Personnel dosimetry.
- Dose assessments and dosimetry reports.
- Calibrated and source checked survey instrumentation, as required.
- Radiological Work Permits (RWP) to support CCP activities, as required.
- Bioassay sample collection, evaluation, and reports will be provided by Host site, if applicable. The CCP TWPC Project Manager or CCP Vendor Project Manager (VPM) will be notified of any positive bioassay results as soon as is reasonably possible.
- Radiological source controls.

[B] Provides adequate facilities for the safe performance of characterization and transportation activities.

[C] Provides site-specific training, as needed, to ensure safe operations within the Host facility.

[D] Provides IS&H support, as needed.

[E] Provides Fire Protection and Emergency Management support, as needed.

[F] Provides Authorization Basis (AB) oversight, including Unreviewed Safety Question (USQ) evaluations.

[G] Provides environmental impact oversight and support, as needed.

[H] Provides on-site container transportation.

[I] Provides container handling, inventory control, and storage location tracking using the TWPC Container Tracking system.

[J] Provides personnel to be trained and qualified under the CCP program as needed to support CCP activities such as VE, Radiological Characterization (Dose-to-Curie [DTC]), etc., if applicable.

[K] Coordinates and obtains document classification reviews as required to allow the public release of documents such as the AK Summary Report.

[L] Provides calibrated M&TE for use in characterization or obtains calibration service for CCP provided M&TE.

[M] Provides waste packaging materials and other equipment/materials purchased and inspected in accordance with the Qualified Supplier List (QSL) approved program.

[N] Provides hazardous waste manifesting, bill of lading, and notifications for transportation.

3.3 CCP Site Project Manager (SPM)

3.3.1 Functions as CCP's primary interface and point-of-contact between CCP and the Host facility for all waste characterization and certification activities.

3.3.2 Ensures CCP and Host facility personnel are trained and qualified to perform WIPP-compliant TRU waste characterization activities at the Host facility prior to commencement of work activities.

3.3.3 Confirms sufficient characterization equipment is available to perform the required characterization activities at the Host facility.

3.3.4 Provides the AK Summary Report for DOE waste characterized by the CCP to the Host facility STR/Designee.

3.3.5 Works in conjunction with Host facility operations to establish and maintain reasonable and appropriate throughput of waste containers.

3.3.6 Ensures that project level verification and validation of batch data report (BDRs) are completed.

3.3.7 Provides evidence to the Host facility STR/Designee of PDP participation and successful completion.

3.3.8 Provides status on CCP characterization operations to the Host facility STR/Designee.

3.4 CCP Quality Assurance (QA) Engineer

3.4.1 Functions as CCP's primary interface and point-of-contact for QA matters between CCP, Host facility, DOE/ORNL, and DOE/CBFO.

3.4.2 Validates the Nonconformance Reports (NCRs) generated by CCP personnel performing characterization activities at the Host facility.

3.4.3 Provides copies of NCRs for information to the Host facility STR/Designee as requested.

3.4.4 Ensures that NCRs are dispositioned in a timely manner in accordance with CCP-QP-005, *CCP TRU Nonconforming Item Reporting, and Control.*

3.4.5 Ensures receipt inspection in accordance with CCP-QP-026, *CCP Inspection Control,* of items and services procured by CCP is performed.

3.4.6 Provides the Host facility STR/Designee with a copy of the semi-annual trending summary reports in accordance with CCP-QP-014, *CCP Data Analysis and Trending*.

3.5 Host Facility Subcontract Technical Representative (STR)/Designee (Host Facility Management Position)

3.5.1 Functions as the Host facility primary interface and point-of-contact between the Host facility and CCP.

3.5.2 Ensures any USQs that may be needed for proposed modifications to CCP hardware, software, or procedures are prepared and approved by the appropriately qualified Host facility personnel prior to CCP implementing the proposed modification.

3.5.3 Ensures needed site infrastructure support (e.g., Radiological, IS&H) is available for waste characterization.

3.5.4 Ensures documentation of completed Host facility-specific training is delivered to the CCP SPM.

3.5.5 Coordinates review, provides comments, and approves comment resolutions on procedures listed in Section 4.19.3 for the purpose of ensuring facility safety requirements are met.

3.5.6 Provides local personnel to support characterization operations such as VE. Also provides personnel to support the CCP AK Experts (AKE) in the collection of required documents and procedures as needed, if applicable.

3.5.7 Ensures that periodic QA surveillances of CCP operations by the Host facility are conducted and reported to CCP.

3.5.8 Distributes the CCP documents listed in Section 4.19.3 to Host facility reviewers as required by the Host facility administrative controls.

3.5.9 Reviews and concurs on documents in Section 4.19.3 in accordance with CCP-QP-010, *CCP Document Preparation, Approval and Control*.

3.5.10 Provides facilities, construction services, utilities, phone services, office services, and supplies as defined by the respective CCP and TWPC contracts with DOE.

3.6 CCP Vendor Project Manager (VPM)

3.6.1 Monitors the List of Qualified Individuals (LOQI) daily to confirm that only qualified personnel perform waste characterization activities.

3.6.2 Functions as CCP's primary interface and point-of-contact between CCP and the Host facility STR/Designee for characterization field operations.

3.6.3 Provides daily pre-operations briefing. The daily pre-operations briefing may be combined with the Host facility's pre-operations briefing as agreed between the CCP TWPC Project Manager and Host facility operations management.

3.6.4 Ensures that in-process documents and the documents listed in Section 4.20.2 are transmitted to the CCP Project Office as soon as practicable in accordance with CCP-QP-008, *CCP Records Management.*

3.6.5 Ensures applicable manufacturers Material Safety Data Sheets (MSDSs) are provided, maintained, and available to support operations and meet the requirements of the TWPC chemicals management program.

3.6.6 Provides oversight of field operations to ensure safe, efficient operations.

3.6.7 Supervises day-to-day waste characterization activities.

3.6.8 Notifies the CCP TWPC Project Manager and the Host facility Facility Manager/Operations Manager of any abnormal events associated with safe operation of CCP characterization activities for reporting purposes.

3.6.9 Obtains STR and Facility Site Representative (FSR) review and concurrence prior to issuance/approval of an Operator Aid or Standing Order that could affect changes to equipment operation or configuration.

4.0 INTERFACE

4.1 Training and Qualification

4.1.1 CCP personnel or Host facility personnel who perform work under CCP procedures will be trained and qualified to WIPP requirements in accordance with CCP-QP-002, *CCP Training and Qualification Plan*.

4.1.2 Host site will schedule and provide forms as necessary for individuals that are required to take HAZWOPER physical. CCP will be responsible for the cost of the physicals.

4.1.3 Administrative work, such as BDR reviews that require no access to characterization activities or processes, may be completed by personnel who have not completed the Host facility required site-specific training. Personnel who have not completed Host facility required site-specific training will not be allowed unescorted access to the characterization activities.

4.1.4 CCP and Host facility personnel assigned to field operations must complete the Host facility required site-specific training. The STR will ensure that the Oak Ridge site-specific training documentation is sent to CCP training and notification is made to the SPM.

4.1.5 Both the CCP training and Host facility required site-specific training must be completed prior to the individual being assigned to perform independent work at the Host facility.

4.1.6 A LOQI will be monitored by the CCP VPM to confirm CCP and Host facility personnel assigned to CCP to perform work are in compliance.

4.1.7 Host site will be responsible for notification of any Safety Basis changes to action levels that will impact notification requirements. CCP will ensure that notification are made by offsite review personnel (e.g., Independent Technical Reviewer [ITR], NDA Expert Analyst [EA], SPM) for Host site safety basis notification action levels. The Host site action levels will be included in a CCP Standing Order. Any revisions to the Host site action levels will be issued in a revision to the applicable CCP Standing Order.

4.2 Container Management

4.2.1 The Host facility is responsible for container movement, storage, and Documented Safety Analysis (DSA) compliance.

4.2.2 The Host facility provides the dose rate and surface contamination information necessary to certify TRU waste containers for disposal.

4.2.3 CCP is responsible for container management throughout the CCP characterization process. CCP will perform container management in accordance with CCP-TP-068*, CCP Standardized Container Management,* or CCP-TP-509, *CCP Remote-Handled Transuranic Container Tracking*.

4.2.4 CCP AK personnel will maintain a list of characterization-eligible containers from each waste stream identified. When repackaging or VE of a waste container is required, the following container Identification (ID) scheme will be followed as applicable.

[A] When the waste from one TRU input container results in one TRU output container, the container ID from the Input container is to be used with the addition of an “A” suffix as the ID number on the output container (e.g., input container is X10C0057, the output container will be labeled as X10C0057A). This scheme is also to be applied to re-label waste containers that do not require repackaging or VE.

[B] When the waste from one TRU input container results in the creation of two or more TRU output containers, a standard convention of adding a sequential single or, if required, double letter suffix to the input container’s ID number is used to label the TRU output containers produced (e.g., input container is X10C0057, the first output container is X10C0057A, and the second output container is X10C0057B).

[C] When the waste from two or more TRU input containers from the same waste stream are combined into one output container, the container ID number from the first input container is used with the addition of an “A” suffix as the ID number on the TRU output container (e.g., X10C0057 and X10C0059 are combined into one output container. X10C0059 was the first drum repackaged. The output container is X10C0059A).

[D] When prohibited items are segregated and placed into a separate output container from the bulk of the waste, a new container ID is applied to the segregated waste container. Prohibited items from more than one input waste container may be placed into the segregated waste container provided the input containers are from the same waste stream.

[E] CCP AK personnel are to be notified as soon as is practical of waste container ID number changes resulting from the actions in steps 4.2.4[A] through [D].

4.3 Deficiencies and Nonconformances

4.3.1 CCP-Identified Deficiencies and Nonconformances

NOTE
The NWP QA Engineer will confirm appropriate closure of the deficiencies that are resolved by CCP.

[A] If CCP personnel identify a nonconformance condition associated with a waste container during the CCP characterization or certification process, CCP personnel will initiate an NCR in accordance with CCP-QP-005.

[B] If the deficiency or nonconformance is an issue that will be resolved by CCP, CCP will provide notification (e.g., verbal, or e-mail as required by the Host facility) to the Host facility STR/Designee. The Host facility STR/Designee may request any supporting documentation needed by the Host facility. CCP will ensure appropriate closure of the deficiency. A copy of any CCP NCR related to DOE TRU waste at the TWPC will be provided to the Host facility STR/Designee upon request.

[C] If the deficiency or nonconformance cannot be resolved by the CCP (e.g., does not meet TRU waste acceptance criteria), then the specific container will be returned with all required documentation to the Host facility for disposition. Once the specific container(s) have been returned to the Host facility, the NCR will remain open if the container will be remediated and returned to CCP or will be closed if the condition is such that the container will not be returned to CCP (e.g., NDA indicates the container is less than 100 nanocuries per gram [nCi/g] TRU alpha activity

concentration). CCP will not apply CCP HOLD TAGS to those containers which are returned as permanent rejects from CCP. Instead, CCP will affix a physical indicator (sticker or tag) that the container is returned and not certifiable for shipment to WIPP.

[D] CCP personnel will immediately notify the CCP VPM of any abnormal event associated with the safe operation of CCP characterization activities. The CCP VPM will notify the CCP TWPC Project Manager and the Host facility Facility Manager/Operations Manager of the abnormal event.

4.3.2 Host Facility-Identified Deficiencies and Nonconformances

[A] If Host site personnel identify a nonconforming condition during container movement or handling (e.g., missing container identification tag, duplicate container number), Host site personnel will initiate nonconformance documentation in accordance with the Host site QA Program.

[B] The STR will ensure a copy of any NCR affecting the CCP program is provided to the SPM for incorporation into the CCP Nonconformance Tracking System (as required).

[C] The STR will notify the CCP SPM of any procedure deficiencies, identified by TWPC personnel, which relate to characterization activities.

[D] The STR will notify the Transportation Certification Official (TCO) or Mobile Loading Unit Team Lead of any procedure deficiencies, identified by Host site personnel, which relate to payload assembly or loading activities.

4.4 Visual Examination (VE)

4.4.1 CCP will conduct VE Operations in accordance with CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination* (CH), as needed, or CCP-TP-500, *CCP Remote-Handled Waste Visual Examination* using a facility provided by the Host facility.

4.4.2 The Host facility will be responsible for all maintenance and repairs to the VE facility.

4.4.3 The Host facility will provide personnel to qualify and perform VE in accordance with CCP-TP-113 or CCP-TP-500, if applicable.

4.5 Nondestructive Examination (NDE)

4.5.1 CCP will perform NDE using a CCP-provided unit. Containers rejected by NDE will be dispositioned consistent with the requirements of Section 4.3.

4.5.2 CCP may perform screening services using a CCP provided unit to provide information on prohibited items for use in TWPC repackaging operations. CCP-TP-066, *CCP Radiography Screening Procedure for Prohibited Items*, will be used for any screening operations. The report provided from CCP-TP-066 will include any prohibited items or conditions, including all liquids identified, during the scan.

4.5.3 The Host facility is to support the CCP VPM with the construction of NDE capability demonstration drums as required.

4.6 Nondestructive Assay (NDA)

4.6.1 The Host facility will provide support for CCP participation in the PDP. This support includes preparation of the test drums, delivery and pick-up of the drums to/from the CCP NDA equipment, and responsibility for PDP source control.

4.6.2 CCP will perform NDA using a CCP-provided unit or multiple units as required. Containers rejected by NDA will be dispositioned consistent with the requirements of Section 4.3.

4.6.3 CCP will provide validated BDRs to the TWPC for disposal of LLW/MLLW from the certified program.

4.6.4 CCP will provide electronic data to Host site.

4.6.5 CCP will operate Host facility provided NDA equipment when possible in conjunction with CCP provided equipment until all CCP provided NDA units are certified under the CBFO program.

4.7 Radiological Characterization (Dose-to-Curie [DTC])

4.7.1 The Host Facility will provide technical support for RC efforts based on the use of AK for stored RH TRU waste or sampling and analysis.

4.7.2 CCP will provide qualified personnel, including Host facility personnel, to perform RC activities.

4.7.3 The Host facility will provide support to the CCP for performing calibration of RC instrumentation. This support includes delivery of surrogate drums and source control as needed.

4.8 Waste Sampling and Analysis Methods

4.8.1 If the Permittees determine that additional characterization is necessary using chemical sampling and analysis, the Permittees shall direct the generator/storage site to provide the Permittees with the following documentation:

- Sampling and analysis plan
- EPA SW-846 test method(s), or functionally equivalent test method(s) to be used
- Identification of the laboratory(ies) that will be performing the test(s)

4.8.2 Upon the Permittees written approval of the sampling and analysis plan, the generator/storage site shall implement the sampling and analysis plan.

4.9 Flammable Gas Analysis (FGA)

4.9.1 FGA is for transportation only and will be performed using approved DOE/WIPP procedures by personnel trained under the CCP Qualification Program.

4.10 Source Control

4.10.1 CCP will provide a list of Special Nuclear Materials (SNM) reference sources required for calibration of CCP-furnished systems.

4.10.2 The Host facility will be responsible for all non-SNM reference sources. Responsibilities consist of inventory control, storage, shipment, and usage. The Host facility will provide CCP the number of sources, location, isotopic distribution with activity levels, and the names of the custodian and authorized users, as required.

4.10.3 The Host facility will be responsible for providing radiological control support associated with the non-SNM reference sources. This support consists of maintaining the radioactive materials area (RMA) postings, periodic surveys and performing a semi-annual leak check on the sources as requested by CCP.

4.10.4 The Host facility will be responsible for all SNM reference sources. Responsibilities consist of: inventory control, storage, inspection and handling. The Host facility, as custodian of SNM sources, will provide to CCP the necessary sources. Host facility personnel will load the sources into the matrix drums as requested by CCP. CCP personnel will be trained as users of the sources to the Host facility procedures.

4.10.5 The Host facility will provide support for the CCP participation in the PDP. This support includes maintaining trained PDP coordinators, preparation of the test drums, delivery and pick-up of the drums to/from the CCP NDA equipment, and responsibility for PDP source control. Host facility support will be coordinated by the Host facility STR/Designee.

4.11 Acceptable Knowledge (AK)

4.11.1 CCP records personnel will maintain the auditable AK record necessary to support the AK Summary Report in accordance with the HWFP, Attachment C, *Waste Analysis Plan* (WAP), WCPIP, and the Quality Assurance Program Description (QAPD).

4.11.2 CCP AK personnel will perform and document the AK collection, reporting, and confirmation in accordance with CCP-TP-005, *CCP Acceptable Knowledge Documentation* and/or the RHPIP. CCP shall submit the AK Summary Report for Host facility review and concurrence. As warranted, the Host facility STR/Designee will provide written comments. Upon satisfactory disposition of comments, the Host facility STR/Designee will provide written concurrence of the AK Summary Report.

4.11.3 Host facility personnel will assist CCP AK personnel in support of AK compilation, confirmation, discrepancy resolution, or AK reassessment of source documents.

4.12 Data Validation and Reconciliation

4.12.1 Wherever CCP has obtained the services of another CBFO-certified TRU Waste Program, that program will provide BDRs completed through data generation level (DGL) reviews to CCP in accordance with their own programmatic documents.

4.12.2 CCP will provide project level validated data packages for NDE, NDA, VE, RC, and FGA.

4.12.3 The CCP SPM, and AKE will perform data reconciliation with applicable data quality objectives (DQOs) using CCP-TP-002, *CCP Reconciliation of DQOs and Reporting Characterization Data,* and CCP-TP-506, *CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report*.

4.13 Measuring and Test Equipment (M&TE)

4.13.1 The Host facility will make available National Institute for Standards and Technology (NIST)-traceable calibration services for M&TE to the CCP. The Host facility will maintain records on M&TE calibration in accordance with the Records Inventory and Disposition Schedule (RIDS). Copies of the Certificates of Calibration will be made available to the CCP VPM and CCP M&TE Custodian prior to issuing M&TE to CCP for use.

4.13.2 For Host site M&TE furnished for use in the CCP program, the Host site STR or Designee will provide notification to the CCP M&TE Custodian when M&TE are added, deleted, found out-of-tolerance/defective, or failed calibration. When notified of an as found, failed calibration by the Host site, CCP will perform an extent of condition review to assess its impact on any of the characterization processes, initiate an NCR (if applicable) and provide this info to the Host site STR/Host site M&TE Custodian.

4.13.3 The Host facility STR/Designee will make calibration documentation and processes accessible as needed for internal and external audits.

4.13.4 The CCP M&TE Custodian will provide a recall notification for CCP M&TE that requires calibration to the STR/Host site M&TE Custodian.

4.14 Work Standards

NOTE

The focus of Section 4.14 is to adequately protect the workers on the equipment at the various facilities.

4.14.1 CCP operations personnel will work under the Host facility Lockout/Tagout procedure.

4.14.2 CCP and Host facility-provided personnel will perform quality-affecting work under CCP procedures for TRU waste characterization and certification activities. Host facility procedures and work packages will be used for non-waste characterization activities (e.g., equipment repairs).

4.14.3 CCP operations personnel will operate in accordance with CCP-PO-005, *CCP Conduct of Operations*.

4.14.4 CCP operations personnel will comply with Host facility procedures as they apply to the retrieval area and other established characterization areas.

4.14.5 CCP personnel will work under the Host facility safety basis and work control standards (e.g., General Employee Radiological Training [GERT]). Maintenance work control activities on Host facility-supplied equipment and CCP/CCP Vendor owned equipment will be controlled using Host facility work authorization procedures.

4.14.6 As outlined in CCP-PO-005, it is the responsibility of the CCP VPM to maintain equipment configuration and authorize equipment changes to ensure that Mobile Characterization Equipment (MCE) systems are operated and maintained in accordance with the Host facility safety basis. The VPM will not authorize a change to any MCE until steps 4.14.6 [A] and [B] have occurred:

[A] The CCP TWPC Project Manager has approved the change in accordance with CCP-CM-001, *CCP Equipment Change Authorization and Documentation,* Attachment 1, CCP Characterization Equipment Change Authorization, or the evaluation of the screening questions indicate that no further approval is required.

[B] The Host facility STR/Designee must concur with the proposed change in writing (CCP-CM-001, Attachment 1) and provide a copy of the approved USQ, if required. The Host facility STR/Designee will coordinate the review of the proposed change to ensure AB and Permitting requirements are met.

[C] Once the existing waste characterization equipment has been turned over to CCP for operation, no change to the configuration will be approved by the Host facility without CCP's concurrence in writing from the CCP VPM. This may be accomplished by e-mail.

4.14.7 CCP personnel will participate in the Host facility bioassay program. CCP personnel involved in VE of waste will provide routine samples at a frequency agreed upon between the Host facility and NWP Radiological Safety organization. All other CCP personnel will provide samples as requested under the routine/random program established by the Host facility. All CCP personnel will submit the bioassay samples required to establish a baseline for activities at the Host facility.

4.14.8 The CCP TWPC Project Manager or VPM will notify the Host facility STR when new CCP personnel, NWP and subcontractors are assigned to work at the TWPC. The CCP TWPC Project Manager or CCP VPM will notify the Host facility STR when CCP personnel, NWP and subcontractors leave the TWPC as a result of reassignment or resignation. This notification will occur as soon as is practical. The Host facility STR will notify affected organizations to support the arrival or departure of CCP personnel.

4.14.9 The CCP TWPC Project Manager or CCP VPM will be notified if any bioassay sample provided by CCP personnel indicates that an uptake of any radioactive isotopes may have occurred as soon as is reasonably possible.

4.14.10 Host facility Radiological Controls personnel will perform routine surveys for contamination and radiation as specified in Host facility policies or procedures. The CCP TWPC Project Manager or CCP VPM and appropriate Host facility management personnel will be notified immediately upon the discovery of any loose surface contamination in any CCP-occupied buildings or any of the CCP characterization equipment contained in these buildings. Access to and copies of routine survey results will be made available to CCP upon request.

4.14.11 The Host facility will immediately notify the CCP TWPC Project Manager or CCP VPM and appropriate Host facility management personnel of any abnormal continuous or fixed air sample filter analysis results from any area routinely occupied by CCP personnel.

4.14.12 CCP will provide historical information on the operation of any CCP equipment deployed at the Host facility for the purpose of lessons learned and the implementation of any mitigating actions from these lessons learned.

4.14.13 For Host facility-supplied equipment and facilities, the Host facility is responsible for ensuring the safety basis is adequate to cover the equipment and facilities that are provided. For these instances the Host facility is the Design Authority. It is expected that CCP will participate in review of hazards analysis for this equipment and facilities being provided.

4.14.14 For non-Host facility-provided equipment, CCP will provide safety basis input for the Host facility's safety basis. CCP will be the Design Authority for the equipment. In addition, prior to any modification of equipment, these changes will be provided to the Host facility for review and incorporation into their safety basis documents and are subject to the CCP Configuration Management Program. The programmatic limits for the operation of the characterization equipment are the responsibility of CCP as part of their Design Authority responsibilities.

4.14.15 CCP will control the procurement, development, maintenance, configuration management and use of software used on all Host facility and non-Host facility-provided equipment used to develop quality-affecting data for waste characterization in accordance with CCP-QP-022, *CCP Software Quality Assurance Plan*.

4.14.16 The Host facility and NWP Radiological Safety organizations shall meet on a quarterly basis to discuss the status of radiological conditions and work practices in areas routinely occupied by CCP personnel. This requirement may be met by NWP Radiological Safety personnel visiting the Host facility or by teleconference as agreed to by these organizations. The NWP Radiological Safety organization will provide the CCP Operations Manager and CCP TWPC Project Manager with a summary of the meeting including any issues that require resolution. This summary may be provided by e-mail.

4.15 TRU Waste Certification and WIPP Waste Information System/Waste Data System (WWIS/WDS) Data Entry

4.15.1 CCP will prepare Waste Stream Profile Forms (WSPFs) for the subject Host facility waste in accordance with CCP-TP-002.

4.15.2 CCP will transmit characterization and certification data using the WWIS/WDS and CCP procedures CCP-TP-030, *CCP CH TRU Waste Certification and WWIS/WDS Data Entry* or CCP-TP-530, *CCP RH TRU Waste Certification and WWIS/WDS Data Entry*.

4.15.3 CCP shall submit WSPFs to the Host facility for information before submittal to CBFO. The Host facility will provide written concurrence on the basis of continued compliance with procedures and programs, and CBFO-certification of the CCP program.

4.15.4 The CCP Waste Certification Officials (WCO) will document and certify that all TRU waste payload containers meet the requirements of the WAC, and submit the data to the WWIS/WDS for approval.

4.16 Transportation

4.16.1 CCP Transportation is responsible for meeting all requirements for loading and shipping TRU waste certified by the CCP as approved in the WWIS/WDS.

4.16.2 CCP transportation will direct TWPC loading of containers into overpacks according to CCP WCO listings and will provide the CCP WCO with the necessary data to complete the process, if required.

4.16.3 The TWPC provides and signs on behalf of DOE the Uniform Hazardous Waste Manifest, bill of lading, make notifications as required, and required markings, labels and placards for each TRU waste shipment.

4.17 Quality Assurance (QA)

4.17.1 All work performed in the completion of this waste characterization and certification scope will be in compliance with applicable DOE/CBFO-certified CCP procedures.

4.17.2 CCP will conduct periodic QA surveillances to assess compliance with applicable WIPP requirements.

4.17.3 The Host facility will conduct surveillances to assess compliance with applicable procedures.

4.18 Project Control

4.18.1 CCP and the Host facility will provide weekly status for their respective scheduled activities.

4.18.2 CCP will provide the Host facility with an up-to-date accrual schedule and estimates of completion at the end of each month, or as requested.

4.18.3 CCP will maintain and provide the Host facility with an up-to-date organization chart listing CCP personnel, along with associated roles and responsibilities.

4.18.4 CCP will provide the Host facility with invoices reflecting labor, material and supplies, subcontractor and travel cost.

4.18.5 CCP will provide timely cost estimates to the Host facility STR/Designee for any new CCP activities planned.

4.18.6 CCP will provide the Host facility STR/Designee actual cost data for each scheduled CCP Level 3 activity on a monthly basis.

4.19 Procedures

4.19.1 As defined in CCP-QP-010, editorial or minor changes may be made to all CCP documents except CCP-PO-001, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*, CCP-PO-002, *CCP Transuranic Waste Certification Plan* and CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)* and CCP-QP-001, *CCP Graded Approach* without the same level of review and approval as the original document. CCP will process any required changes in accordance with CCP-QP-010.

4.19.2 New technical operating procedures (procedures that operate equipment) developed by the CCP and scheduled to be used at the Host facility, shall be evaluated by the Host facility STR/Designee to determine if the procedure shall be added to the Host facility review list provided in Section 4.19.3.

4.19.3 The following documents, and all revisions to these documents, will be provided to the Host facility STR/Designee for review:

- CCP ORNL AK Summary Reports
- CCP ORNL WSPFs
- CCP-CM-001, *CCP Equipment Change Authorization and Documentation*
- CCP-PO-026, *CCP Configuration Management*
- CCP-TP-047, *CCP Mobile IQ3 Gamma Scanner Operation*
- CCP-TP-053, *CCP Standard Real-Time Radiography (RTR) Inspection Procedure*
- CCP-TP-066, *CCP Radiography Screening Procedure for Prohibited Items*
- CCP-TP-076, *CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000*
- CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination*

- CCP-TP-164, *CCP Real-Time Radiography #7 Operating Procedure*
- CCP-TP-165, *CCP Real-Time Radiography #6 Operating Procedure*
- CCP-TP-500, *CCP Remote-Handled Waste Visual Examination*
- CCP-TP-504, *CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste*

4.19.4 The following documents, and all revisions to these documents, will be provided to the Host facility STR/Designee as "Notify Only" during the review process:

- CCP-PO-005, *CCP Conduct of Operations*
- CCP-TP-046, *CCP Mobile IQ3 System Calibration Procedure*
- CCP-TP-048, *CCP Mobile IQ3 System Data Reviewing, Validating, and Reporting Procedure.*
- CCP-TP-068, *CCP Standardized Container Management*
- CCP-TP-509, *CCP Remote-Handled Transuranic Container Tracking*
- CCP-TP-512, *CCP Remote-Handled Waste Sampling*
- DOE/WIPP-02-3183, *CH Packaging Program Guidance*
- DOE/WIPP-02-3283, *RH Packaging Program Guidance*
- DOE/WIPP-06-3345, *Waste Isolation Pilot Plant Flammable Gas Analysis*

4.19.5 Other controlled documents used by CCP are available to the Host facility STR/Designee for information purposes at the secure file transfer protocol [sftp] site.

4.19.6 The Host facility STR/Designee will review or designate the appropriate reviews of the CCP procedures listed in Section 4.19.3, and forward written comments to CCP Document Control in accordance with CCP-QP-010 for resolution.

4.19.7 The CCP SPM will confirm that the Host facility STR/Designee written comments are resolved with the Host facility STR/Designee concurrence prior to proceeding with CCP operations.

4.20 Document Transmittals

4.20.1 Documents listed in this section, which are provided from one organization to the other as information copies, may be transmitted via memo, fax, e-mail, or formal correspondence. Documents identified as QA records will be transmitted in accordance with CCP-QP-008.

4.20.2 Documents to be provided to the Host facility by CCP include but not limited to:

[A] Copies of NCRs and Corrective Action Requests (CARs), as applicable.

[B] Copies of ORNL AK Summary Reports.

[C] Copies of ORNL AK source documents and source document summaries, as requested.

[D] Copies of semi-annual trending summary reports.

[E] Copies of QA surveillance reports.

[F] Copies of ORNL WSPFs.

[G] Copies of VE, NDE, and NDA data, as requested.

[H] Copies of CCP Source/Receipt Inspection Verification Sheets and associated objective evidence for each shipment.

[I] Information on chemical usage and copies of applicable MSDSs as requested for inventory or reporting reasons.

[J] Copies of training requirements and associated training records for Host facility personnel supporting CCP.

[K] A copy of the RIDS developed by CCP.

[L] Results of all DOE/CBFO/New Mexico Environment Department (NMED)/U.S. Environmental Protection Agency (EPA) or other regulatory audit or compliance/enforcement actions that may impact its ability to characterize and transport TRU waste.

[M] Copy of final data package to WIPP via WWIS/WDS, as requested.

[N] Documented evidence of participating in and passing the CBFO PDP.

[O] NMED approval of the CBFO Certification Audit Report.

[P] EPA Tier 1 approval of CCP processes and activities at ORNL.

4.20.3 Documents to be provided to CCP by Host facility include:

[A] Documentation of required training.

[B] Documentation of training completion for CCP and Host facility personnel for training received from the Host facility.

[C] Copies of AK source documentation requested by CCP.

[D] Radiological dose rate and surface contamination results on waste drums as needed to support WWIS/WDS data entry.

[E] Radiological information as described in Section 3.2.2[A].

[F] Copies of NCRs, deficiency reports, or other nonconformance documentation per Section 4.3.

[G] Copies of the results of Host facility assessments pertaining to CCP.

[H] Copies of calibration certifications.

[I] Copies of QA surveillance reports.

[J] Copies of the Uniform Hazardous Waste Manifest, bill of lading and Shipment Notifications.

[K] Any documentation required by CCP to perform its scope of work, including correspondence pertaining to characterization activities.

4.21 Authorization Basis (AB) and Configuration Management

4.21.1 The Host facility has primary responsibility to ensure that CCP equipment and processes have been appropriately considered within the DOE-approved, Host facility DSA.

4.21.2 The Host facility shall provide to CCP Host facility generated AB documentation concerning CCP related activities and equipment, including USQ's, for CCP's review.

4.21.3 CCP has primary responsibility to control operations and equipment configurations to ensure compliance with Host facility procedures that protect the personnel, public, and environment.

4.21.4 For CCP provided equipment, CCP will provide the documentation necessary for Host facility to perform the evaluation against its safety analysis. This documentation may include health and safety plans, hazard assessments, system descriptions, equipment drawings, or other information deemed necessary through mutual agreement between CCP and the Host facility.

4.21.5 For Host facility provided equipment, CCP will review operational and AB documentation, including USQs, to ensure the safety of CCP personnel while operating the equipment.

4.21.6 All changes to Host facility equipment operated by CCP and CCP/CCP Vendor owned equipment will be controlled by the Host facility Configuration Management and Work Control Program to ensure appropriate AB evaluations are conducted and associated controls are established.

4.21.7 The Host facility will submit all changes to AB requirements that affect CCP operations for review and concurrence by CCP prior to implementation.

4.22 Notification

4.22.1 The Host facility has primary responsibility to notify CCP when there are changes in the Host facilities used by CCP for characterization activities or changes that may impact operations.

4.22.2 The Host facility has primary responsibility to notify CCP when there are changes to the policies, processes, or procedures that may affect CCP characterization activities or operations.

4.22.3 CCP has primary responsibility to ensure changes to equipment are in accordance with CCP-CM-001, *CCP Equipment Change Authorization and Documentation*.

4.22.4 CCP has primary responsibility to notify the Host facility when there are configuration changes to CCP or CCP vendor-owned equipment.

4.22.5 The Host site has primary responsibility to notify CCP when repairs or modifications are needed on the CH or RH transportation trailers, packaging equipment, or casks.

4.22.6 CCP is responsible for performing or coordinating repairs and modifications to the CH or RH transportation trailers, packaging equipment, or casks.

4.23 Procurement

4.23.1 TWPC is shown as a supplier of procurement services on the NWP QSL. TWPC may procure, inspect, and perform receipt inspection of whatever items are listed in the most current NWP QSL for the CCP scope of work. TWPC will perform these activities in accordance with its QSL-accepted program.

4.23.2 TWPC shall use the specifications found on the CCP sftp site when ordering gas standards used for FGA or SUMMA® sampling operations.

4.24 Occurrence Reporting and Processing System (ORPS) and Price-Anderson Amendments Act (PAAA)

4.24.1 The host site will report all Price-Anderson Amendments Act (PAAA) and Occurrence Reporting and Processing System (ORPS).

4.24.2 CCP shall provide Host site with all information and notifications required.

4.24.3 If CCP is responsible for the deficient condition, CCP will revise/report independently.

5.0 RECORDS

5.1 Records generated during the performance of the waste characterization and certification scope are controlled by CCP.

5.2 QA records generated by CCP documents referenced in this interface document are maintained in accordance with CCP-QP-008.

5.3 All electronic and/or hard copy QA records generated by CCP documents referenced in this interface document shall be maintained by CCP at a TWPC location provided by the Host facility.

5.4 All QA records generated by CCP will be maintained and dispositioned in accordance with CCP-QP-008 and CCP-QP-028, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*.

5.5 The Host facility will maintain the following records in accordance with Host facility requirements. The list includes, but is not limited to, the following:

5.5.1 MSDS

5.5.2 Calibration Certifications

6.0 OVERSIGHT

NOTE

Through the IEWO contract between ORO and NWP, and the associated SOW, the ORO has delegated the authority to characterize and certify TRU waste to be shipped to the WIPP. Nonetheless, the Host facility retains the responsibility for proper disposal as the waste generator on behalf of DOE. Accordingly, the following actions will define the level of oversight of the CCP by Host facility personnel.

6.1 The Host facility will accept successful completion of the CBFO certification audit as adequate evidence that the CCP implementation at the Host facility is fully compliant with waste disposal requirements as set forth in the CH and RH WAC and WAP. However, the Host facility may conduct, at their discretion, periodic surveillances of CCP operations.

6.2 Following successful completion of the CBFO certification audit, the Host facility QA will conduct periodic surveillances to ensure CCP work is conducted in accordance with CCP procedures. These surveillances will be conducted in accordance with Host facility QA procedures.

6.3 The Host facility QA will provide copies of its surveillance reports to the CCP SPM. The CCP SPM and NWP QA will take the following actions:

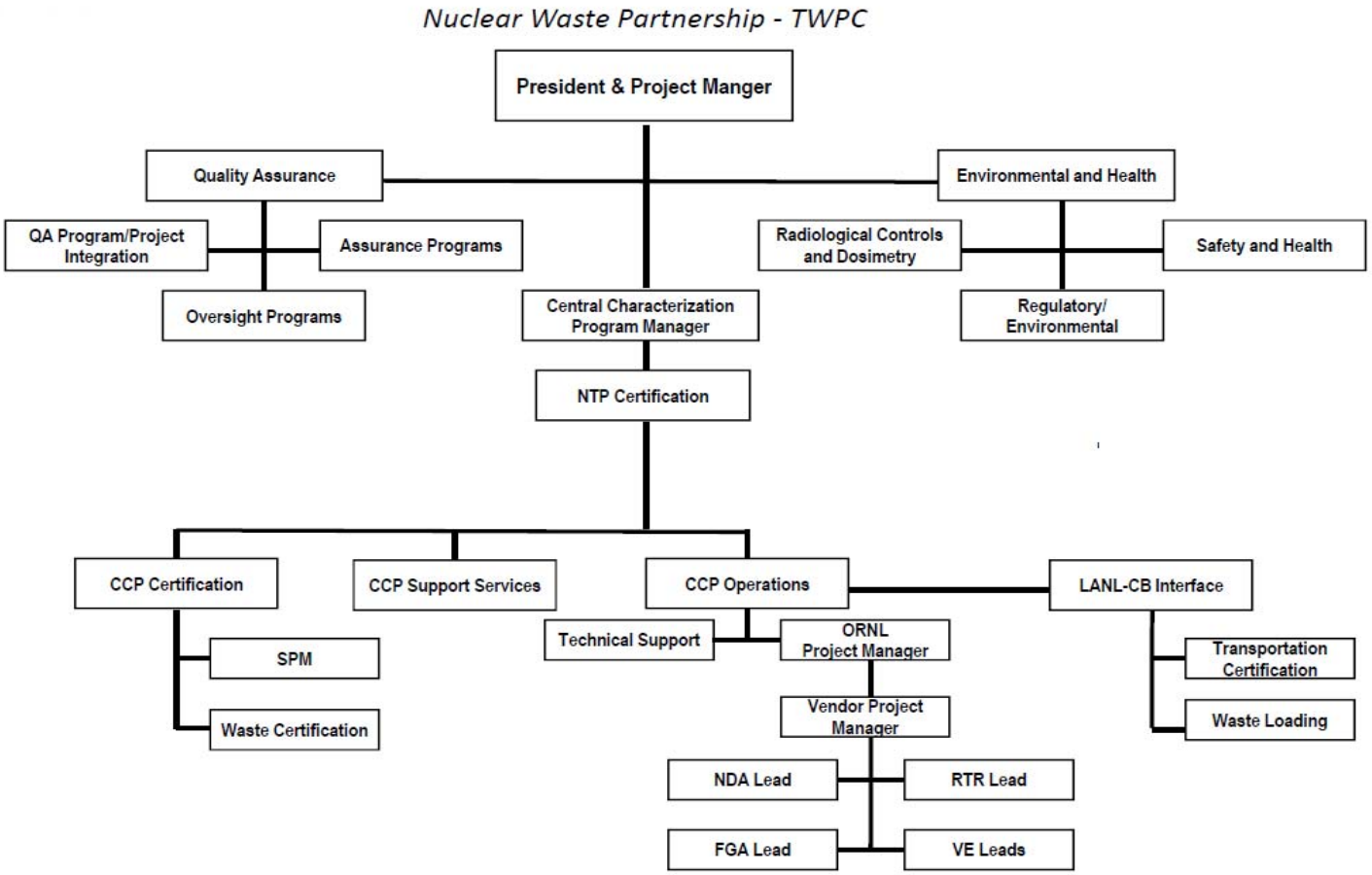
6.3.1 Review the Host facility surveillance reports for any finding or other deficiencies against the CCP scope of work.

6.3.2 Document and perform corrective actions in accordance with applicable NWP issues management procedures.

6.3.3 Provide Host facility QA with CCP actions to correct the identified deficiencies.

6.3.4 NWP QA will maintain an information file of the Host facility surveillance reports conducted on the CCP scope of work.

Figure 1 – Nuclear Waste Partnership – TWPC



Contract No. DE-EM0003760
Section J, Attachment I

DOE/WIPP-02-3122

TRANSURANIC WASTE ACCEPTANCE CRITERIA FOR THE WASTE ISOLATION PILOT PLANT

Revision 7.4

Effective Date: April 22, 2013

U.S. Department of Energy
Carlsbad Field Office

This document has been submitted as required to:

Office of Scientific and Technical Information
U.S. Department of Energy
PO Box 62
Oak Ridge, TN 37831
(865) 576-8401

Additional information about this document may be obtained by calling 1-800-336-9477.

Unlimited, publicly available full-text scientific and technical reports produced since 1991 are available online at Information Bridge (www.osti.gov/bridge).

U.S. Department of Energy and its contractors may obtain full-text reports produced prior to 1991 in paper form, for a processing fee, from:

U.S. Department of Energy
Office of Scientific and Technical Information
P.O. Box 62
Oak Ridge, TN 37831-0062
Phone: (865) 576-8401
Fax: (865) 576-5728
Email: reports@osti.gov

Available for sale to the public from:

U.S. Department of Commerce
National Technical Information Service
5301 Shawnee Rd
Alexandra, VA 22312
Phone: (800) 553-6847 or (703) 605-6000
Fax: (703) 605-6900
Email: info@ntis.gov

TRANSURANIC WASTE ACCEPTANCE CRITERIA FOR THE WASTE ISOLATION PILOT PLANT

Revision 7.4

Effective Date: April 22, 2013

Approved by: Signature on File Date: April 22, 2013
J.R. Stroble
Director, Office of the National TRU Program

Concurred by: Signature on File Date: April 22, 2013
Jose R. Franco
Manager, Carlsbad Field Office

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

CHANGE HISTORY

DOE/WIPP-02-3122, Revision 0, Effective Date: May 17, 2002, *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant,* superseded DOE/WIPP-069, Revision 7, Interim Change Notice #2, Waste Acceptance Criteria for the Waste Isolation Pilot Plant.

DOE/WIPP-02-3122, Revision 0.1, Effective Date: July 25, 2002, *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, superseded DOE/WIPP-02-3122, Revision 0.

DOE/WIPP-02-3122, Revision 1, Effective Date: March 1, 2004, *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, superseded DOE/WIPP-02-3122, Revision 0.1.

DOE/WIPP-02-3122, Revision 2.0, Effective Date: November 15, 2004, *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, superseded DOE/WIPP-02-3122, Revision 1.

DOE/WIPP-02-3122, Revision 2.1, Effective Date: March 19, 2005, *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, superseded DOE/WIPP-02-3122, Revision 2.0.

DOE/WIPP-02-3122, Revision 3.0, Effective Date: April 25, 2005, *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, superseded DOE/WIPP-02-3122, Revision 2.1.

DOE/WIPP-02-3122, Revision 4.0, Effective Date: December 29, 2005, *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant,* superseded DOE/WIPP-02-3122, Revision 3.0.

DOE/WIPP-02-3122, Revision 5.0, Effective Date: Revision Cancelled, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*.

DOE/WIPP-02-3122, Revision 6.0, Effective Date: November 14, 2006, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant,* superseded DOE/WIPP-02-3122, Revision 4.0.

DOE/WIPP-02-3122, Revision 6.1, Effective Date: October 29, 2007, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant,* superseded DOE/WIPP-02-3122, Revision 6.0.

CHANGE HISTORY (Continued)

DOE/WIPP-02-3122, Revision 6.2, Effective Date: May 30, 2008, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant,* superseded DOE/WIPP-02-3122, Revision 6.1.

DOE/WIPP-02-3122, Revision 6.3, Effective Date: February 5, 2009, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant,* superseded DOE/WIPP-02-3122, Revision 6.2.

DOE/WIPP-02-3122, Revision 6.4, Effective Date: December 10, 2009, *Transuranic Waste Acceptance Criteria For The Waste Isolation Pilot Plant,* superseded DOE/WIPP-02-3122, Revision 6.3.

DOE/WIPP-02-3122, Revision 6.5, Effective Date: June 30, 2010, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant,* superseded DOE/WIPP-02-3122, Revision 6.4.

DOE/WIPP-02-3122, Revision 7.0, Effective Date: December 29, 2010, *Transuranic Waste Acceptance Criteria for the Waste isolation Pilot Plant*, superseded DOE/WIPP-02-3122, Revision 6.5.

DOE/WIPP-02-3122, Revision 7.1, Effective Date: April 21, 2011, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant,* superseded DOE/WIPP-02-3122, Revision 7.0.

DOE/WIPP-02-3122, Revision 7.2, Effective Date: June 13, 2011, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant,* superseded DOE/WIPP-02-3122, Revision 7.1.

DOE/WIPP-02-3122, Revision 7.3, Effective Date: February 18, 2013, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, superseded DOE/WIPP-02-3122, Revision 7.2.

DOE/WIPP-02-3122, Revision 7.4, Effective Date: April 22, 2013, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant,* supersedes DOE/WIPP-02-3122, Revision 7.3. Revision 7.4 incorporates the changes resulting from the Class 2 Permit Modification entitled “Revise Waste Analysis Plan Waste Characterization Methods,” which was approved by NMED on March 13, 2013. The associated changes are annotated in sections 1.0, 3.4.1, 3.4.2, 3.5.5, 4.4.1, 4.4.2, 4.5.5, and Appendix C (Glossary).

INDEX OF CURRENT REVISION/CHANGE NUMBER BY PAGE

PAGE NUMBER	REVISION NUMBER	PAGE NUMBER	REVISION NUMBER
8, 13, 32, 34, 48, 50, 84, 85, 88, 90	7.4		

LIST OF ACRONYMS AND ABBREVIATIONS

AK	acceptable knowledge
ALARA	as low as reasonably achievable
AMAD	activity mean aerodynamic diameter
ASTM	American Society for Testing and Materials
ANSI	American National Standards Institute
CBFO	Carlsbad Field Office
CFR	Code of Federal Regulations
CH	contact-handled
CH-TRAMPAC	Contact-Handled Transuranic Waste Authorized Methods for Payload Control
Ci	curie
CPR	cellulose, plastic, and rubber
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
dpm	disintegrations per minute
DQO	data quality objective
DSA	Documented Safety Analysis
EPA	U.S. Environmental Protection Agency
FEIS	Final Environmental Impact Statement
FEM	fissile equivalent mass
FGE	fissile gram equivalent
HWFP	Hazardous Waste Facility Permit
keV	kiloelectron volt
LCS	laboratory control sample
LLD	lower limit of detection
LWA	Land Withdrawal Act
mrem	milliroentgen equivalent man
MS	matrix spike
MSD	matrix spike duplicate

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

nCi/g	nanocuries per gram
NDA	nondestructive assay
NEPA	National Environmental Policy Act
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NRC	U.S. Nuclear Regulatory Commission
OJT	On-the-Job Training
PCB	polychlorinated biphenyl
PE-Ci	Plutonium-239 equivalent curie
QA	quality assurance
QAPD	Quality Assurance Program Document
QAO	quality assurance objective
QAPjP	quality assurance project plan
QC	quality control
RC	radiochemistry
RCRA	Resource Conservation and Recovery Act
rem	roentgen equivalent man
RH	remote-handled
RH-TRAMPAC	Remote-Handled Transuranic Waste Authorized Methods for Payload Control
%R	percent recovery
RPD	relative percent difference
RSD	relative standard deviation
SAR	Safety Analysis Report
SEIS	Supplemental Environmental Impact Statement
SLB2	standard large box 2
SNM	special nuclear material
SPM	Site Project Manager
SWB	standard waste box
TDOP	ten-drum overpack
TMU	total measurement uncertainty
TRAMPAC	Transuranic Waste Authorized Methods for Payload Control
TRU	transuranic
TRUPACT-II	Transuranic Package Transporter-II
TRUPACT-III	Transuranic Package Transporter-III
TSDF	Treatment, Storage, and Disposal Facility

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

VE	visual examination
VOC	volatile organic compound
WAC	Waste Acceptance Criteria
WAP	Waste Analysis Plan
WCPIP	Waste Characterization Program Implementation Plan
WDS	Waste Data System
WIPP	Waste Isolation Pilot Plant
WSPF	Waste Stream Profile Form
WWIS	WIPP Waste Information System

1.0 INTRODUCTION

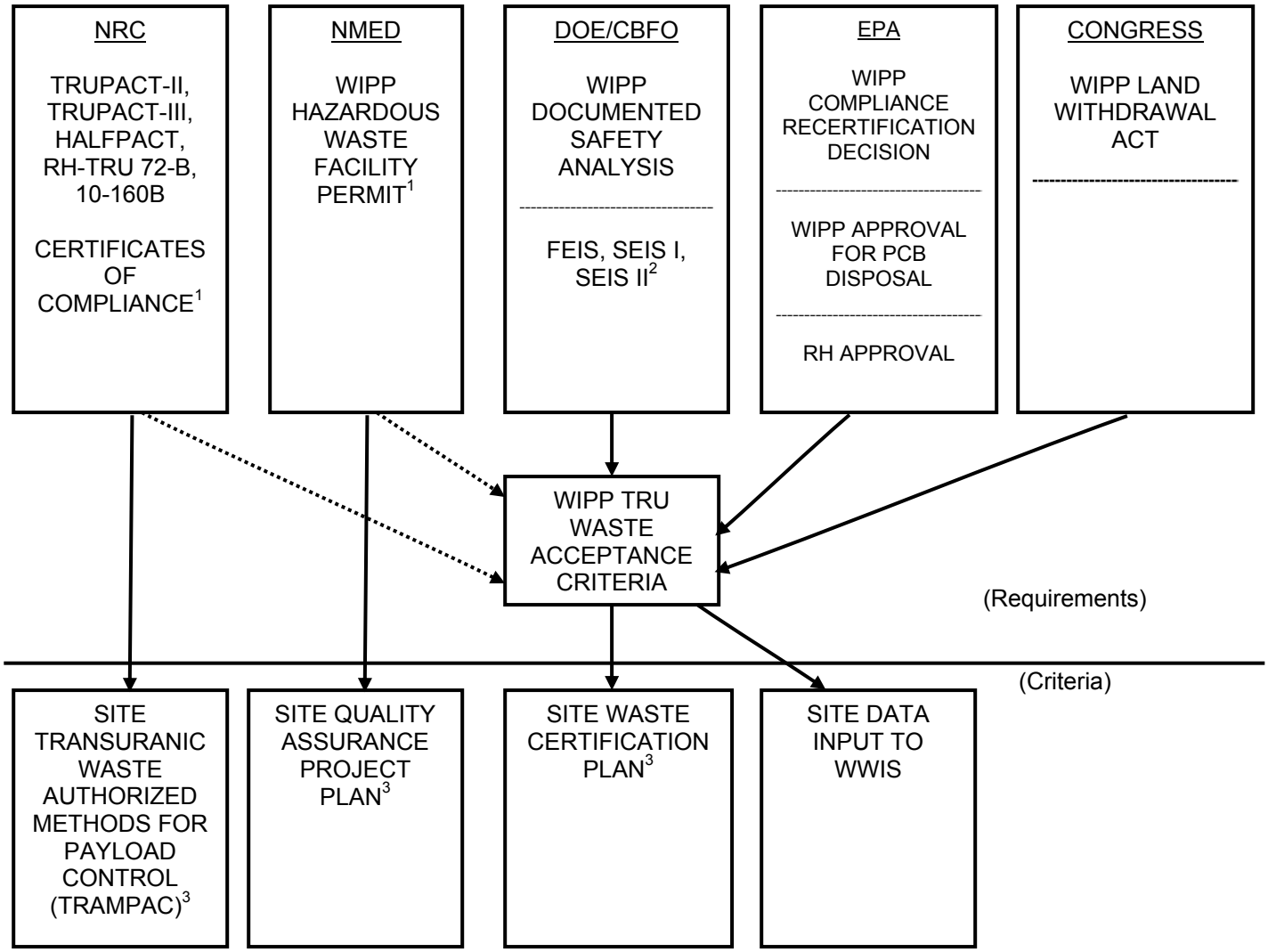
The purpose of this document is to summarize the waste acceptance criteria (WAC) applicable to the transportation, storage, and disposal of contact-handled (CH) and remote-handled (RH) transuranic (TRU) waste at the Waste Isolation Pilot Plant (WIPP). These criteria serve as the U.S. Department of Energy's (DOE's) primary directive for ensuring that CH and RH TRU waste is managed and disposed of in a manner that protects human health and safety and the environment.

The WIPP authorization basis for the disposal of CH and RH TRU waste includes the DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Reference 1) and the WIPP Land Withdrawal Act (LWA; Reference 2). Included in this document are the requirements and associated criteria imposed by these acts and the Resource Conservation and Recovery Act (RCRA; Reference 3), as amended, on the TRU waste destined for disposal at WIPP.

The DOE TRU waste sites must certify CH and RH TRU waste payload containers to the waste acceptance criteria identified in this document. As shown in Figure 1.0, Regulatory Basis of TRU Waste Acceptance Criteria, the flow-down of applicable requirements to the WAC is traceable to several higher-tier documents, including the WIPP safety requirements taken from the WIPP Documented Safety Analysis (DSA; Reference 4); the transportation requirements for CH wastes derived from the Transuranic Package Transporter-II (TRUPACT-II), Transuranic Package Transporter-III (TRUPACT-III), and HalfPACT Certificates of Compliance (References 5a, 5b, and 6); the transportation requirements for RH wastes derived from the 10-160B and RH-TRU 72-B Certificates of Compliance (References 7 and 8); the WIPP LWA (Reference 2); the WIPP Hazardous Waste Facility Permit (HWFP; Reference 9); the U.S. Environmental Protection Agency's (EPA's) Compliance Recertification Decision and approval for polychlorinated biphenyls (PCBs) disposal (References 10, 11, 12, 13, 14, and 15); and the EPA's letter of approval of DOE's RH TRU Waste Characterization Program (Reference 16). The solid arrows shown in Figure 1.0 represent the flow-down of all applicable payload container-based requirements. The two dotted arrows shown in Figure 1.0 represent the flow-down of summary-level requirements only; sites must reference the regulatory source documents from the U.S. Nuclear Regulatory Commission (NRC) and the New Mexico Environment Department (NMED) for a complete listing of the requirements.

This WAC does not address the subject of waste characterization relating to a determination of whether the waste is hazardous; rather, the sites are referred to the Waste Analysis Plan (WAP) contained in the WIPP HWFP (Reference 9) for details of the protocols to be used in determining compliance with the HWFP-required physical and chemical properties of the waste. Requirements and associated criteria pertaining to a determination of the radiological properties of CH waste, however, are addressed in Appendix A.

Figure 1.0 Regulatory Basis of TRU Waste Acceptance Criteria



[1]The TRAMPACs as referenced by the TRUPACT-II, TRUPACT-III, HalfPACT, and RH-TRU 72-B Certificates of Compliance, the Safety Analysis Report as referenced by the 10-160B Certificate of Compliance, and the WIPP HWFP provide detailed requirements. This WAC provides only an overview of these requirements.
[2]Final Environmental Impact Statement (FEIS), Supplemental Environmental Impact Statement (SEIS).
[3]All work performed by the site for the CBFO must be performed under an approved QA program. The site-specific Transuranic Waste Authorized Methods for Payload Control (TRAMPAC) can be a separate document or can be embodied in the site waste certification plan. The 10-160B Safety Analysis Report (SAR) does not require the preparation of a site-specific TRAMPAC. Instead, acceptable methods for payload compliance for the 10-160B package are implemented by an NRC-approved site-specific Appendix to the 10-160B SAR.

The requirements and associated criteria pertaining to a determination of the radiological properties of RH waste are addressed in the *Remote-Handled TRU Waste Characterization Program Implementation Plan* (WCPIP; Reference 17). The collective information obtained from waste characterization records and acceptable knowledge (AK) serves as the basis for sites to certify that their TRU waste satisfies the WIPP waste acceptance criteria listed herein.

Section 2.0 of this document identifies the responsible organizations and associated activities for ensuring that the TRU waste is managed in a manner that protects human health and safety and the environment.

Section 3.0 identifies the authorization basis of the CH requirements and lists the associated waste acceptance criteria relating to the physical, chemical, and radiological attributes of the waste, as well as the properties of the applicable payload containers and packages.

Section 4.0 identifies the authorization basis of the RH requirements and lists the associated waste acceptance criteria relating to the physical, chemical, and radiological attributes of the waste, as well as the properties of the applicable payload containers and packages.

Section 5.0 summarizes the quality assurance (QA) requirements relating to waste characterization, certification, and transportation. TRU waste sites must develop and implement a QA program that meets all applicable requirements of the Carlsbad Field Office (CBFO) *Quality Assurance Program Document* (QAPD; Reference 18). Characterization of TRU waste must be in accordance with the performance requirements of the WIPP WAP, the WCPIP and the WAC, and implemented in accordance with a site-specific Quality Assurance Project Plan (QAPjP). Certification of payload containers for shipment in the TRUPACT-II, TRUPACT-III, HalfPACT, RH-TRU 72-B, or 10-160B shall be performed under a CBFO-approved QA program that provides confidence for both the shipper and the receiver that the requirements for the transportation system have been met.

The appendices to this WAC provide supplemental information relating to radioassay (Appendix A, Radioassay Requirements for Contact-Handled Transuranic Waste), and radiotoxic inhalation hazard analyses (Appendix B, ^{239}Pu Equivalent Activity). Appendix C, Glossary, provides definitions for terms used in this document. Appendix D, Payload Container Integrity Checklist, addresses the visual inspection requirements and compliance criteria for determining if CH and RH payload containers meet the criteria of section 3.2.1 and section 4.2.1, respectively. Appendix E, Payload Management of TRU Alpha Activity Concentration, describes the policy and implementation methods for the payload management of TRU alpha activity concentration when overpacking waste containers. Appendices F, Radiography Requirements for Contact-Handled Transuranic Waste, and G, Visual Examination Requirements for Contact-Handled Transuranic Waste for EPA Compliance, provide the radiography and visual

examination (VE) requirements relating to the EPA's physical characterization requirements for CH waste.

This WAC is a controlled document. The current revision of the WAC may be downloaded from the CBFO Web Page at http://www.wipp.energy.gov/library/wac/WAC.pdf. This Internet link is provided for informational purposes only and may change without prior public notification.

2.0 RESPONSIBILITIES

This section identifies the responsibilities of organizations that develop and approve this WAC and of those that oversee the implementation of the requirements defined herein. The responsibilities of the organizations to which these requirements apply are also identified in this section.

2.1 DOE Headquarters

The Assistant Secretary for Environmental Management (EM-1) provides policy and guidance for DOE environmental management sites, facilities, and operations.

2.2 DOE Carlsbad Field Office (CBFO)

The CBFO is responsible for the day-to-day management and direction of strategic planning and related activities associated with the characterization, certification, transportation, and disposal of defense TRU waste. The CBFO holds the applicable permits, certifications, and records of decision necessary for the operation and closure of the WIPP facility.

The CBFO assists the sites in resolving issues about the management of TRU waste as requested. The CBFO provides policy and oversight direction for TRU waste program activities related to site certification of waste for disposal at WIPP. The CBFO is also responsible for the following:

- Ensuring that the sites prepare implementation documentation and programs to meet the requirements and criteria in the WAC

- Overseeing activities associated with the

  - characterization and certification of TRU waste
  - proper use of approved transportation packaging
  - receipt, management, and disposal of TRU waste at WIPP

- Providing a fleet of NRC-approved Type B transportation packagings for shipment of TRU waste from the sites to WIPP

- Ensuring that TRU waste accepted for management and disposal at WIPP complies with the WIPP HWFP, applicable laws, and regulations as described in this WAC

- Reviewing and approving proposed revisions to this WAC to ensure that environmental impacts associated with any revision are bounded by existing WIPP National Environmental Policy Act (NEPA) documentation including the Final Environmental Impact Statement (Reference 19) and related supplements I (Reference 20) and II (Reference 21)

- Reviewing and approving the sites' waste certification plans, site-specific TRAMPACs, QA plans, and QAPjPs

- Performing site certification audits and surveillances

- Granting transportation and waste certification authority to sites

2.3 DOE Field Elements

Each DOE Field Element is responsible for overseeing the management of the site TRU waste program in compliance with established CBFO requirements, policies, and guidelines, and for providing liaison between the CBFO and the management and operating contractors.

2.4 TRU Waste Sites

Each participating site is responsible for developing and implementing site-specific TRU waste program documents (plans) that address applicable requirements and criteria pertaining to packaging, characterization, certification, and shipping of defense TRU waste to WIPP for disposal. Each participating site shall prepare the appropriate Waste Certification Plans, QA Plans, TRAMPACs, Appendix 4.10.2 (TRU Waste Payload Control for a 10-160B), and QAPjPs, as applicable. Methods of compliance with each requirement and associated criterion to be implemented at the site shall be described or specifically referenced and shall include procedural and administrative controls consistent with the CBFO QAPD (Reference 18). TRU waste sites are required to submit these program documents to the CBFO for review and approval prior to their implementation. Sites will certify that each TRU waste payload container meets the waste acceptance criteria contained in this document.

3.0 WASTE ACCEPTANCE REQUIREMENTS AND CRITERIA FOR CH WASTE

The requirements and associated criteria for acceptance of defense TRU waste at WIPP for disposal are identified in this WAC. The acceptance criteria of this WAC describe the controlling (i.e., the most restrictive) requirements to be used by the sites in preparing their waste for transportation to and disposal at the WIPP. In some instances the acceptance criteria and regulatory requirements are synonymous. WAC requirements are taken from several source documents including but not limited to the WIPP DSA (Reference 4), the TRUPACT-II, TRUPACT-III, and HalfPACT Certificates of Compliance (References 5a, 5b, and 6), the WIPP LWA (Reference 2), the WIPP HWFP (Reference 9), the Compliance Recertification Decision (Reference 10), the Initial Report for PCB Disposal Authorization (Reference 11), the EPA letter of approval to land dispose non-liquid PCBs at WIPP (References 12 and 13), and the Revision to the Record of Decision for the DOE's WIPP Disposal Phase and associated WIPP NEPA database (References 14 and 15). Terms used in this WAC are defined in Appendix C.

When implementing this WAC, TRU waste characterization programs should refer to these source documents, 40 CFR § 194.8 and 194.24, and other WIPP program documents including Performance Demonstration Program Plans and the Quality Assurance Program Document, as applicable, for information pertinent to the DOE system of controls, including compilation of AK.

3.1 Summary of WIPP Authorization Basis

The purpose of section 3.0 and related appendices is to present the requirements and associated criteria that must be met for CH TRU waste to be transported to, managed at, and disposed of at the WIPP. The requirements and associated criteria are organized under five major headings: Container Properties, Radiological Properties, Physical Properties, Chemical Properties, and Data Package Contents. Only TRU waste from a properly characterized and approved waste stream may be certified as meeting the requirements and associated criteria contained in this WAC. Any waste container from a waste stream that has not been preceded by an appropriate certified Waste Stream Profile Form (WSPF) is not acceptable at WIPP (Reference 9, Part 2, Section 2.3.3.10).

Site-specific plans and procedures shall contain details of the processes, controls, techniques, tests, and other actions to be applied to each TRU payload container, waste stream, and shipment. Methods of compliance with each requirement shall be described and the specific procedure cited. These methods of compliance shall include procedural controls, administrative controls, and waste generation process controls. The QA requirements applicable to waste characterization, certification, and transportation are addressed in various sections of this WAC and are briefly summarized in section 5.0. The data resulting from the implementation of the plans and procedures will form the basis for verifying that TRU waste to be sent to WIPP is certified to meet the WAC by the responsible site certifying official(s).

Sites shall transmit required characterization, certification, and shipping data to the WIPP Waste Information System (WWIS) database using the Waste Data System (WDS). The WWIS is an electronic database and is a subset of the WDS. The WDS is equipped with edit/limit checks to ensure that the data representing the waste payload containers are in compliance with this WAC. Before shipping TRU waste payload containers from a WIPP-accepted waste stream, the site shall transmit the required waste characterization, certification, and shipping data via WDS to the WWIS database. Sites may periodically be requested to transmit payload container radiography reports or other data to WIPP. WIPP will not accept any waste shipments for disposal if the waste payload container information has not been correctly submitted and approved for shipment by the WWIS Data Administrator. The Waste Data System User's Manual (Reference 22) provides the information needed by TRU waste sites to perform tasks associated with transmittal of the payload container's characterization, certification, and shipment information to WIPP.

Sites will be notified of revisions to external regulatory requirements by CBFO. Revisions of requirements in referenced documents not controlled by the DOE (but by, for example, the EPA, NRC, or NMED) shall have precedence over the values specified here if they are more restrictive. These changes will be incorporated in future revisions of this WAC.

3.1.1 DOE Operations and Safety Requirements for WIPP

The WIPP DSA (Reference 4) addresses TRU waste handling and emplacement operations. The waste accepted for emplacement at the WIPP must conform to the WAC to meet the DSA. The DSA documents the safety analyses that develop and evaluate the adequacy of the WIPP safety bases necessary to ensure the safety of workers, the public, and the environment from the hazards posed by WIPP waste receiving, handling, and emplacement operations. The DSA establishes and evaluates the adequacy of the safety bases in response to plant normal and abnormal operations and postulated accident conditions.

3.1.2 NRC Transportation Safety Requirements

Acceptable methods for payload compliance are defined in the TRUPACT-II, TRUPACT-III, and HalfPACT Certificates of Compliance and implemented by the CH-TRAMPAC and TRUPACT-III TRAMPAC (References 23a and 23b). For shipments to WIPP, each site must prepare a site-specific TRAMPAC describing how it will ensure compliance with each payload parameter. The site-specific TRAMPAC shall contain sufficient detail to allow reviewers to adequately understand and evaluate the compliance methodology for each payload parameter.

Sites shall have a packaging QA program that defines the QA activities that apply to the use of NRC-approved transportation packagings equivalent to Title 10 of the Code of Federal Regulations (CFR), Part 71, Subpart H (Reference 24).

3.1.3 NMED Hazardous Waste Facility Permit Requirements

TRU waste is classified as TRU-mixed waste if it contains hazardous constituents regulated under the New Mexico Hazardous Waste Act (Reference 25). Only TRU-mixed waste and TRU waste that have been characterized in accordance with the WIPP WAP and that meet the Treatment, Storage, and Disposal Facility (TSDF) waste acceptance criteria as presented in the HWFP Sections 2.3.3.1 through 2.3.3.10 will be accepted at the WIPP facility for disposal in the permitted underground hazardous waste disposal unit.

Prior to disposal, each participating site shall develop and implement a QAPjP that addresses all the applicable requirements specified in the WIPP WAP. In accordance with Attachment C5 of the WAP, the QAPjP will include the qualitative or quantitative criteria for determining whether the waste characterization programs are being satisfactorily performed. All site QAPjPs will be reviewed and approved by the CBFO.

3.1.4 EPA Requirements

3.1.4.1 EPA Compliance Recertification Decision

Title 40 CFR § 194.24(c) states that the DOE shall specify the limiting values for waste components to be emplaced in the repository (Reference 26). The EPA's Compliance Recertification Decision (Reference 10) identifies the repository limits for several waste components including free water, metals, and cellulose, plastic, and rubber (CPR). Although the Recertification does not specify limiting values for the activities and masses of specific radionuclides, it identifies the listed values for a number of radionuclides that are considered in the Performance Assessment. To demonstrate that the cumulative total activities of the specified radionuclides (^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs) are consistent with the levels used for the Performance Assessment and the Recertification, reporting and tracking of the specified radionuclides is necessary (see Appendix A). TRU waste payload containers shall contain more than 100 nanocuries per gram (nCi/g) of waste of alpha-emitting TRU isotopes with half-lives greater than 20 years, as specified in section 3.3.3 of this WAC.

The repository limit for free water is a maximum of 1,684 cubic meters (m^3) and is met by the observable liquid criterion specified in section 3.4.1 of this WAC.

The limits for metals are a minimum of 2×10^7 kilograms (kg) for ferrous metals and 2×10^3 kg for nonferrous metals. These limits will be met in the total repository inventory by the metals that constitute the payload containers alone; thus, WIPP tracks the number and type of payload containers emplaced in the repository as reported in the WWIS database by the sites (see section 3.2.1 of this WAC).

The repository limit for CPR is a maximum of 2.2×10^7 kg. Sites are required to estimate the CPR weights and report these estimates in the WWIS database on a payload container basis as required by section 3.6.1 of this WAC.

Sites must quantify and report the activities and masses of specific radionuclides for the purpose of tracking the total radionuclide inventory of the repository as specified in section 3.3.1 of this WAC. The presence or absence of these specific radionuclides is determined from AK, radioassay, or both in accordance with Appendix A of this WAC. The results of this determination are reported in the WWIS database on a payload container basis.

The methods used to quantify the above waste components for purposes of EPA compliance are discussed in Appendices A, F, and G.

3.1.4.2 EPA Approval for PCB Disposal

PCB-contaminated TRU and PCB-contaminated TRU waste mixed with a hazardous waste, including PCB remediation waste, PCB articles, and PCB bulk product waste may be stored and disposed at the WIPP (References 11, 12, 13, 14, and 15).

Waste streams identified as containing PCBs shall be brought to the attention of the CBFO in order that a determination can be made regarding their acceptability at WIPP.

3.1.5 WIPP Land Withdrawal Act Requirements

The term “WIPP” means the Waste Isolation Pilot Plant project authorized under Section 213 of the DOE National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Pub. L. 96-164; 93 Stat. 1259, 1265) to demonstrate the safe disposal of radioactive waste materials generated by atomic energy defense activities (Reference 1). Hence, by law, WIPP can accept only radioactive waste generated by atomic energy defense activities of the United States (Reference 2, Section 2[19]).

The DOE and its predecessor agencies were engaged in a broad range of activities that fall under the heading of atomic energy defense activities. A TRU waste is eligible for disposal at WIPP if it has been generated in whole or in part by one or more of the following functions (References 27 and 28):

- naval reactors development
- weapons activities, including defense inertial confinement fusion
- verification and control technology
- defense nuclear materials production
- defense nuclear waste and materials by-products management
- defense nuclear materials security and safeguards and security investigations
- defense research and development

Using AK, DOE sites must determine that each waste stream to be disposed of at WIPP is "defense" TRU waste.

High-level radioactive waste or spent nuclear fuel shall neither be transported, emplaced, nor disposed of at WIPP (Reference 2, Section 12). Also, no TRU waste

may be transported by or for the DOE to or from WIPP except in packages (1) the design of which has been certified by the NRC, and (2) that have been determined by the NRC to satisfy its QA requirements (Reference 2, Section 16[a]).

3.2 Container Properties

3.2.1 Description

Acceptance Criterion. Each payload container shall be assigned to a payload shipping category (References 23a and 23b, Section 5.1.1). Authorized payload container types include the:

- 55-gallon drum
- 55-gallon drum containing a pipe component (commonly referred to as a pipe overpack container [POC])
- 85-gallon drum[1], either direct loaded or containing one 55-gallon drum
- 100-gallon drum
- shielded container containing a 30-gallon steel drum
- standard large box 2 (SLB2), either direct loaded or containing various individual containers (4 x 4 x 7-foot boxes and 5 x 5 x 8-foot boxes as well as other containers of smaller sizes)
- standard waste box (SWB), either direct loaded, containing up to four 55-gallon drums, up to three 85-gallon drums, up to two 100-gallon drums, or one bin
- ten-drum overpack (TDOP), either direct loaded, containing up to ten 55-gallon drums, up to six 85-gallon drums, or one SWB

Payload containers shall meet U.S. Department of Transportation (DOT) Specification 7A, Type A, packaging requirements delineated in 49 CFR 173.465 (Reference 4, Section 2.6.2; Reference 9, Attachment A1, Section A1-1b; Reference 12, Section VI.F). Payload containers must be made of steel and be in good and unimpaired condition prior to shipment from the sites. To demonstrate compliance with the requirement that payload containers be in good and unimpaired condition, the exterior of all payload containers shall undergo 100% visual inspection prior to loading into an authorized package. The results of this visual inspection shall be documented using the Payload

[1] The term “85-gallon drum” includes 75- to 88-gallon drums.

Container Integrity Checklist contained in Appendix D. A payload container in good and unimpaired condition, 1) does not have significant rusting, 2) is of sound structural integrity, and 3) does not show signs of leakage. Significant rusting is a readily observable loss of metal due to oxidation (e.g., flaking, bubbling, or pitting) that causes degradation of the payload container's structural integrity. Rusting that causes discoloration of the payload container surface or consists of minor flaking is not considered significant. A payload container is not of sound structural integrity if it has breaches or significant denting or deformation. Breaching is defined as a penetration in the payload container that exposes the internals of the container. Significant denting or deformation is defined as damage to the payload container that results in creasing, cracking, or gouging of the metal, or damage that affects payload container closure. Dents or deformations that do not result in creasing, cracking, or gouging or affect payload container closure are not considered significant. Sites will report to the WWIS database the number and types of payload containers planned for shipment to the WIPP (Reference 10).

3.2.2 Weight Limits and Center of Gravity

Acceptance Criterion. See the CH-TRAMPAC for weight limits and center of gravity requirements (Reference 23a). See the TRUPACT-III TRAMPAC for applicable weight limits (Reference 23b).

3.2.3 Assembly Configurations

Acceptance Criterion. See the CH-TRAMPAC and TRUPACT-III TRAMPAC for payload assembly configuration requirements (References 23a and 23b).

3.2.4 Removable Surface Contamination

Acceptance Criterion. Removable surface contamination on CH TRU waste payload containers, payload assemblies, and packagings shall not exceed 20 disintegrations per minute (dpm)/100 square centimeters (cm^2) alpha and 200 dpm/100 cm^2 beta-gamma (Reference 9, Attachment A1, Section A1-1d[2]; References 29 and 30). The fixing of surface contamination to meet these criteria is not allowed by WIPP in accordance with best management practices for ensuring worker radiation dose as low as reasonably achievable (ALARA).

3.2.5 Identification/Labeling

Acceptance Criterion. Each payload container to be shipped in a TRUPACT-II, TRUPACT-III, or a HalfPACT shall be labeled with a unique payload container identification number (Reference 23a, Section 2.4; Reference 23b, Section 2.3) using bar code labels permanently attached in conspicuous locations. The unique payload container identification number shall include a site identifier as a prefix (References 23a and 23b, Section 6.2.1).

The payload container identification number shall be in medium to low density Code 39 bar code symbology as required by American National Standards Institute (ANSI) Standard ANSI/AIM BC1-1995 (Reference 31) in characters at least 1-inch high and alphanumeric characters at least ½-inch high. In the case of a 55-, 85-, and 100-gallon drum, or a shielded container, a minimum of three bar code identification labels shall be placed at approximately equal intervals around the circumference of the drum or shielded container (120 degrees for three labels, 90 degrees for four labels, etc.) so that at least one label is clearly visible when the drums or shielded containers are assembled into a payload (i.e., a label must be visible after slip sheets and wrapping are applied). In the case of SWBs, bar code labels are required on the flat sides of the SWBs (Reference 32). For TDOPs and SLB2s, a minimum of one bar code is required.

Payload containers shall be marked "Caution Radioactive Material" using a yellow and magenta label as specified in 10 CFR Part 835 (Reference 30). Those payload containers whose contents are also RCRA-regulated (mixed-TRU) shall be additionally marked "Hazardous Waste" as specified in 40 CFR § 262.32 (Reference 33). For TRU and TRU-mixed wastes containing PCBs, the payload containers shall be marked in accordance with 40 CFR §761.40 (Reference 13). Additionally, DOT Type B packages (i.e., the TRUPACT-II, TRUPACT-III, and HalfPACT) containing PCBs must be properly marked in accordance with the EPA Conditions of Approval and 40 CFR §761.40 (References 12 and 13).

If an empty 55-, 85-, 100-gallon drum or shielded container is used as dunnage to complete a payload configuration, the dunnage container shall be labeled with the following information:

- Unique payload container identification number
- “EMPTY” or “DUNNAGE”

If a seven-pack of only dunnage 55-gallon drums, a four-pack of only dunnage 85-gallon drums, a three-pack of only dunnage 100-gallon drums, or a dunnage SWB is used in the TRUPACT-II, the container(s) shall be labeled only “EMPTY” or “DUNNAGE,” and the unique container identification number label is not required for these containers (Reference 23a, Section 2.4.1).

3.2.6 Dunnage

Acceptance Criterion. See the CH-TRAMPAC for dunnage requirements (Reference 23a).

To maximize the efficiency of disposal operations at the WIPP, the use of dunnage should be minimized. In the event the use of dunnage cannot be avoided, the preferred practice for maximizing the efficiency of waste handling and the utilization of disposal room capacity is to ship them in assemblies (e.g., a seven-pack assembly of 55-gallon drums).

3.2.7 Filter Vents

Acceptance Criterion. Containers that have been stored in an unvented condition (i.e., no filter and/or unpunctured liner), shall be aspirated for a specific length of time to ensure equilibration of any gases that may have accumulated in the closed payload container (References 23a and 23b, Section 5.3.1).

Each payload container shall have one or more filter vents (Reference 4, Section 2.6.2; Reference 23a, Section 2.5.1; Reference 23b, Section 2.4.1; Reference 9, Attachment A1, Section A1-1b[2]). These filter vents shall meet the specifications of the WIPP HWFP, CH-TRAMPAC, and TRUPACT-III TRAMPAC, as applicable (Reference 9, Attachment A1, Section A1-1d(1); Reference 23a, Section 2.5.1; Reference 23b, Section 2.4.1). The model number of each filter vent or combination of filter vents installed on a payload container shall be reported to the WWIS database (Reference 47).

3.3 Radiological Properties

With respect to the required radiological properties identified within this section, they can be divided into two distinct groups.

The first group includes the activities and masses of the ten WIPP-tracked radionuclides (i.e., ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs) and the TRU alpha activity concentration of the waste (i.e., >100 nCi/g of alpha-emitting TRU isotopes with half lives greater than 20 years). This set of radiological properties is regulated by the EPA in accordance with 40 CFR Parts 191 and 194 (References 34 and 26). Estimates of their activities and masses shall be derived from a system of controls certified by CBFO that includes AK, computations, measurements, sampling, etc. (Reference 35, Appendix TRU Waste). Appendix A provides the methods and requirements by which to characterize the radiological composition of the CH TRU waste utilizing radioassay techniques.

The second group includes the remaining radionuclides contributing to the ^{239}Pu fissile gram equivalent (FGE), the plutonium-239 equivalent curies (PE-Ci), and the decay heat of the payload container. This set of radiological data is regulated both by the NRC as specified in the CH-TRAMPAC (Reference 23a) and the TRUPACT-III TRAMPAC (Reference 23b) and by the CBFO as summarized by the WIPP DSA (Reference 4). PE-Ci quantities shall be calculated for each payload container in accordance with Appendix B. Any CH-TRAMPAC and/or TRUPACT-III TRAMPAC compliant method may be used to quantify the remaining radiological properties at the discretion of the shipping facility. Appendix A provides recommended radioassay methods by which to characterize the remaining radiological properties. However, the resulting data (e.g., AK from Safeguards and Security data), the source and method from which the data were generated, and the basis for the reliability of the data shall be submitted to and approved by CBFO prior to use.

3.3.1 Radionuclide Composition

Acceptance Criterion. The activities and masses of ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs shall be established on a payload container basis for purposes of tracking their contributions to the total WIPP radionuclide inventory (Reference 35, Appendix TRU Waste). The estimated activities and masses, including their associated total measurement uncertainties (TMUs), expressed in terms of one standard deviation, for these ten radionuclides shall be reported to the WWIS database on a payload container basis. For any of these ten radionuclides whose presence can be substantiated from AK, direct measurement, computations, or a combination thereof, and whose measured data are determined to be below the lower limit of detection (LLD) for that radionuclide, the site shall report the character string "< LLD" to the WWIS database for the activity and mass of that radionuclide; otherwise a value of zero shall be reported. Quantitative estimates for LLD shall not be used when calculating related radiological properties of the waste such as TRU alpha activity concentration, ^{239}Pu fissile gram equivalent, decay heat, etc. See Appendix A, section A.3, of this document for information pertaining to the development and application of LLD.

In addition, all radionuclides other than the ten WIPP-tracked radionuclides (i.e., ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs) that contribute to 95% of the radioactive hazard for the payload container shall be reported on the TRUPACT-II, TRUPACT-III, or HalfPACT bill of lading or manifest in accordance with 49 CFR §172.203 and 49 CFR §173.433 (References 36 and 37). The activities and masses of these other radioisotopes shall also be reported to the WWIS database along with their associated TMU, expressed in terms of one standard deviation for each waste container.

3.3.2 ^{239}Pu Fissile Gram Equivalent

Acceptance Criterion. For each payload container, the sum of ^{239}Pu FGE plus two times its associated TMU, expressed in terms of one standard deviation, shall comply with the limits in Table 1 (Reference 4, Section 6.4.2; References 23a and 23b, Section 3.1.1). The values calculated for ^{239}Pu FGE and its associated TMU (expressed in terms of one standard deviation) shall be reported to the WWIS database for each payload container.

See the CH-TRAMPAC and TRUPACT-III TRAMPAC for ^{239}Pu FGE limits applicable to the TRUPACT-II, TRUPACT-III, and HalfPACT packaging (References 23a and 23b).

Table 1 ^{239}Pu FGE Limits for CH-TRU Waste Payload Containers

Waste Container Type	Be/BeO Limits	Special Waste Container Geometry/Material Requirements	^{239}Pu FGE Limit
Non-Machine Compacted Waste			
55- (excluding pipe overpacks), 85-, and 100-gallon drums	≤ 1% by weight of the waste	None	≤ 200
55-gallon drum configured as a pipe overpack (i.e., a standard, S100, S200, or S300 pipe overpack)	≤ 1% by weight of the waste	None	≤ 200
Shielded Container	≤ 1% by weight of the waste	None	≤ 200
SLB2	≤ 1% by weight of the waste	The minimum ^{240}Pu content in grams for the SLB2 waste container, denoted in the adjacent ^{239}Pu FGE Limit column as a parenthetical, shall be determined after the subtraction of two times the error (i.e., two standard deviations).	≤ 325 ≤ 340 (5) ≤ 360 (15) ≤ 380 (25)
SWB	≤ 1% by weight of the waste	None	≤ 325
TDOP	≤ 1% by weight of the waste	None	≤ 325
55- (excluding pipe overpacks), 85-, and 100-gallon drums	>1% by weight of the waste up to 100 kg	None	≤ 100
SWB	>1% by weight of the waste	None	≤ 100
TDOP	>1% by weight of the waste	None	≤ 100

Table 1 ^{239}Pu FGE Limits for CH-TRU Waste Payload Containers (Continued)

Non-Machine Compacted Waste			
Pipe overpacks (i.e., a standard, S100, S200 , or S300 pipe overpack)	> 1% by weight of the waste	None	≤ 140
Machine Compacted Waste			
55- (excluding pipe overpacks), 85-, and 100-gallon drums	≤ 1% by weight of the waste	Partially compacted waste. Applies to waste that has been compacted such that the distribution and form of polyethylene in the waste does not exceed 0.646 gram/cubic centimeter (g/cm^3), i.e., 70% of the theoretical full density of polyethylene (0.923 g/cm^3).	≤ 200
55- (excluding pipe overpacks), 85-, and 100-gallon drums	≤ 1% by weight of the waste	Fully compacted waste without design vertical spacing. Applies to waste that has been compacted such that the distribution and form of polyethylene in the waste exceeds 0.646 g/cm^3, i.e., 70% of the theoretical full density of polyethylene (0.923 g/cm^3).	≤ 170
55- (excluding pipe overpacks), 85-, and 100-gallon drums	≤ 1% by weight of the waste	Fully compacted waste with design vertical spacing. Applies to waste that has been compacted such that the distribution and form of polyethylene in the waste exceeds 0.646 g/cm^3, i.e., 70% of the theoretical full density of polyethylene (0.923 g/cm^3), and the dimensions of the payload containers (e.g., 100-gallon drums) ensure a minimum 0.5-inch separation between their compacted waste contents and other axially adjacent payload containers.	≤ 200
Shielded Container	≤ 1% by weight of the waste	None	≤ 200
SWB/TDOP	≤ 1% by weight of the waste	Fully compacted waste with design vertical spacing. Applies to waste that has been compacted such that the distribution and form of polyethylene in the waste exceeds 0.646 g/cm^3, i.e., 70% of the theoretical full density of polyethylene (0.923 g/cm^3), and contains one 16-gauge steel 100-gallon drum having a top and bottom design spacing of 0.75 and 0.50 inches, respectively, with no loose material or other drums of waste in the SWB/TDOP.	≤ 250
SWB/TDOP	≤ 1% by weight of the waste	Fully compacted waste with design vertical spacing. Containing one 55-, 85-, or 100-gallon drum whose design ensures a minimum of 0.5-inch vertical spacing between drum contents and the exterior top and bottom of the drum (e.g., a recessed lid) with no loose material or other drums of waste in the SWB/TDOP.	≤ 200

Table 1 ^{239}Pu FGE Limits for CH-TRU Waste Payload Containers (Continued)

Machine Compacted Waste			
SWB/TDOP	≤ 1% by weight of the waste	Partially compacted waste. Containing one 55-, 85-, or 100-gallon drum whose contents have been compacted such that the distribution and form of polyethylene in the waste does not exceed 0.646 g/cm^3, i.e., 70% of the theoretical full density of polyethylene (0.923 g/cm^3) with no loose material or other drums of waste in the SWB/TDOP.	≤ 200
SWB/TDOP	≤ 1% by weight of the waste	Fully compacted waste with design vertical spacing. Applies to waste that has been compacted such that the distribution and form of polyethylene in the waste exceeds 0.646 g/cm^3, i.e., 70% of the theoretical full density of polyethylene (0.923 g/cm^3).	≤ 185

3.3.3 TRU Alpha Activity Concentration

Acceptance Criterion. TRU waste payload containers shall contain more than 100 nCi/g of alpha-emitting TRU isotopes with half-lives greater than 20 years. Without taking into consideration the TMU, the TRU alpha activity concentration for a payload container is determined by dividing the TRU alpha activity of the waste by the weight of the waste. The weight of the waste is the weight of the material placed into the payload container (i.e., the net weight of the container). The weight of the waste is typically determined by subtracting the tare weight of the payload container (including the weight of the rigid liner and any shielding external from the waste, if applicable) from the gross weight of the payload container. In the event waste containers (e.g., 55-gallon drums) that have been radioassayed are overpacked in a payload container (e.g., in an SWB), sites shall sum the individual TRU alpha activity values of the individual waste containers and divide by the sum of the individual net waste weights (i.e., less container, shielding, and liner weights as appropriate) to determine the activity per gram for the payload container. Waste containers selected for payload management shall comply with the policy for the management of TRU alpha activity concentration (see Appendix E). Loading a 55-gallon pipe overpack with cans is considered direct loading, not overpacking, for the purposes of calculating the weight of the container. The TRU alpha activity concentration shall be reported to the WWIS database; however, there are no reporting requirements for its associated TMU (Reference 35, Chapter 4).

3.3.4 ^{239}Pu Equivalent Activity

Acceptance Criterion. PE-Ci limits are shown in Table 2. PE-Ci quantities shall be calculated for each payload container (see Appendix B) and reported to the WWIS database (Reference 4, Section 3.3.2.3.1 and Table 3.3-6). There are no reporting requirements for the associated TMU.

Table 2 PE-Ci Limits for CH-TRU Waste Payload Containers

Payload Container	Packing Configuration	PE-Ci Limit
55-, 85-, and 100-gallon drum	Direct loaded – all approved waste forms other than solidified/vitrified waste	≤80 PE-Ci
Shielded Container	Direct loaded – vented 30-gallon inner steel drum – all approved waste forms other than solidified/vitrified waste	≤80 PE-Ci
SLB2	Direct loaded – all approved waste forms other than solidified/vitrified waste	≤560 PE-Ci
SWB	Direct loaded (or a bin) – all approved waste forms other than solidified/vitrified waste	≤560 PE-Ci
TDOP	Direct loaded – all approved waste forms other than solidified/vitrified waste	≤800 PE-Ci
85-gallon drum	Overpacking an undamaged[1] 55-gallon drum – all approved waste forms other than solidified/vitrified waste	≤1100 PE-Ci
SWB, TDOP	Overpacking an assembly of undamaged[1] 55- or 85-gallon drums with no single payload container within the assembly exceeding 1100 PE-Ci – all approved waste forms other than solidified/vitrified waste	≤1200 PE-Ci
TDOP	Overpacking an undamaged[1] SWB – all approved waste forms other than solidified/vitrified waste	≤1200 PE-Ci
Pipe Overpacks (Standard, S100, S200, and S300)	All approved waste forms	≤1800 PE-Ci
All	Solidified/vitrified waste	≤1800 PE-Ci

[1]An undamaged container provides an additional barrier should a breach occur in the overpack. When overpacking one or more damaged waste containers, direct loaded PE-Ci limits apply.

3.3.5 Radiation Dose Equivalent Rate

Acceptance Criterion. The external radiation dose equivalent rate of individual payload containers shall be ≤200 milliroentgen equivalent man (mrem)/hour (hr) at the surface with the exception of the S100 and S300 pipe overpacks, which are limited to ≤179 mrem/hr and ≤155 mrem/hr, respectively, at the surface (References 23a and 23b, Section 3.2; Reference 4, Sections E1 and 2.1). Internal payload container shielding shall not be used to meet this criterion, except for authorized shielded payload container configurations such as the use of 55-gallon drums containing a pipe component or a shielded container (Reference 23a, Section 2.9). Total dose equivalent

rate and the neutron contribution to the total dose equivalent rate shall be reported for each payload container in the WWIS database.

See the CH-TRAMPAC and TRUPACT-III TRAMPAC for associated package requirements (References 23a and 23b).

3.3.6 Decay Heat

Acceptance Criterion. See the CH-TRAMPAC and TRUPACT-III TRAMPAC for decay heat requirements (References 23a and 23b).

3.4 Physical Properties

3.4.1 Observable Liquid

Acceptance Criterion. Liquid waste is not acceptable at WIPP. Observable liquid containing PCBs is prohibited at WIPP. Liquid in the quantities delineated below is acceptable.

- Observable liquid shall be less than 1 percent[1] by volume of the outermost container at the time of radiography or visual examination (Reference 9).

- Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited.

- Containers with Hazardous Waste Number U134 assigned shall have no observable liquid.

- Overpacking the outermost container that was examined during radiography or visual examination or redistributing untreated liquid within the container shall not be used to meet the liquid volume limits.

For generator/storage sites that use VE, the detection of any liquid in non-transparent internal containers, detected from shaking the internal container, will be handled by assuming that the internal container is filled with liquid and adding this volume to the total liquid in the container being characterized using VE (Reference 9, Part 2, Section 2.3.3.1; Reference 9, Attachment C, Sections C-1c and C-3b; Reference 23a, Section 2.6.1; Reference 23b, Section 2.5.1; Reference 35, Appendix TRU Waste).

3.4.2 Sealed Containers

Acceptance Criterion. Sealed containers that are greater than 4 liters (nominal) are prohibited except for solid inorganic waste (Waste Material Type II.2) packaged in a metal container (Reference 23a, Section 2.8.1; Reference 23b, Section 2.7.1).

[1]The limit of "less than 1 percent" is taken from the CH-TRAMPAC and TRUPACT-III TRAMPAC and is more restrictive than the limit of "no more than 1 percent" in the HWFP.

3.5 Chemical Properties

3.5.1 Pyrophoric Materials

Acceptance Criterion. Radioactive pyrophoric materials shall be present only in small residual amounts (≤1 percent by weight) in payload containers and shall be generally dispersed in the waste. Radioactive pyrophorics in concentrations greater than 1 percent by weight and all nonradioactive pyrophorics shall be reacted (or oxidized) and/or otherwise rendered nonreactive prior to placement in the payload container (References 23a and 23b, Section 4.1.1).

Nonradionuclide pyrophoric materials are not acceptable at WIPP (Reference 4, Section 11.4.1; Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Section 2.3.3.2).

3.5.2 Hazardous Waste

Acceptance Criterion. Hazardous wastes not occurring as co-contaminants with TRU wastes (non-mixed hazardous wastes) are not acceptable at WIPP. Each CH TRU mixed waste container shall be assigned one or more hazardous waste numbers as appropriate. Only EPA hazardous waste numbers listed as allowable in the Hazardous Waste Facility Permit may be managed at WIPP. Some of the waste may also be identified by unique state hazardous waste codes. These wastes are acceptable at WIPP as long as the TSDF waste acceptance criteria are met (Reference 9, Attachment C, Section C-1b; Reference 9, Part 2, Section 2.3.4). Wastes exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA hazardous waste numbers of D001, D002, or D003) are not acceptable at WIPP (Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Sections 2.3.3.3, 2.3.3.7, and 2.3.4).

3.5.3 Chemical Compatibility

Acceptance Criterion. TRU waste containing incompatible materials or materials incompatible with payload container and packaging materials, shipping container materials, other wastes, repository backfill, or seal and panel closure materials are not acceptable for transport in the TRUPACT-II, TRUPACT-III, and HalfPACT or for disposal at the WIPP. Chemical constituents shall conform to the lists of allowable materials in Tables 4.3-1 through 4.3-8 of the CH-TRAMPAC, and Tables 4.3-1 through 4.3-7 of the TRUPACT-III TRAMPAC, as applicable. Other chemicals or materials not identified in these tables are allowed provided that they meet the requirements as specified in Section 4.3.1 of the CH-TRAMPAC and TRUPACT-III TRAMPAC (Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Section 2.3.3.4; References 23a and 23b, Sections 4.3 and 4.4).

3.5.4 Explosives, Corrosives, and Compressed Gases

Acceptance Criterion. Waste shall contain no explosives, corrosives, or compressed gases (pressurized containers) (Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Sections 2.3.3.5 and 2.3.3.7; References 23a and 23b, Section 4.2.1).

3.5.5 Headspace Gas Concentrations

Acceptance Criterion. The headspace gas of payload containers shall be determined in accordance with a site-specific TRAMPAC (References 23a and 23b, Section 5.2), as required.

3.5.6 Polychlorinated Biphenyls

Acceptance Criterion. For TRU and TRU-mixed wastes containing PCBs meeting the conditions of approval in Reference 12, the payload container data entered into the WWIS database shall include the earliest date of waste generation (i.e., the date of removal from service for disposal), the date of waste certification for disposal, and the date the waste was sent to the WIPP for disposal (Reference 12, Section III.D.4). Additionally, the estimated weight of the PCBs in kilograms (as recorded on the uniform hazardous waste manifest), and a description of the type of PCB waste (e.g., PCB remediation waste, PCB bulk product waste, etc.) shall be entered into the WWIS database (Reference 13, §761.207(a)(2) and §761.180). Hanford, Idaho National Laboratory, Savannah River Site, Oak Ridge Reservation, Knolls Atomic Power Laboratory, and Los Alamos National Laboratory are authorized to ship their TRU and TRU-mixed wastes containing PCBs to WIPP (References 14 and 15).

Other sites in the DOE complex may also identify some TRU waste that contains PCBs during the process of characterizing their TRU waste for disposal at WIPP. Subject to NEPA review, as appropriate, CBFO will make a determination regarding the acceptability of waste from these sites at WIPP.

3.6 Data Package Contents

3.6.1 Characterization and Certification Data

Acceptance Criterion. Sites shall prepare a WSPF for each waste stream. Each WSPF shall be approved by the Permittees prior to the first shipment of that waste stream. Characterization and certification information for each payload container shall be submitted to the WWIS database and approved by the Data Administrator. Sites are required to estimate the CPR weights and report these estimates in the WWIS database on a payload container basis. Any payload container from a waste stream that has not been preceded by an appropriate certified WSPF is not acceptable at WIPP (Reference 9, Part 2, Section 2.3.3.10).

3.6.2 Shipping Data

Acceptance Criterion. Sites shall prepare either a bill of lading or a uniform hazardous waste manifest for CH TRU waste shipments as required by the transportation requirements. The land disposal restriction notification for CH TRU mixed waste shipments shall state that the waste is not prohibited from land disposal (Reference 9, Attachment C, Section C-5b(2)).

4.0 WASTE ACCEPTANCE REQUIREMENTS AND CRITERIA FOR RH WASTE

The requirements and associated criteria for acceptance of defense TRU waste at WIPP for disposal are identified in this WAC. The acceptance criteria of this WAC describe the controlling (i.e., the most restrictive) requirements to be used by the sites in preparing their waste for transportation to and disposal at the WIPP. In some instances the acceptance criteria and regulatory requirements are synonymous. The WAC requirements are taken from several source documents including but not limited to the WIPP DSA (Reference 4), the RH-TRU 72-B and 10-160B Certificates of Compliance (References 7 and 8), the WIPP LWA (Reference 2), the WIPP Hazardous Waste Facility Permit (Reference 9), the Compliance Recertification Decision (Reference 10), the Initial Report for PCB Disposal Authorization (Reference 11), the EPA letter of approval to land dispose non-liquid PCBs at WIPP (References 12 and 13), the Revision to the Record of Decision for the DOE's WIPP Disposal Phase and associated WIPP NEPA database (References 14 and 15), the EPA's letter of approval of DOE's RH TRU Waste Characterization Program (Reference 16), and the Remote-Handled TRU Waste Characterization Program Implementation Plan (Reference 17). Definitions of terms used in this WAC are included in Appendix C.

When implementing this WAC, TRU waste characterization programs should refer to these source documents, 40 CFR § 194.8 and 194.24, and other WIPP program documents including Performance Demonstration Program Plans and the Quality Assurance Program Document, as applicable, for information pertinent to the DOE system of controls, including compilation of AK.

4.1 Summary of WIPP Authorization Basis

The purpose of section 4.0 and related appendices is to present the requirements and associated criteria that must be met for RH TRU waste to be transported to, managed at, and disposed of at the WIPP. The requirements and associated criteria are organized under five major headings: Container Properties, Radiological Properties, Physical Properties, Chemical Properties, and Data Package Contents. Only TRU waste from a properly characterized and approved waste stream may be certified as meeting the requirements and associated criteria contained in this WAC. Any waste container from a waste stream which has not been preceded by an appropriate certified WSPF is not acceptable at WIPP (Reference 9, Part 2, Section 2.3.3.10).

Site-specific plans and procedures shall contain details of the processes, controls, techniques, tests, and other actions to be applied to each TRU payload container, waste stream, and shipment. Methods of compliance with each requirement shall be described and the specific procedure cited. These methods of compliance shall include procedural controls, administrative controls, and waste generation process controls. The QA requirements applicable to waste characterization, certification, and transportation are addressed in various sections of this WAC and are briefly summarized in section 5.0. The data resulting from the implementation of the plans and

procedures will form the basis for verifying that TRU waste to be sent to WIPP is certified to meet the WAC by the responsible site certifying official(s).

Sites shall transmit required characterization, certification, and shipping data to the WWIS database using the WDS. The WWIS is an electronic database and is a subset of the WDS. The WDS is equipped with edit/limit checks to ensure that the data representing the waste payload containers are in compliance with this WAC. Before shipping TRU waste payload containers from a WIPP-accepted waste stream, the site shall transmit the required waste characterization, certification, and shipping data via WDS to the WWIS database. Sites may periodically be requested to transmit payload container radiography reports or other data to WIPP. WIPP will not accept any waste shipments for disposal if the waste payload container information has not been correctly submitted and approved for shipment by the WWIS Data Administrator. The Waste Data System User's Manual (Reference 22) provides the information needed by TRU waste sites to perform tasks associated with transmittal of the payload container's characterization, certification, and shipment information to WIPP.

Sites will be notified of revisions to external regulatory requirements by CBFO. Revisions of requirements in referenced documents not controlled by the DOE (but by, for example, the EPA, NRC, or NMED) shall have precedence over the values specified here if they are more restrictive. These changes will be incorporated in future revisions of the WAC.

4.1.1 DOE Operations and Safety Requirements for WIPP

The WIPP DSA addresses TRU waste handling and emplacement operations. The waste accepted for emplacement in the WIPP must conform to the WAC to meet the DSA (Reference 4). The DSA documents the safety analyses that develop and evaluate the adequacy of the WIPP safety bases necessary to ensure the safety of workers, the public, and the environment from the hazards posed by WIPP waste receiving, handling, and emplacement operations. The DSA establishes and evaluates the adequacy of the safety bases in response to plant normal and abnormal operations and postulated accident conditions.

4.1.2 NRC Transportation Safety Requirements

Acceptable methods for payload compliance are defined in the RH-TRU 72-B and 10-160B Certificates of Compliance (References 7 and 8). For shipments to WIPP in a RH-TRU 72-B, each site must prepare a site-specific RH-TRAMPAC describing how it will ensure compliance with each payload parameter. This technical plan shall contain sufficient detail to allow reviewers to adequately understand and evaluate the compliance methodology for each payload parameter.

The payload requirements for the 10-160B package and site-specific compliance are specified by the 10-160B SAR (Reference 38). For shipments in the 10-160B package, each site must prepare a site-specific appendix to the 10-160B SAR for approval by

the NRC. The 10-160B SAR does not require the preparation of a site-specific "TRAMPAC."

Sites shall have a packaging QA program that defines the QA activities that apply to the use of NRC-approved transportation packagings equivalent to 10 CFR Part 71, Subpart H (Reference 24).

4.1.3 NMED Hazardous Waste Facility Permit Requirements

TRU waste is classified as TRU-mixed waste if it contains hazardous constituents regulated under the New Mexico Hazardous Waste Act (Reference 25). Only TRU-mixed waste and TRU waste that have been characterized in accordance with the WIPP WAP and that meet the TSDF waste acceptance criteria as presented in HWFP Sections 2.3.3.1 through 2.3.3.10 will be accepted at the WIPP facility for disposal in the permitted underground hazardous waste disposal unit.

Prior to disposal, each participating site shall develop and implement a QAPjP that addresses all the applicable requirements specified in the WIPP WAP. In accordance with Attachment C5 of the WAP, the QAPjP will include the qualitative or quantitative criteria for determining whether the waste characterization programs are being satisfactorily performed. All site QAPjPs will be reviewed and approved by the CBFO.

4.1.4 EPA Requirements

4.1.4.1 EPA Compliance Recertification Decision

Title 40 CFR § 194.24(c) states that the DOE shall specify the limiting values for waste components to be emplaced in the repository (Reference 26). The EPA's Compliance Recertification Decision (Reference 10) identifies the repository limits for several waste components including free water, metals, and CPR. Although the Recertification does not specify limiting values for the activities and masses of specific radionuclides, it identifies the listed values for a number of radionuclides that are considered in the Performance Assessment. To demonstrate that the cumulative total activities of the specified radionuclides (^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs) are consistent with the levels used for the Performance Assessment and the Recertification, reporting and tracking of the specified radionuclides is necessary (see Appendix A). TRU waste payload containers shall contain more than 100 nCi/g of alpha-emitting TRU isotopes with half-lives greater than 20 years, as specified in section 4.3.3 of this WAC.

The repository limit for free water is a maximum of 1684 m^3 and is met by the observable liquid criterion specified in section 4.4.1 of this WAC.

The limits for metals are a minimum of 2 X 10^7 kg for ferrous metals and 2 X 10^3 kg for nonferrous metals. These limits will be met in the total repository inventory by the metals that constitute the payload containers alone; thus, WIPP tracks the number and

type of payload containers emplaced in the repository as reported in the WWIS database by the sites (see section 4.2.1). The repository limit for CPR is a maximum of 2.2×10^7 kg. The WDS will calculate the plastic value on a payload container basis as required by section 4.4.3.

Sites must quantify and report the activities and masses of specific radionuclides for the purpose of tracking the total radionuclide inventory of the repository as specified in section 4.3.1 of this WAC. The presence or absence of these specific radionuclides is determined from AK, direct measurement, computations, or a combination thereof (Reference 17, section 2.2.6). The results of this determination are reported in the WWIS database on a payload container basis.

4.1.4.2 EPA Approval for PCB Disposal

PCB-contaminated TRU and PCB-contaminated TRU waste mixed with a hazardous waste including PCB remediation waste, PCB articles, and PCB bulk product waste may be stored and disposed at the WIPP (References 11, 12, 13, 14 and 15).

Waste streams identified as containing PCBs shall be brought to the attention of the CBFO in order that a determination can be made regarding their acceptability at WIPP.

4.1.5 WIPP Land Withdrawal Act Requirements

The term “WIPP” means the Waste Isolation Pilot Plant project authorized under Section 213 of the Department of Energy National Security and Military Applications of Nuclear Energy Authorization Act of 1980 (Pub. L. 96-164; 93 Stat. 1259, 1265), to demonstrate the safe disposal of radioactive waste materials generated by atomic energy defense activities (Reference 1). Hence, by law, WIPP can accept only radioactive waste generated by atomic energy defense activities of the United States (Reference 2, Section 2[19]).

The DOE and its predecessor agencies were engaged in a broad range of activities that fall under the heading of atomic energy defense activities. A TRU waste is eligible for disposal at WIPP if it has been generated in whole or in part by one or more of the following functions (References 27 and 28):

- naval reactors development
- weapons activities, including defense inertial confinement fusion
- verification and control technology
- defense nuclear materials production
- defense nuclear waste and materials by-products management
- defense nuclear materials security and safeguards and security investigations
- defense research and development

Using AK, sites must determine that each waste stream to be disposed of at WIPP is "defense" TRU waste (Reference 2).

High-level radioactive waste or spent nuclear fuel shall neither be transported, emplaced, nor disposed of at WIPP (Reference 2, Section 12). Also, no TRU waste may be transported by or for the DOE to or from WIPP except in packages (1) the design of which has been certified by the NRC, and (2) that have been determined by the NRC to satisfy its QA requirements (Reference 2, Section 16[a]).

4.2 Container Properties

4.2.1 Description

Acceptance Criterion. The only payload containers authorized for receipt of RH-TRU waste in the RH bay of the Waste Handling Building at WIPP include 55-gallon drums and RH-TRU waste canisters shipped in10-160B and RH-TRU 72-B packaging, respectively (References 7 and 8). The site shall report the number and type of payload containers to the WWIS database.

Payload containers must meet DOT Type 7A standards (Reference 4, Section 2.5.2). Prior to loading in the transportation packaging, the exterior of a payload container must undergo 100% visual inspection to ensure compliance with the requirement that payload containers be in good and unimpaired condition. The results of this visual inspection must be documented. Inspection of payload containers shall be documented using the payload container integrity checklist contained in Appendix D. A payload container is in good and unimpaired condition if it does not have significant rusting, is of sound structural integrity, and does not show signs of leakage.

The RH-TRU waste canister shall comply with the specifications in the RH-TRAMPAC (Reference 7).

4.2.2 Weight Limits

Acceptance Criterion. Each payload container shall comply with the following maximum (gross) weight limit:

- Removable Lid Canister (direct loaded or drum loaded) – 4240 lb (Reference 39)
- Welded Lid Canister (direct loaded) – 5250 lbs (Reference 40)
- Welded Lid Canister (drum loaded) – 5980 lbs (Reference 40)
- NS15 Neutron Shielded Canister – 3100 lbs (Reference 41)
- NS30 Neutron Shielded Canister – 3100 lbs (Reference 41)
- 1000 lbs (453.59 kg) per 55-gallon drum (Reference 4, Section 2.5.2.2)

See the RH-TRU 72-B and/or 10-160B packaging Certificates of Compliance for applicable package weight limits (References 7 and 8).

4.2.3 Assembly Configurations

Acceptance Criterion. See the RH-TRU 72-B and/or 10-160B packaging Certificates of Compliance for applicable assembly configuration requirements (References 7 and 8).

4.2.4 Removable Surface Contamination

Acceptance Criterion. Removable surface contamination on RH TRU waste payload containers, payload assemblies, and packagings shall not exceed 20 dpm/100 cm^2 alpha and 200 dpm/100 cm^2 beta-gamma (Reference 9, Attachment A1, Section A1-1d[2]; References 29 and 30). The fixing of surface contamination to meet these criteria is not allowed by WIPP in accordance with best management practices for ensuring worker radiation dose is within the ALARA guidelines.

4.2.5 Identification/Labeling

Acceptance Criterion. Each payload container shall be labeled with a unique payload container identification number permanently applied in a conspicuous location. The unique payload container identification number shall include a site identifier as a prefix.

For RH-TRU waste canisters, payload container labeling shall be as follows:

- Each canister shall be labeled with a unique payload container identification number (ID) that includes a site identifier as a prefix.

- The characters composing the canister ID number shall be approximately 2-inches high and of a color contrasting with their background.

- A minimum of three canister ID numbers shall be placed at approximately equal intervals around the circumference of the canister and within 18-inches of the top of the canister.

Any exception to these identification/labeling requirements is subject to CBFO's review and approval.

The 10-160B 55-gallon payload container identification number shall be in medium to low density Code 39 bar code symbology as required by ANSI, standard ANSI/AIM BC1-1995 (Reference 31) in characters at least 1-inch high and alphanumeric characters at least ½-inch high. In the case of 55-gallon drums, the labels must be placed approximately 120 degrees apart so that one label is visible once the containers are assembled into a 5-drum carriage.

Payload containers shall be marked "Caution Radioactive Material" using a yellow and magenta label as specified in 10 CFR Part 835 (Reference 30). Those payload containers, whose contents are also RCRA regulated (mixed-TRU), shall be additionally marked "Hazardous Waste" as specified in 40 CFR § 262.32 (Reference 33). DOT Type B packages containing PCBs must be properly marked in accordance with 40 CFR §761.40 (References 12 and 13).

If an empty 55-gallon drum is used as dunnage to complete a payload configuration in the 10-160B package, the dunnage container shall be labeled with the following information:

- Unique payload container identification number
- "EMPTY" or "DUNNAGE"

If a five-drum carriage of only dunnage 55-gallon drums is used in the 10-160B, the containers shall be labeled only "EMPTY" or "DUNNAGE," and the unique container identification number label is not required for these containers.

4.2.6 Dunnage

Acceptance Criterion. See the 10-160B packaging Certificate of Compliance for dunnage requirements (Reference 8).

To maximize the efficiency of operations at the WIPP, the use of dunnage drums should be minimized.

4.2.7 Filter Vents

Acceptance Criterion. Each payload container and any sealed secondary or internal containers (greater than 4 liters in size) in the payload container shall meet the filter vent specifications of Reference 4, Section 2.5.2; Reference 7; Reference 8; Reference 9, Attachment A1, Section A1-1b[2]; and Reference 41, Section 2.4.1. These filter vents shall meet the specifications of the 10-160B SAR and RH-TRAMPAC (Reference 38; Reference 41, Section 2.4.1. The model number of each filter vent or combination of filter vents installed on a payload container shall be reported to the WWIS database (Reference 47).

4.3 Radiological Properties

With respect to the required radiological properties identified within this section, they can be divided into two distinct groups.

The first group includes the activities and masses of the ten WIPP-tracked radionuclides (i.e., ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs) and the TRU alpha activity concentration (i.e., >100 nCi/g of alpha-emitting TRU isotopes with half lives greater than 20 years) of the waste. This set of radiological properties is regulated

by the EPA in accordance with 40 CFR Parts 191 and 194 (References 34 and 26). Total activity will be quantified and tracked to ensure compliance with the WIPP LWA limits for RH TRU waste including limiting activity to 23 curies per liter (Ci/l) per canister, limiting disposed RH TRU waste to 5.1 million curies, and limiting surface dose rates of canisters to 1000 roentgen equivalent man per hour (rem/hr). No more than 5 percent by volume of the remote-handled transuranic waste received at WIPP may have a surface dose rate in excess of 100 rems per hour. Estimates of their activities and masses shall be derived from a system of controls certified by CBFO that includes AK, computations, measurements, sampling, etc. (Reference 35). The RH TRU Waste Characterization Program Implementation Plan provides the methods and requirements used to characterize the radiological composition of the RH TRU waste.

The second group includes the remaining radionuclides contributing to the FGE, the PE-Ci, and the decay heat of the payload container. This set of radiological data is regulated both by the NRC as specified in the RH transportation documentation (References 7 and 8) and the CBFO as summarized by the WIPP DSA (Reference 4). PE-Ci quantities shall be calculated for each payload container in accordance with Appendix B. Any method that complies with the Certificate of Compliance may be used to quantify the remaining radiological properties at the discretion of the shipping facility.

However, the resulting data (e.g., AK from Safeguards and Security data), the source and method from which the data was generated, and the basis for the reliability of the data shall be submitted to and approved by CBFO prior to use.

4.3.1 Radionuclide Composition

Acceptance Criterion. Remote-handled transuranic waste received at WIPP shall not exceed 23 curies per liter maximum activity level (averaged over the volume of the canister) (Reference 2, Section 7).

Contents of the 10-160B package may include fissile material contaminants provided the mass limits of 10 CFR 71.15 are not exceeded and the plutonium content does not exceed 0.74 tera-becquerel (20 curies) (Reference 8). The quantity of radioactive material must not exceed 3,000 times the Type A quantity (Reference 8).

The activities and masses of ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs shall be established on a payload container basis for purposes of tracking their contributions to the total WIPP radionuclide inventory (Reference 35). The estimated activities and masses, including their associated TMU expressed in terms of one standard deviation, for these ten radionuclides shall be reported to the WWIS database on a payload container basis. For any of these ten radionuclides whose presence can be substantiated from AK, direct measurement, computations, or a combination thereof, and for which measured data are determined to be below the LLD for that radionuclide, the site shall report the character string "< LLD" to the WWIS database for the activity and mass of that radionuclide; otherwise a value of zero shall be reported (Reference 17, Section 2.2.6).

In addition, all radionuclides other than the ten WIPP-tracked radionuclides (i.e., ^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs) that contribute to 95% of the radioactive hazard for the payload container shall be reported on the RH-TRU 72-B or 10-160B bill of lading or manifest in accordance with 49 CFR §172.203 and 49 CFR §173.433 (Reference 36, Reference 37). The activities and masses of these other radioisotopes shall also be reported to the WWIS database along with their associated TMU, expressed in terms of one standard deviation for each waste container (Reference 35).

4.3.2 ^{239}Pu Fissile Gram Equivalent/^{235}U Fissile Equivalent Mass (FEM)

Acceptance Criterion. Each canister must comply with the limits in either Table 3 or Table 5. For a canister , either the sum of the ^{239}Pu FGE plus two times its associated TMU, expressed in terms of one standard deviation, shall comply with the applicable limits in Table 3 or the ^{235}U FEM weight percentage plus two times its associated TMU, with TMU expressed in terms of one standard deviation, shall comply with the applicable limit in Table 5 (Reference 7).

See the 10-160B packaging Certificate of Compliance for applicable package requirements (Reference 8) and Table 4 for associated drum requirements.

The value calculated for ^{239}Pu FGE or ^{235}U FEM and their associated TMUs (expressed in terms of one standard deviation) shall be reported to the WWIS database for each payload container.

Table 3 ^{239}Pu FGE Limits for a Canister Shipped in an RH-TRU 72-B Package

Payload Contents	^{239}Pu FGE Limit (Removable/Welded Lid Canister)	^{239}Pu FGE Limit (Neutron Shielded Canister)
Non-Machine-Compacted Waste		
Be/BeO limited to ≤ 1% by weight of the waste	≤ 315	≤ 245
Be/BeO limited to ≤ 1% by weight of the waste including credit taken for ≥ 5g of ^{240}Pu Poisoning[1]	≤ 325	≤ 245
Be/BeO limited to ≤ 1% by weight of the waste including credit taken for ≥ 15g of ^{240}Pu Poisoning[1]	≤ 350	≤ 245
Be/BeO limited to ≤ 1% by weight of the waste including credit taken for ≥ 25g of ^{240}Pu Poisoning[1]	≤ 370	≤ 245
Be/BeO > 1% by weight of the waste and is chemically or mechanically bound to the fissile material	≤ 305	Unauthorized
Be/BeO > 1% by weight of the waste and is not chemically or mechanically bound to the fissile material	≤ 100	Unauthorized
Machine-Compacted Waste		
Be/BeO limited to ≤ 1% by weight of the waste	≤ 245	≤ 245
Be/BeO > 1% by weight of the waste	Unauthorized	Unauthorized

[1]The minimum ^{240}Pu content for the RH-TRU waste canister shall be determined after the subtraction of two times the error.

Table 4 ^{239}Pu FGE Limits for Drums Shipped in a 10-160B Package

Payload Contents	^{239}Pu FGE Limit
Non-Machine-Compacted Waste	
55-gallon drum (Be/BeO limited to ≤ 1 % by weight of the waste)	≤ 200 g
55-gallon drum (Be/BeO > 1 % by weight of the waste)	≤ 100 g
Machine-Compacted Waste	
55-gallon drum (Be/BeO limited to ≤ 1 % of the weight of the waste)	≤ 170 g
55-gallon drum (Be/BeO limited ≤ 1 % of the weight of the waste). 1.0-in. design spacing must be maintained between drum content and exterior top and bottom	≤ 200 g

Table 5 ^{235}U FEM Limit for a Canister Shipped in an RH-TRU 72-B Package

Payload Contents	Weight % ^{235}U FEM (Removable/Welded Lid Canister)	Weight % ^{235}U FEM (Neutron Shielded Canister)
Non-machine compacted homogeneous solid/sludge with a particle size characteristic dimension of 1 inch or less that is primarily uranium (in terms of heavy metal component) with waste matrix distributed to not exceed enrichment limit (Reference 41)	≤ 0.96	Not Applicable

4.3.3 TRU Alpha Activity Concentration

Acceptance Criterion. Payload containers shall contain TRU waste. TRU waste shall contain more than 100 nanocuries of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years (Reference 2, Section 2 [18]). Without taking into consideration the TMU, the TRU alpha activity concentration for a payload container is determined by dividing the TRU alpha activity of the waste by the weight of the waste.

The TRU alpha activity concentration shall be reported to the WWIS database (Reference 35, Chapter 4; Reference 17, Section 2.2.5).

4.3.4 ^{239}Pu Equivalent Activity

Acceptance Criterion. PE-Ci limits are shown in Table 6.

PE-Ci quantities shall be calculated for each payload container (see Appendix B) and reported to the WWIS database (Reference 4, Section 3.3.2.3.1 and Table 3.3-6). There are no reporting requirements for the associated TMU.

Table 6 PE-Ci Limits for RH-TRU Waste Payload Containers

Payload Container	Packing Configuration	PE-Ci Limit
RH-TRU Waste Canister	All approved waste forms other than solidified/vitrified waste	≤ 240
55-Gallon Drum (shipped in a 10-160B)		≤ 80
RH-TRU Waste Canister	Solidified/vitrified waste	≤ 1800
55-Gallon Drum (shipped in a 10-160B)		

4.3.5 Radiation Dose Equivalent Rate

Acceptance Criterion. The external surface radiation dose equivalent rate of individual containers must be ≥200 mrem/hr and ≤1000 rem/hr (Reference 2, Sections 2 and 7). Containers whose dose rate is greater than or equal to 200 mrem/hr but when placed into a payload container result in that payload container being less than 200 mrem/hr can be shipped as RH waste. Total dose equivalent rate and the neutron contribution to the total dose equivalent rate shall be reported for each payload container in the WWIS database (Reference 2, Section 16; Reference 17, Section 2.2.4).

See the RH-TRU 72-B and/or 10-160B packaging Certificates of Compliance for applicable radiation dose equivalent rate requirements (References 7 and 8).

4.3.6 Decay Heat

Acceptance Criterion. See the RH-TRU 72-B and/or 10-160B packaging Certificates of Compliance for applicable decay heat requirements (References 7 and 8).

4.4 Physical Properties

4.4.1 Observable Liquid

Acceptance Criterion. Liquid waste is not acceptable at WIPP. Observable liquid containing PCBs is prohibited at WIPP. Liquid in the quantities delineated below is acceptable.

- Observable liquid shall be less than 1 percent[1] by volume of the outermost container at the time of radiography or visual examination (Reference 9).

- Internal containers with more than 60 milliliters or 3 percent by volume observable liquid, whichever is greater, are prohibited.

- Containers with Hazardous Waste Number U134 assigned shall have no observable liquid.

- Overpacking the outermost container that was examined during radiography or visual examination or redistributing untreated liquid within the container shall not be used to meet the liquid volume limits.

For characterization programs that use VE, the detection of any liquid in non-transparent internal containers, detected from shaking the internal container, will be handled by assuming that the internal container is filled with liquid and adding this volume to the total liquid in the container being characterized using VE (Reference 9, Part 2, Section 2.3.3.1; Reference 9, Attachment C, Sections C-1c and C-3b; Reference 41, Section 2.5.1; Reference 35).

4.4.2 Sealed Containers

Acceptance Criterion. Sealed containers that are greater than 4 liters (nominal) are prohibited except for metal containers packaging solid inorganic waste. This packaging configuration does not generate flammable gas (Reference 41, Section 2.7.1).

4.4.3 Physical Form

Acceptance Criterion. Debris waste (S5000) shall be reported to the WWIS database as plastic using the volume of the waste container multiplied by 620 kg/m^3 up to the net weight of the waste. Soils and gravel (S4000) shall be reported to the WWIS database as the net weight of the waste with the waste material parameter type of "soil." Homogeneous solids (S3000) shall be reported to the WWIS database as the net weight of the waste with the waste material parameter type appropriate to the waste. Debris included in containers of S3000 or S4000 waste shall be reported to the WWIS

[1] The limit of "less than 1 percent" is taken from the RH-TRAMPAC and is more restrictive than the limit of "no more than 1 percent" in the HWFP.

database as plastic with an estimated weight. Plastic packaging will also be reported to the WWIS database as packaging (Reference 17, Section 2.2.3).

4.5 Chemical Properties

4.5.1 Pyrophoric Materials

Acceptance Criterion. Radioactive pyrophoric materials shall be limited to residual amounts (<1 percent by weight) in payload containers and shall be generally dispersed in the waste. Radioactive pyrophorics in concentrations ≥1 percent by weight and all nonradioactive pyrophorics shall be reacted (or oxidized) and rendered nonreactive prior to placement in the payload container (Reference 41, Section 4.1.1).

Nonradionuclide pyrophoric materials are not acceptable at WIPP (Reference 4, Section 11.4.1; Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Section 2.3.3.2).

4.5.2 Hazardous Waste

Acceptance Criterion. Hazardous wastes not occurring as co-contaminants with TRU wastes (non-mixed hazardous wastes) are not acceptable at WIPP. Each RH-TRU mixed waste container shall be assigned one or more hazardous waste numbers as appropriate. Only EPA hazardous waste numbers listed as allowable in the Hazardous Waste Facility Permit may be managed at WIPP. Some of the waste may also be identified by unique state hazardous waste codes. These wastes are acceptable at WIPP as long as the TSDF waste acceptance criteria are met (Reference 9, Attachment C, Section C-1b; Reference 9, Part 2, Sections 2.3.3.3 and 2.3.4). Wastes exhibiting the characteristic of ignitability, corrosivity, or reactivity (EPA hazardous waste numbers of D001, D002, or D003) are not acceptable at WIPP (Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Sections, 2.3.3.7 and 2.3.4).

4.5.3 Chemical Compatibility

Acceptance Criterion. TRU waste containing incompatible materials or materials incompatible with payload container and packaging materials, shipping container materials, other wastes, repository backfill, or seal and panel closure materials are not acceptable for transport in the RH-TRU 72-B or 10-160B packages or for disposal at the WIPP. Chemical constituents shall conform to the lists of allowable materials in the RH-TRAMPAC and Appendix 4.10.2 of the 10-160B SAR (References 41 and 38).

The total quantity of the trace chemicals/materials (materials that occur in the waste in quantities less than 1 percent [weight]) not listed in Table 4.3-1 (Reference 41) in the payload container is restricted to less than 5 percent (weight). Chemical constituents in a payload of a particular waste-specific content code shall conform to the allowable chemical list for that content code. The content code must be reported to the WWIS database for each payload container (References 7 and 8).

4.5.4 Explosives, Corrosives, and Compressed Gases

Acceptance Criterion. Waste shall contain no explosives, corrosives, or compressed gases (pressurized containers) (Reference 9, Attachment C, Section C-1c; Reference 9, Part 2, Sections 2.3.3.5 and 2.3.3.7; Reference 41, Section 4.2.1).

4.5.5 Headspace Gas Concentrations

Acceptance Criterion. The headspace gas of payload containers shall meet the requirements in the following approved site-specific documents, as applicable: the site-specific TRAMPAC (if shipping in RH-TRU 72-B packaging), or Appendix 4.10.2 (if shipping in 10-160B packaging) (References 41 and 38, respectively).

4.5.6 Polychlorinated Biphenyls

Acceptance Criterion. For TRU and TRU-mixed wastes containing PCBs meeting the conditions of approval in Reference 12, the payload container data entered into the WWIS database shall include the earliest date of waste generation (i.e., the date of removal from service for disposal), the date of waste certification for disposal, and the date the waste was sent to the WIPP for disposal (Reference 12, Section III.D.4). Additionally, the estimated weight of the PCBs in kilograms (as recorded on the uniform hazardous waste manifest) and a description of the type of PCB waste (e.g., PCB remediation waste, PCB bulk product waste, etc.) shall be entered into the WWIS database (Reference 13, §761.207(a)(2) and §761.180). Hanford, Idaho National Laboratory, Savannah River Site, Oak Ridge Reservation, Knolls Atomic Power Laboratory, and Los Alamos National Laboratory are authorized to ship their TRU and TRU-mixed wastes containing PCBs to WIPP (References 14 and 15).

Other sites in the DOE complex may also identify some TRU waste that contains PCBs during the process of characterizing their TRU waste for disposal at WIPP. Subject to NEPA review, as appropriate, CBFO will make a determination regarding the acceptability of waste from these sites at WIPP.

4.6 Data Package Contents

4.6.1 Characterization and Certification Data

Acceptance Criterion. Sites shall prepare a WSPF for each waste stream. Each WSPF shall be approved by the Permittees prior to the first shipment of that waste stream. Characterization and certification information for each payload container shall be submitted to the WWIS database and approved by the Data Administrator. Any payload container from a waste stream that has not been preceded by an appropriate certified WSPF is not acceptable at WIPP (Reference 9, Part 2, Section 2.3.3.10).

See the WCPIP (Reference 17) for additional characterization and certification data requirements.

4.6.2 Shipping Data

Acceptance Criterion. Sites shall prepare either a bill of lading or a uniform hazardous waste manifest for RH TRU waste shipments as required by the transportation requirements. The land disposal restriction notification for RH TRU mixed waste shipments shall state that the waste is not prohibited from land disposal (Reference 9, Attachment C, Section C-5b(2)).

5.0 QUALITY ASSURANCE REQUIREMENTS

Quality assurance is an integral part of TRU waste characterization, certification, transportation, and operation activities. This section defines the QA program requirements that provide confidence that TRU waste characterization, certification, and transportation activities will be performed satisfactorily by each participating site. The QA requirements applicable to WIPP are addressed in the QAPD (Reference 18).

Each site shall be responsible for developing, documenting, and implementing site-specific QA plans that address the elements of the QAPD that apply to their TRU waste program. Specifically, sites shall develop QA plans that govern TRU waste characterization, certification, and transportation activities. These site-specific QA plans shall be submitted to the CBFO for approval. TRU wastes may not be characterized, certified, or shipped to WIPP before CBFO approval of these QA plans. The CBFO and the Management and Operating Contractor will conduct audits and surveillances to ensure that sites are in compliance with their approved site-specific QA plans.

5.1 Waste Characterization Quality Assurance Requirements

Sites are responsible for describing required QA and quality control (QC) activities applicable to TRU waste characterization in site-specific QA documentation. All analytical laboratories analyzing WIPP waste characterization samples for the TRU waste sites shall have established documented QA/QC programs.

Data quality objectives (DQOs) are qualitative and quantitative statements that specify WIPP program technical and quality objectives; they are determined through the DQO process (Reference 42). The DQOs for waste characterization activities relating to the physical and chemical properties of the waste are contained in the WAP of the WIPP HWFP (Reference 9, Attachment C3). The radioassay data quality objectives are given in Appendix A of this document.

Corrective action reports applicable to WAP requirements shall be resolved prior to waste shipment (Reference 9, Attachment C6, Section C6-4).

5.2 Waste Certification Quality Assurance Requirements

Participating sites shall develop and implement a site-specific QA plan for waste certification that describes the required QA and QC activities applicable to the certification of TRU waste to the WAC. Site-specific QA plans must comply with the requirements of the QAPD (Reference 18).

5.3 Waste Transportation Quality Assurance Requirements

Quality assurance requirements for the transportation of TRU waste involve two elements: compliance with payload control requirements and compliance with usage requirements, as applicable.

The QA requirements for payload control compliance are derived from the certificates of compliance for the TRUPACT-II, TRUPACT-III, HalfPACT, RH-TRU 72-B, and 10-160B issued by the NRC (References 5a, 5b, 6, 7, and 8). The QA requirements for compliance with usage requirements are derived from 10 CFR Part 71 and 49 CFR Part 173 (References 24 and 37), the Certificates of Compliance, DOE Orders 460.1 and 460.2 (References 43 and 44), the CH Packaging Program Guidance (Reference 45), and the RH Packaging Program Guidance (Reference 46).

Participating sites shall develop and implement site-specific QA plans that comply with these requirements. Sites are responsible for describing the QA and QC activities applicable to the specific parameters of the transportation packaging methods for payload control. Sites shall develop and implement a transportation packaging QA program that defines the QA and QC activities applicable to usage of the transportation systems, as applicable. The use, operation, and maintenance of the transportation systems by the user are conducted under a QA program approved by the appropriate DOE field offices. This program controls the use of the NRC-certified packaging and shall comply with the CH Packaging Program Guidance (Reference 45) and RH Packaging Program Guidance (Reference 46), as applicable.

6.0 REFERENCES

NOTE: The current revision of these reference documents is applicable. The Internet links are provided for informational purposes only and may change without prior public notification.

1. Public Law 96-164, 93 Stat. 1259. National Security and Military Applications of Nuclear Energy Authorization Act of 1980, Section 213(a). (http://thomas.loc.gov/cgi-bin/bdquery/z?d096:SN006 73:|TOM:/bss/d096query.htm)

2. Public Law 102-579, 106 Stat. 4777, 1992 (as amended by Public Law 104-201, 1996). Waste Isolation Pilot Plant Land Withdrawal Act. (http://www.wipp.energy.gov/library/CRA/BaselineTool/Documents/Regulatory%20Tools/10%20WIPPLWA1996.pdf)

3. 42 U.S.C. 6901 et seq. Resource Conservation and Recovery Act (RCRA) of 1976. (http://www.epa.gov/epawaste/inforesources/online/index.htm)

4. U.S. Department of Energy. *Waste Isolation Pilot Plant Documented Safety Analysis*. DOE/WIPP-07-3372. Carlsbad, New Mexico, Waste Isolation Pilot Plant, U.S. Department of Energy. (http://www.wipp.energy.gov/library/DSA/DOE_WIPP_07_3372_Rev_3_DSA.pdf)

5.a. U.S. Nuclear Regulatory Commission. TRUPACT-II *Certificate of Compliance.* NRC Docket No. 71-9218. Washington, D.C., Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission. (http://www.wipp.energy.gov/Documents_Transportation.htm)

5.b. U.S. Nuclear Regulatory Commission. TRUPACT-III *Certificate of Compliance.* NRC Docket No. 71-9305. Washington, D.C., Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission. (http://www.wipp.energy.gov/Documents_Transportation.htm)

6. U. S. Nuclear Regulatory Commission. HalfPACT *Certificate of Compliance.* NRC Docket No. 71-9279. Washington, D.C., Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission. (http://www.wipp.energy.gov/Documents_Transportation.htm)

7. U.S. Nuclear Regulatory Commission. RH-TRU 72-B *Certificate of Compliance*. NRC- Docket- No. 71-9212. Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission, Washington, D.C. (http://www.wipp.energy.gov/Documents_Transportation.htm)

8. U.S. Nuclear Regulatory Commission. 10-160B *Certificate of Compliance*. NRC- Docket- No. 71-9204. Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission, Washington, D.C. (http://www.wipp.energy.gov/Documents_Transportation.htm)

9. New Mexico Environment Department. *Waste Isolation Pilot Plant Hazardous Waste Facility Permit.* NM4890139088-TSDF, Santa Fe, New Mexico. (http://www.nmenv.state.nm.us/wipp/pdfpermit.html)

10. 75 FR 70584. Criteria for the Certification and Recertification of the Waste Isolation Pilot Plant's Compliance with the Disposal Regulations: Recertification Decision: EPA Final Rule. Federal Register 75: 70584-70595, November 18, 2010, Radiation Protection Division, Washington, D.C. (http://www.gpo.gov/fdsys/pkg/FR-2010-11-18/pdf/2010-28806.pdf)

11. U.S. Department of Energy. *Waste Isolation Pilot Plant Initial Report for PCB Disposal Authorization*. DOE/WIPP 02-3196. Carlsbad, New Mexico, Carlsbad Field Office, U.S. Department of Energy. (http://www.wipp.energy.gov/rcradox/final/02-3196_PCB_Initial_3-19-02_4-29-02.pdf)

12. U.S. Environmental Protection Agency, Letter and enclosed *Conditions of Approval* from Carl E. Edlund (Director, Multimedia Planning and Permitting Division, EPA) to Edward Ziemianski, Acting Manager, Carlsbad Field Office, DOE, dated January 5, 2011, granting approval for WIPP to dispose of TRU and TRU-mixed wastes containing PCBs. (http://www.wipp.energy.gov/rcradox/final/EPA_Letter_to_DOE_2011-01-05.pdf)

13. Title 40 CFR Part 761. *Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions*. Code of Federal Regulations, Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

14. 69 FR 39456. *Revision to the Record of Decision for the Department of Energy's Waste Isolation Pilot Plant Disposal Phase*. Federal Register 69: 39456-39459, June 30, 2004, Department of Energy, Washington, D.C. (http://www.em.doe.gov/pdfs/92604PCB%20ROD%20Fed%20Reg%20063004%20p39456-9.pdf)

15. WIPP National Environmental Policy Act Database, June 19, 2007, Carlsbad, New Mexico, Waste Isolation Pilot Plant, U.S. Department of Energy.

16. U.S. Environmental Protection Agency, Letter and Enclosures from Frank Marcinowski (Director, Radiation Protection Division), to R. Paul Detwiler (Acting Manager, Carlsbad Field Office), dated March 26, 2004. (http://www.wipp.energy.gov/rcradox/RH-EPAFinal3-26-04.pdf)

17. U.S. Department of Energy. *Remote-Handled TRU Waste Characterization Program Implementation Plan.* DOE/WIPP-02-3214. Carlsbad, New Mexico, Carlsbad Field Office, U.S. Department of Energy. (http://www.wipp.energy.gov/rcradox/DOE-WIPP_02-3214_Rev_3.pdf)

18. U.S. Department of Energy. *Quality Assurance Program Document*. DOE/CBFO-94-1012. Carlsbad, New Mexico, Carlsbad Field Office, U.S. Department of Energy. (http://www.wipp.energy.gov/library/qapd/qapd.pdf)

19. DOE (U.S. Department of Energy), 1980. *Final Environmental Impact Statement for the Waste Isolation Pilot Plant,* DOE/EIS-0026, October, Washington, D.C.

20. DOE (U.S. Department of Energy), 1990. *Final Supplemental Environmental Impact Statement for the Waste Isolation Pilot Plant,* DOE/EIS-0026-FS, January, Washington, D.C.

21. DOE (U.S. Department of Energy), 1997. *Waste Isolation Pilot Plant Disposal Phase Final Supplemental Environmental Impact Statement,* DOE/EIS-0026-S-2, September, Washington, D.C. (http://www.wipp.energy.gov/library/seis/summary-1o4.pdf)

22. U.S. Department of Energy. *Waste Data System User's Manual.* DOE/WIPP-09-3427. Carlsbad, New Mexico, Carlsbad Field Office, U.S. Department of Energy. (http://www.wipp.energy.gov/Documents_NTP.htm)

23.a. U.S. Nuclear Regulatory Commission. *Contact-Handled Transuranic Waste Authorized Methods for Payload Control (CH-TRAMPAC).* Washington, D.C., Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission.

23.b. U.S. Nuclear Regulatory Commission. *TRUPACT-III Transuranic Waste Authorized Methods for Payload Control (TRUPACT-III TRAMPAC).* Washington, D.C., Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission.

24. Title 10 CFR Part 71. *Packaging and Transportation of Radioactive Material*. Code of Federal Regulations, Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

25. New Mexico Hazardous Waste Act, NMSA 1978, 74-4-1 through 74-4-14. (http://www.nmonesource.com/nmnxtadmin/NMPublic.aspx)

26. Title 40 CFR Part 194. *Criteria for the Certification and Re-certification of the Waste Isolation Pilot Plant's Compliance with the 40 CFR Part 191 Disposal Regulations*. Code of Federal Regulations, Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

27. 42 U.S.C. 2011 et seq. Atomic Energy Act of 1954. (http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0980/v1/sr0980v1.pdf)

28. 42 U.S.C 10141. Nuclear Waste Policy Act of 1982. (http://epw.senate.gov/nwpa82.pdf)

29. U.S. Department of Energy Standard Radiological Control, DOE-STD-1098-2008, Table 2-2 and Chapter 4, Part 2, Sec. 423. (http://www.hss.energy.gov/healthsafety/wshp/radiation/doe-std-1098.pdf)

30. Title 10 CFR Part 835. *Occupational Radiation Protection*. Code of Federal Regulations, Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

31. American National Standards Institute. ANSI/AIM BC1-1995, *Uniform Symbology Specification - Code 39*. American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.

32. U.S. Department of Energy. *Radioactive Waste Management*, DOE Order 435.1, Implementation Guide, Chapter III, Section III.L, page 103. (http://www.directives.doe.gov/pdfs/doe/doetext/neword/435/g4351-1ch3.pdf)

33. Title 40 CFR Part 262. *Standards Applicable to Generators of Hazardous Waste*. *Code of Federal Regulations,* Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

34. Title 40 CFR Part 191. *Environmental Radiation Protection for Management and Disposal of Spent Nuclear Fuel, High-Level, and Transuranic Radioactive Wastes*. Code of Federal Regulations, Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

35. U.S. Department of Energy. *Title 40 CFR Part 191, Compliance Recertification Application for the Waste Isolation Pilot Plant*, DOE/WIPP 2004-3231, 2009, Carlsbad, New Mexico. (http://www.wipp.energy.gov/library/CRA/BaselineTool/Index.htm)

36. Title 49 CFR § 172.203 *Additional Description Requirements*. *Code of Federal Regulations*, Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

37. Title 49 CFR §173.433(g). *Shipping Papers and Labeling*. *Code of Federal Regulations,* Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.gpoaccess.gov/cfr/index.html)

38. *Safety Analysis Report for Model 10-160B Type B Radwaste Shipping Cask*. NRC-Docket No. 71-9204. Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission, Washington, D.C.

39. Nuclear Waste Partnership (NWP). RH-TRU 72-B Cask Removable Lid Canister Handling and Operation Manual, WP 08-PT.07. Carlsbad, New Mexico, Waste Isolation Pilot Plant, U.S. Department of Energy.

40. Nuclear Waste Partnership (NWP). RH-TRU 72-B Cask Welded Lid Canister Handling and Operation Manual, WP 08-PT.12. Carlsbad, New Mexico, Waste Isolation Pilot Plant, U.S. Department of Energy

41. U.S. Nuclear Regulatory Commission. *Remote-Handled Transuranic Waste Authorized Methods for Payload Control (RH-TRAMPAC)*. Washington, D.C., Office of Regulatory Procedures, U.S. Nuclear Regulatory Commission.

42. U.S. Environmental Protection Agency. *Guidance for the Data Quality Objectives Process*. EPA-QA/G-4, Washington, DC, Quality Assurance Management Staff, U.S. Environmental Protection Agency. (http://www.epa.gov/osw/hazard/correctiveaction/resources/guidance/qa/epaqag4.pdf)

43. U.S. Department of Energy. *Packaging and Transportation Safety.* DOE Order 460.1C. Washington, D.C. (http://www.directives.doe.gov/pdfs/doe/doetext/neword/460/o4601a.html)

44. U.S. Department of Energy. *Departmental Materials Transportation and Packaging Management.* DOE Order 460.2. Washington, D.C. (http://www.directives.doe.gov/pdfs/doe/doetext/neword/460/o4602c1.html)

45. U.S. Department of Energy. *CH Packaging Program Guidance*, DOE/WIPP-02-3183. Carlsbad, New Mexico, Waste Isolation Pilot Plant, U.S. Department of Energy.

46. U.S. Department of Energy. *RH Packaging Program Guidance*. DOE/WIPP-02-3283. Carlsbad, New Mexico, Waste Isolation Pilot Plant, U.S. Department of Energy.

47. U.S. Department of Energy. *CBFO Approved Filter Vents*. DOE/WIPP-11-3384. Carlsbad, New Mexico, Waste Isolation Pilot Plant, U. S. Department of Energy.

Appendix A

Radioassay Requirements for Contact-Handled Transuranic Waste

A.1 Introduction

The WIPP requires radiological characterization data to:

- track the WIPP radionuclide inventory, by isotopic activity and mass, for those radionuclides listed in section 3.3.1,
- demonstrate that each payload container disposed of at the WIPP contains TRU waste as specified in section 3.3.3, and
- verify that applicable transportation and facility limits on individual payload containers and assemblies for FGE, PE-Ci, and decay heat are not exceeded, as specified in sections 3.3.2, 3.3.4 and 3.3.6.

The radioassay process quantifies at least one of the more prevalent radionuclides known to be present in the waste. The remaining listed radionuclides present in the waste in significant quantities will be identified by direct measurement of isotopic ratios as discussed in section A.2. The isotopic ratios are then used to quantify radionuclides based on the assay value.

The requisite data on isotopic ratios and quantities will be derived from AK (see section A.2), radioassay, or both using CBFO approved nondestructive assay (NDA), or radiochemistry (RC) techniques, instruments and procedures. Each site must technically justify that the AK and radioassay techniques, instruments and procedures used:

- are appropriate for the specific waste stream and waste content code descriptions being assayed, and
- will result in unbiased values for the cumulative activity and mass of the WIPP radionuclide inventory.

Existing radioassay data collected prior to the implementation of a quality assurance program pursuant to 40 CFR §194.22(a)(1) may only be qualified in accordance with an alternate methodology that is approved by CBFO and employs one or more of the following methods:

- peer review in accordance with NUREG-1297 (Reference A1),
- corroborating data,
- confirmatory testing (i.e., testing made on a representative sub-population of payload containers within a waste stream), or
- demonstrating the equivalence of an alternate QA program (as described in Reference A2, Section 5.4).

Proposals for alternative approaches to identification and quantification of radioisotopes (e.g., quantification of isotopic ratio AK on a waste stream basis) must be submitted to CBFO for review and approval. CBFO will report such proposals to EPA for consideration prior to issuing approval.

Controlled changes to radioassay (NDA or RC), related plans, or procedures shall be managed through the document control process that complies with the QAPD. The Site Project Manager (SPM) and the site QA manager shall review all such changes and report to the CBFO those changes that could impact compliance with the criteria in this document. The SPM shall ensure that site-approved changes to radioassay-related plans or procedures affecting either the performance criteria or data quality of certified systems/processes are not used in the collection of waste certification data prior to CBFO's review and approval. Related testing, calibration, and training performed in accordance with these site-approved changes, however, are not precluded from being conducted prior to CBFO's review and approval (Memorandum from CBFO to Distribution, CBFO:NTP:RMK:VW:02-2734:UFC:5822, July 29, 2002).

A.2 Radionuclide Isotopic Ratios

Establishing isotopic ratios for use in quantifying radionuclides is performed by direct measurement of the containers using WIPP-certified systems. Sites may opt to qualify AK as permitted by 40 CFR §194.22(b) by performing confirmatory testing using WIPP-certified radioassay systems. When a site performs direct measurements of isotopic ratios, it is expected that all containers in the waste stream will be measured, with the understanding that, in some cases, valid data may not be obtainable for given containers for technical reasons (e.g., lack of sufficient signal or poor counting statistics). All such instances will be documented and appropriately dispositioned by the measurement facility. For those few waste containers for which direct measurement does not yield useable isotopic ratio information, AK may be used.

A.2.1 Methods for Confirmation of Isotopic Ratio AK

As a minimum, to confirm existing AK data, it is necessary to compare ratios of the two most prevalent radionuclides in the isotopic mix. For weapons and reactor grade plutonium, these are typically ^{239}Pu and ^{240}Pu. For heat source waste, the predominant radionuclides are typically ^{238}Pu and ^{239}Pu. Measured isotopic ratios for ^{241}Am may confirm existing AK by waste stream. However, due to the fluctuation of ^{241}Am in certain waste streams, it may become necessary to measure ^{239}Pu to ^{241}Am isotopic ratios on all containers in that waste stream.

^{241}Am is the daughter of ^{241}Pu, which decays with a half-life of about 14 years. If the time since the chemical separation of the plutonium is known, the quantity of measured ^{241}Am can be used to calculate the quantity of ^{241}Pu. This assumes there was no ^{241}Am in the waste just after the chemical separation and that no ^{241}Am was added to or removed from the waste during the time since the separation. Since ^{241}Am is an indirect measurement of ^{241}Pu, it could be compared (by ratio) to any plutonium isotope (^{239}Pu or ^{240}Pu) associated with weapons and reactor grade plutonium.

For weapons grade and reactor grade waste, isotopic ratio values for ^{238}Pu can be assumed to be valid in AK data if the values for ^{239}Pu and ^{240}Pu have been confirmed. Because ^{242}Pu cannot be measured using NDA methods, the contribution of ^{242}Pu isotopic ratio is calculated by correlation techniques.

For some of the sites that were involved primarily in weapons production, the fissile isotopes ^{235}U and ^{233}U and the fissionable isotope ^{238}U may not have been measured when the transuranic waste was originally assayed (i.e., using non-WIPP-certified systems), primarily because the plutonium isotopes were the radionuclides of interest to the site. However, other forms of AK may be available. If so, then the AK can be confirmed by data generated on a WIPP-certified system. If valid AK does not exist, then the data generated on a WIPP-certified system can only be used to detect or calculate ^{238}U, ^{235}U, and ^{233}U or to confirm their absence. Because ^{234}U cannot be measured using NDA methods, the isotopic ratios for ^{234}U may be calculated from the ^{235}U enrichment. Values, or lack thereof, for ^{137}Cs can be confirmed by the data generated on a WIPP-certified system. This is typically done by measuring ^{137}Cs directly, or by comparing the NDA measured ^{241}Am 662 kiloelectron volt (keV) peak to the other ^{241}Am peaks (e.g., the 125 keV or 721 keV peaks) to determine if the 662 keV peak's intensity is consistent with the expected ^{241}Am intensity. A disproportionate response for the 662 keV peak relative to the other ^{241}Am peaks may indicate the presence of ^{137}Cs. ^{90}Sr may be calculated from the value for ^{137}Cs and AK. If detected, a waste container's concentration of ^{137}Cs can be used to derive a value of ^{90}Sr through the application of the appropriate scaling factor(s). All scaling factors used will be technically sound and based on known, documented relationships or correlations. The data report for the waste containers for which the ^{90}Sr, value is derived in this manner shall reflect the use of a scaling factor(s) and provide sufficient documentation to enable its independent calculation. Finally, the gamma spectra must be carefully examined for significant presence of other radionuclides to ensure compliance with transportation requirements. Data obtained for radionuclides other than the WIPP-tracked radionuclides presented above are required to address confounding isotope issues (i.e., masking) with regard to NDA. When RC is used for confirmation radioassay instead of NDA, less reliance on calculated isotopics is required.

Each site must technically justify that the techniques used to confirm the absence or the ratio of non-measurable radionuclides are valid for the particular radioassay method used to confirm AK.

A.2.2 Acceptable Knowledge Documentation

The use of AK information concerning the radiological composition of a waste stream will be documented either in the AK summary report for the waste characterization of the waste stream or in another controlled document approved by the SPM. Should this information be contained in AK package(s) prepared to meet other general waste characterization requirements, it need not be duplicated in other controlled documents that address the radiological properties of the waste stream; however, all relevant information must be included in the AK record. The following discussion is included for the sake of completeness.

A.2.2.1 Required Elements

This section identifies the required radiological information that each TRU waste site or measurement facility must maintain for a waste stream. A TRU waste site or waste characterization facility may use AK to delineate the distribution of the 10 WIPP-tracked radioisotopes within a TRU waste stream and the presence or absence of isotopes. The type and quantity of supporting documentation may vary by waste stream and shall be compiled in a written record that shall include a summary identifying all sources of information used to delineate the waste stream's isotopic distribution. The basis and rationale for the delineation shall be clearly summarized in an AK report and traceable to referenced documents. Assumptions made in this delineation shall be identified. The following information shall be included as part of the AK written record:

- map of the site with the areas and facilities involved in TRU-mixed waste generation, treatment, and storage identified

- facility mission description as related to radionuclide-bearing materials and their management, e.g., routine weapons production, fuel research and development and experimental processes

- description of the specific site locations (such as the area or building) and operations relative to the isotopic composition of the TRU wastes they generated, e.g., plutonium recovery, weapons fabrication, pyrochemical operations and waste incineration

- waste identification or categorization schemes used at the facility relevant to the waste material's isotopic distribution, e.g., the use of codes that correlate to a specific isotopic distribution, and a description of the isotopic composition of each waste stream

- information regarding the waste's physical and chemical composition that could affect the isotopic distribution, e.g., processes used to remove ingrown ^{241}Am or alter its expected contribution based solely on radioactive decay kinetics

- statement of all numerical adjustments applied to derive the material's isotopic distribution, e.g., scaling factors, decay/ingrowth corrections and secular equilibrium considerations

- specification of the isotopic ratios for the 10 WIPP-tracked radionuclides (^{241}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, ^{233}U, ^{234}U, ^{238}U, ^{90}Sr, and ^{137}Cs) and, if applicable, the radionuclides that contribute to 95% of the radiological hazard on a waste stream, waste stream subpopulation, or container basis.

A.2.2.2 Supplemental Acceptable Knowledge Information

Each site or measurement facility shall obtain supplemental AK information, dependent on availability. The amount and type of this information cannot be mandated, but sites shall collect information as appropriate to support their contention regarding the waste's isotopic distribution. This information will be used to compile the waste's AK written record. Supplemental AK documentation that may be used includes, but is not limited to, information from the following sources:

- Safeguards & Security, Materials Control & Accountability, and other nuclear materials control systems or programs and the data they generated

- reports of nuclear safety or criticality, or accidents/excursions involving the use of special nuclear material (SNM) or nuclear material

- waste packaging, waste disposal, building or nuclear material management area logs or inventory records, and site databases that provide information on SNM or nuclear materials

- test plans, research project reports, or laboratory notebooks that describe the radionuclide content of materials used in experiments

- information from site personnel (e.g., documented interviews)

- historical analytical data relevant to the isotopic distribution of the waste stream

A.2.2.3 Discrepancy Resolution

If there is a discrepancy between AK information related to isotopic ratios or composition, the site will evaluate the sources of the discrepancy to determine if the discrepant information is credible. Information that is not credible or information that is limited in its applicability to WIPP characterization will be identified as such and the reasons for dismissing it will be justified in writing. Limitations concerning the information will be documented in the AK record and summarized in the AK report. In the event that the discrepancy cannot be resolved, the site will perform direct measurements for the impacted population of containers. If discrepancies result in a change to the original determinations, the AK summary will be updated.

A.3 Data Quality Objectives

The DQOs for WIPP certifiable radiological characterization data are established in section 3.3 of this WAC. They are summarized below in Table A-1 as they apply to individual payload containers.

Table A-1 Data Quality Objectives for Radioassay

Requirement	DQO	Confidence[1]
TRU α-activity concentration[2] > 100 nCi/g	A > LLD	N/A
Fissile mass $\leq$ FGE limit	FGE + $2\sigma_{TMU}$(FGE) $\leq$ FGE limit	97.5%
Decay heat $\leq$ TRAMPAC[3] limit	DH + $1\sigma_{TMU}$(DH) $\leq L_{TRAMPAC}$[3]	84%

[1] Confidence means the statistical level of confidence that the limit is exceeded or not exceeded depending on the requirements of the individual DQOs. The confidence is derived from the specified DQOs which assume contributions to TMU are normally distributed.

[2] TRU waste determinations shall be in accordance with the policy for the management of TRU alpha activity concentration when overpacking waste containers (see Appendix E).

[3] TRAMPAC includes both the CH-TRAMPAC and the TRUPACT-III TRAMPAC.

There are no stipulated DQOs for PE-Ci or individual isotope activities (except as they impact the requirements listed above). However, at a minimum, radioassay programs must be capable of identifying, measuring, and reporting the presence or absence of:

- the ten radionuclides identified in section 3.3.1 for tracking of the WIPP radionuclide inventory (see section A.2.1),
- ^{235}U, in order to calculate FGE, as required in section 3.3.2 for compliance with transportation requirements, and

- other radionuclides whose presence contributes to 95% of the radioactive hazard, as specified in section 3.3.1, for compliance with transportation requirements.

In support of the above requirements, each site must evaluate, document and technically justify the following determinations.

Lower Limit of Detection: The LLD for each radioassay system must be determined. Instruments performing TRU/low-level waste discrimination measurements must have an LLD of 100 nCi/g or less. Site-specific environmental background and container-specific interferences must be factored into LLD determinations. The LLD is that level of radioactivity which, if present, yields a measured value greater than the critical level with a 95% probability, where the critical level is defined as that value which measurements of the background will exceed with 5% probability. Because the LLD is a measurement-based parameter, it is not feasible to calculate LLDs for radionuclides that are not determined primarily by measurement, e.g., ^{90}Sr. In such cases, the site shall derive the equivalent of an LLD, i.e., a reporting threshold for a radionuclide(s), when it is technically justified. This value may be based on decay kinetics, scaling factors or other scientifically based relationships and must be adequately documented in site records. For purposes of reporting radionuclide data in the WWIS database, this value will be the equivalent of an LLD. References A3 and A4 provide information in developing the LLD.

Total Measurement Uncertainty: The method used to calculate the TMU for the quantities in Table A-1 must be documented and technically justified for each CBFO-certified radioassay system. Compliance with this requirement will be evaluated in reviews of the TMU documentation package for each assay system by CBFO. General guidance for determining the TMU is provided in References A5 and A6.

Calibration Procedures and Frequencies: Each radioassay measurement system shall be calibrated before initial use. During calibration or re-calibration, system correction factors shall be established and algorithms adjusted such that the value of percent recovery (%R) is set equal to 100%; i.e., the system is calibrated to 100%R. The range of applicability of system calibrations must be specified in site procedures. The matrix/source surrogate waste combination(s) used for calibration shall be representative of the:

- activity range(s) or gram loading(s), and

- relevant waste matrix characteristics (e.g., densities, moderator content, container size), planned for measurement by the system.

Calibration(s) shall be performed in accordance with consensus standards, when such standards exist. If consensus standards are not used, full documentation of the calibration technique must be provided to and approved by CBFO prior to performing WIPP-related assays. Primary calibration standards shall be obtained from suppliers

maintaining a nationally accredited measurement program. When primary standards are not available, the standards used shall be correlated with primary standards obtained from a nationally accredited measurement program. For calorimetry, calibration shall be performed in accordance with Reference A9.

Calibration Verification: Notwithstanding the need to calibrate individual components for replacement, changes or adjustments (e.g., energy calibration of a detector), verification of the radioassay measurement system's calibration shall be performed after any one of the following occurs:

- major system repairs and/or modifications
- replacement of the measurement system's components, e.g., detector, neutron generator or supporting electronic components that have the capacity to affect data
- significant changes to the system's software
- relocation of the system

Calibration verification shall consist of demonstrating that the system is within the range of acceptable operation. Secondary standards can be used for the calibration verification if their performance has been correlated with the calibration standard. If a verification of the measurement system's calibration or other test demonstrates that the system's response has significantly changed, a re-calibration of the system shall be performed.

Calibration Confirmation: In order to confirm that the calibration of the NDA system was correctly established, the accuracy and precision of the system are determined after each calibration or re-calibration by performing replicate measurements of a non-interfering matrix. Calibration confirmation replicate measurements shall be performed on containers of the same nominal size as those in which actual waste is assayed and according to approved waste assay procedures. The number of replicate measurements to be performed shall be documented and technically justified. The replicate measurements shall be performed using nationally recognized standards, or certified standards derived from nationally recognized standards that span the range of use. The standards used to calculate accuracy shall not be the same as those used for the system calibration. Accuracy is reported as percent recovery (%R). The applicable range for accuracy shall not exceed $\leq$ 30% on a non-interfering matrix. Precision is reported as percent relative standard deviation (% RSD). The %RSD shall not exceed the values listed in Table A-2 for the corresponding number of replicate measurements in a non-interfering matrix.

Table A-2 Upper Limits for %RSD vs. Number of Replicates

Number of Replicates	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Max %RSD [1]	1.8	6.6	10.0	12.3	14.0	15.2	16.2	17.1	17.7	18.3	18.8	19.3	19.7	20.0

[1] The values listed are derived from the measured standard deviation of the replicate measurements using

$$\frac{s}{\mu} \bullet 100\% < \sqrt{\frac{(0.292)^2 \bullet \chi^2_{0.05,n-1}}{n-1}} \bullet 100\%$$

where s is the measured standard deviation, n is the number of replicates, μ is the true value,

$\chi^2_{0.05,n-1}$ is the critical value for the upper 5% tail of a one-sided chi-squared distribution with n –1 degrees of freedom, and 0.292 corresponds to a 95% upper confidence bound on the true system precision limit of 29.2%.

Measurement facilities may develop alternate limits for accuracy and precision subject to approval by CBFO prior to certification of waste.

A.4 Quality Control

To ensure that data of known and documented quality are generated, each participating measurement facility shall implement a documented facility QA program. Any radioassay technique used for TRU waste must be performed in accordance with calibration and operating procedures that have been written, approved, and controlled by the site or testing facility. Laboratory procedures must contain applicable quality controls. Facility QA programs shall specify qualitative and quantitative acceptance criteria for the QC checks of this program and corrective action measures to be taken when these criteria are not satisfied.

A.4.1 General Requirements

Radioassay Training: Only appropriately trained and qualified personnel shall be allowed to perform radioassay and data validation/review. Standardized training requirements for radioassay personnel shall be based upon existing industry standardized training requirements (e.g., ASTM C1490, *Standard Guide for Selection, Training and Qualification of Nondestructive Assay (NDA) Personne*l (Reference A8); ANSI N15.54, *Radiometric Calorimeters – Measurement Control Program* (Reference A9)) and shall meet the specifications in the QAPD. Requalification of radioassay personnel shall be based upon evidence of continued satisfactory performance and must be performed at least every two years.

Software QC Requirements: All computer programs and revisions thereof used for radioassay shall meet the applicable requirements in Section 6.0 of the QAPD (Reference A2).

*Comparison Program*s: Sites using radioassay systems shall participate in any relevant measurement comparison program(s) sponsored or approved by the CBFO. Such programs may be conducted as part of the NDA performance demonstration program (References A7 and A10), or through other third parties (Reference: WIPP Compliance Recertification Application including Annual Reports to the EPA).

A.4.2 NDA QC Requirements

The assay procedures cited in various American Society for Testing and Materials (ASTM), and ANSI standards (References A9, A11-A15), and NRC standard practices and guidelines (Reference A16) as referenced in this appendix are recommended for use at all testing facilities.

*Background Measurement*s: Background measurements must be performed and recorded daily, unless otherwise approved by CBFO. Contributions to background due to radiation from nearby radiation-producing equipment, standards or wastes must be carefully controlled or more frequent background checks must be performed. For calorimeters, basepower or baseline measurements shall be conducted at a frequency determined by each site and approved by CBFO.

Instrument Performance Measurements: Performance checks on calibrated and operable gamma and neutron NDA instruments must be performed and recorded once per operational day. Performance checks shall include efficiency checks (when applicable), matrix correction checks and, for spectrometric instruments, peak position and resolution checks.

Both radioactive sources and surrogate waste matrix containers (both non-interfering and interfering) are used. At least once per operational week an interfering matrix must be used to assess the long-term stability of the NDA instrument's matrix correction. Surrogate waste containers must reflect the type of waste, e.g., debris, sludge, currently being assayed. To verify calibration, radioactivity standards must be selected such that, over a six-month period, the operating range of the assay system is tested in each applicable surrogate waste matrix. The use of interfering and non-interfering matrices provides a realistic assessment of the assay system's performance over time, and will assist measurement personnel in detecting potential problems relative to the matrices currently assayed by the measurement system.

Interfering surrogate matrix containers must be constructed in such a way that the waste characteristics do not change over time.

Radioactive sources should be long-lived, easy to position relative to the detector(s), and of sufficient radioactivity to obtain good results with relatively short count times.

Performance checks for calorimetry shall be performed with electrical and/or heat standards traceable to a nationally accredited measurement program at a frequency

determined by each site, consistent with Reference A17. This information is specified in site operating procedures and approved by CBFO.

Data Checks: Background (for calorimetry: baseline or base power) and performance measurements shall be reviewed and evaluated at least weekly to determine continued acceptability of the assay system and to monitor performance trends. If daily performance checks result in data that are outside the acceptable range, the required responses in Table A-3 shall be followed.

Table A-3 Range of Applicability

Category	Acceptability Range[1, 2]	Required Response
Acceptable Range	$\|Data\| \leq 2\sigma$	No action required.
Warning Range	$2\sigma < \|Data\| \leq 3\sigma$	The performance check standard shall be rerun no more than two times. If the rerun performance check(s) result in data within ± 2σ, then the additional performance checks shall be documented and work may continue. If the system does not fall within ± 2σ after two rerun performance checks, then the required response for the Action Range shall be followed.
Action Range	$\|Data\| > 3\sigma$	Work shall stop and the occurrence shall be documented and appropriately dispositioned (e.g., initiating a nonconformance report). The radioassay system shall be removed from service pending successful resolution of all necessary actions, and all assays performed since the last acceptable performance check are suspect, pending satisfactory resolution. Recalibration or calibration verification is required prior to returning the system back to service.

[1]Reference A15

[2] The standard deviation σ is only based on the reproducibility of the data check measurements themselves. This is not TMU.

A.4.3 Radiochemistry QC Requirements

Any RC method may be used as long as the assay results meet the DQOs specified in section A.3. Each laboratory used for TRU waste assay by RC shall demonstrate that the analytical methods are appropriate to assay the specific wastes for which they are proposed. These methods must contain the following general provisions:

- Assay standards must be prepared and used as indicated in the standard test methods.
- The sample taken from the waste must be representative and traceable to its specific waste batch or waste container.
- The test result for each sample must be associated with a specific lot, batch number, or container.

All methods will be preceded by radiochemical separation and preparation for measurement. Table A-4 presents a list of laboratory control procedures that must be performed by laboratories involved in the TRU waste RC process.

Table A-4 Quality Control Requirements for Radiochemistry

QC Sample	Minimum Frequency	Acceptance Criteria	Corrective Action
Laboratory control samples (LCS)	One per analytical batch	75% to 125%R	See Laboratory Control Sample[1]
Method blank	One per analytical batch	Site-specific statistical control limits	See Method Blanks[2]
Laboratory duplicate	One per analytical batch	RPD (relative percent difference) ≤ 40, or project-specific requirements	See Laboratory Duplicate[3]
Matrix spike (MS)	One per analytical batch for ICP-MS, as required by the test performed	50 to 150%R	See Matrix Spike and Matrix Spike Duplicate[4]
Matrix spike duplicate (MSD)	One per analytical batch, as required by the test performed	50 to 150%R RPD ≤ 40, or project-specific requirements	See Matrix Spike and Matrix Spike Duplicate[4]
Radioisotopic tracers	Every sample	Site-specific statistical control limits	See Radioisotopic Tracer[5]

[1]**Laboratory Control Sample**: An LCS is analyzed at least once per analytical batch. If a solid matrix with established control limits is used as the LCS, the established limits may be used for the acceptance criteria. If LCS recoveries do not meet acceptance criteria, a nonconformance report is prepared and corrective action is initiated to determine the cause of the problem. Associated samples are qualified in the data report.

[2]**Method Blanks**: A method blank is analyzed at least once per analytical batch. It contains all reagents in proportions equal to those in the samples and is carried through the analytical procedure to identify if contamination is present. Each site establishes the acceptance criteria for method blanks; they may be expressed as statistical control limits. Criteria may be absolute values, multiples of background variation, fractions of activity concentrations observed in samples, or other appropriate units. When results outside the criteria are obtained, a nonconformance report is prepared and corrective action is initiated to determine the cause of the problem. Associated samples are qualified in the data report.

[3]**Laboratory Duplicate**. A laboratory duplicate is analyzed at least once per analytical batch. A laboratory duplicate is a separate aliquot from the same field sample carried through the entire analytical procedure. The RPD between duplicate results is compared with the criteria; if the RPD between duplicate results does not meet the criteria, a nonconformance report is prepared and corrective action is initiated to determine the cause of the problem. Associated sample results are qualified in the data report.

[4]**Matrix Spike and Matrix Spike Duplicate:** Duplicate MSs on individual field samples are performed for inductively coupled plasma-mass spectrometry (ICP-MS) analysis at a minimum frequency of one pair (MS plus MSD) per analytical batch. The MSDs are preferred for any analytical procedure not using radioactive tracers. The MS and MSD results are acceptable if the criteria given above for percent recovery and RPD are met. Sample data associated with non-compliant MS and MSD results are qualified in the data report.

[5]**Radioisotopic Tracer:** Some methods require that all samples, blanks, LCSs, and laboratory duplicates be spiked with radioisotopic tracers to determine chemical recoveries, counting efficiencies, or a combination thereof. Each site establishes the acceptance criteria for method blanks; they may be expressed as statistical control limits. When yields outside the criteria are obtained, a non-conformance report is prepared and corrective action is initiated to determine the cause of the problem. Associated samples are qualified in the data report.

Completeness of RC data shall be expressed as the ratio of the number of samples that are analyzed with valid results to the total number of samples that are submitted for analysis, expressed as a percent. Acceptable RC data shall be obtained for 90 percent of the samples acquired for waste characterization. Valid results for radioassay data are those that were obtained when the laboratory or testing facility demonstrated that the instrumentation and method were in control.

Representativeness of RC data shall be achieved by the collection of unbiased samples.

A.5 Data Management

A.5.1 Data Review and Validation

All radioassay data must be reviewed and approved by qualified personnel prior to being reported. At a minimum, the data must be reviewed by a technical reviewer and approved by the SPM. The validation process includes verification that the applicable quality controls specified in section A.4 have been met.

A.5.2 Data Reporting

Radioassay data must be reported to the site project office on a testing batch basis. A batch is defined, for the purpose of the program, as a suite of waste containers undergoing radioassay using the same testing equipment. For NDA, the sites shall specify the size of the testing batch as needed, without regard to waste matrix. For RC, a testing batch shall not exceed 20 waste containers without regard to waste matrix, as is consistent with industry practice.

Each radioassay testing facility is required to submit testing batch data reports for each testing batch to the site project office on standard forms (either hard copy or electronic equivalent), as provided in approved site-specific documentation. Radioassay testing batch data reports shall consist of the following:

- testing facility name, testing batch number, container numbers included in that testing batch, and signature release by the SPM.
- table of contents
- background and performance data or control charts for the relevant time period
- data validation per the QAPD (Reference A2, Section 5.3.2), and as described in site procedures.

- separate testing report sheet(s) for each container in the testing batch that includes:

  - title "Radioassay Data Sheet"
  - method used for radioassay (i.e., procedure identification)
  - date of radioassay
  - activities and/or masses of individual radioisotopes present and their associated TMUs (curies and/or grams)
  - operator signature/date
  - reviewer signature/date

Other radiological properties to be documented for each container include:

- decay heat expressed in watts and its associated TMU

- total ^{239}Pu FGE expressed in grams and its associated TMU

- TRU alpha activity concentration expressed in Ci/g and its associated TMU, and

- total ^{239}Pu equivalent activity expressed in curies

These calculated quantities shall be included in the radioassay batch data report or other QA record or database.

When TMU is reported differently on the testing report sheet than in the WWIS database, the method of expressing TMU shall be specified on the testing report sheet or associated procedures/QAPjP. In the case of radiochemical analyses, the batch data report shall also include the QC sample results.

A.5.3 Data and Records Retention

The following nonpermanent records shall be maintained at the radioassay testing facilities or shall be forwarded to the site project office for maintenance, and shall be documented and retrievable by testing batch number, in accordance with the QAPD:

- testing batch reports

- all raw data, including instrument readouts, calculation records, and radioassay QC results

- all instrument calibration reports, as applicable

A.6 Quality Characteristics Assessment

Per 40 CFR §194.22(c), there are five "quality characteristics" that must be assessed. These quality characteristics and the method by which they are assessed are described in the following sections.

A.6.1 Data Accuracy

Per 40 CFR §194.22(c)(1), *Data Accuracy* is defined as "the degree to which data agree with an acceptable reference or true value." For NDA methods, this quality characteristic is reported as %R and is met and maintained as described in section A.3. For RC methods, this quality characteristic is met and maintained through the requirements specified in Table A-4 of section A.4.3. See References A7 and A10 for application of this quality characteristic in formulating the scoring criteria for data generated by the Performance Demonstration Program. Specifically, Appendix D, Section D.1 of these references gives the definitions of limits, bounds, and point estimates as they relate to NDA measurement systems and the relationship between accuracy, bias, and %R.

A.6.2 Data Precision

Per 40 CFR §194.22(c)(2), *Data Precision* is defined as "a measure of the mutual agreement between comparable data gathered or developed under similar conditions expressed in terms of standard deviation." For NDA methods, this quality characteristic is met and maintained as described in section A.3. For RC methods, this quality characteristic is met and maintained through the requirements specified in Table A-4 of section A.4.3.

A.6.3 Data Representativeness

Per 40 CFR §194.22(c)(3), *Data Representativeness* is defined as "the degree to which data can accurately and precisely represent a characteristic of a population, a parameter, variations at a sampling point, or environmental conditions." For NDA and RC methods, this quality characteristic for the waste stream is met and maintained through 100% measurement confirmation on a payload container basis. For NDA, since the entire waste container is subjected to measurement, representativeness pertaining to the actual measurement is not applicable. However, since a sample is physically removed from the container for RC measurements and must be representative of the waste within the container, section A.4.3 provides the criteria for representativeness for the actual sample itself.

A.6.4 Data Completeness

Per 40 CFR §194.22(c)(4), *Data Completeness* is defined as "a measure of the amount of valid data obtained compared to the amount that was expected." For NDA methods, this quality characteristic is met and maintained by requiring 100% valid results. Any

results indicating the NDA measurement was invalid require re-measurement. For RC methods, this quality characteristic is met and maintained through the requirements specified in section A.4.3.

A.6.5 Data Comparability

Per 40 CFR §194.22(c)(5), *Data Comparability* is defined as "a measure of confidence with which one data set can be compared to another." For NDA and RC methods, this quality characteristic is addressed by ensuring that all data are produced under the same system of controls. These controls apply to all aspects of the data generation process, including procurement of analytical instruments, calibration and operation of assay equipment according to industry standards, preparation and use of standardized instrument and data review procedures, and training of equipment operators and technical/data review personnel to the QAPD, as specified in section A.4.1. All NDA and RC systems and methods are approved by CBFO prior to use in generating waste characterization data. Additionally, comparison of measured data with AK derived or based values, as applicable, provides a means to assess comparability on a waste stream basis. Although no specific confidence level is specified, these controls provide comparability among all data generated under this program. Sites using radioassay systems shall participate in measurement comparison programs as specified in section A.4.1.

References

Note: The current revisions of these reference documents are applicable. The Internet links are provided for informational purposes only and may change without prior public notification.

A1. U.S. Nuclear Regulatory Commission. *Peer Review for High-Level Nuclear Waste Repositories,* NUREG-1297, Washington D.C., Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission.

A2. U.S. Department of Energy. *Quality Assurance Program Document*, DOE/CBFO-94-1012. Carlsbad, New Mexico, Carlsbad Field Office, U.S. Department of Energy. (http://www.wipp.energy.gov/library/qapd/qapd.pdf)

A3. Currie, Lloyd A., 1968. *Limits for Qualitative Detection and Quantitative Determination*. *Anal.Chem.* 40: 586-93.

A4. EPA, 1980. *Upgrading Environmental Radiation Data.* EPA 520/1-80-012, Washington D.C., Office of Radiation Programs, U. S. Environmental Protection Agency.

A5. K. C. Smith, R. A. Stroud, K. L. Coop, and J. F. Bresson. 1998. *Total Measurement Uncertainty Assessment for Transuranic Waste Shipments to the Waste Isolation Pilot Plant*. Proceedings of the 6th Nondestructive Assay Waste Characterization Conference, Salt Lake City, Utah, Nov. 17-19, 1998, pp.21-37.

A6. K. L. Coop, J. F. Bresson, M. E. Doherty, B. M. Gillespie, and D. R. Davidson. *Standardized Total Measurement Uncertainty Reporting for WIPP*. Nondestructive Assay Interface Working Group, Salt Lake City, Utah, May 22, 2000.

A7. U.S. Department of Energy. *Performance Demonstration Program Plan for Nondestructive Assay of Boxed Wastes for the TRU Waste Characterization Program*, DOE/CBFO-01-1006. Carlsbad, New Mexico, Carlsbad Field Office, U.S. Department of Energy. (http://www.wipp.energy.gov/Documents_NTP.htm)

A8. American Society for Testing and Materials. *Standard Guide for Selection, Training and Qualification of Nondestructive Assay (NDA) Personne*l, ASTM C1490, Annual Book of ASTM Standards, Philadelphia, Pennsylvania, American Society for Testing and Materials.

A9. American National Standards Institute. *Radiometric Calorimeters – Measurement Control Program*, ANSI N15.54, American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.

A10. U.S. Department of Energy. *Performance Demonstration Program Plan for Nondestructive Assay of Drummed Wastes for the TRU Waste Characterization Program*, DOE/CBFO-01-1005. Carlsbad, New Mexico, Carlsbad Field Office, U.S. Department of Energy. (http://www.wipp.energy.gov/Documents_NTP.htm)

A11. American Society for Testing and Materials. *Standard Test Method for Determination of Plutonium Isotopic Composition by Gamma-Ray Spectrometry*. ASTM C1030, Annual Book of ASTM Standards, Philadelphia, Pennsylvania, American Society for Testing and Materials.

A12. American Society for Testing and Materials. *Standard Test Method for Nondestructive Assay of Nuclear Material in Scrap and Waste by Passive-Active Neutron Counting Using a 252Cf Shuffler*. ASTM C1316, Philadelphia, Pennsylvania, American Society for Testing and Materials.

A13. American Society for Testing and Materials. *Standard Test Method for Nondestructive Assay of Special Nuclear Material in Low Density Scrap and Waste by Segmented Passive Gamma-Ray Scanning*. ASTM C1133, Annual Book of ASTM Standards, Philadelphia, Pennsylvania, American Society for Testing and Materials.

A14. American Society for Testing and Materials. *Standard Test Method for Nondestructive Assay of Plutonium, Tritium and 241 Am by Calorimetric Assay*. ASTM C1458, Annual Book of ASTM Standards, Philadelphia, Pennsylvania, American Society for Testing and Materials.

A15. American National Standards Institute. *Nondestructive Assay Measurement Control and Assurance*, ANSI N15.36. American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.

A16. U.S. Nuclear Regulatory Commission. 1984. *Nondestructive Assay of Special Nuclear Material Contained in Scrap and Waste.* Regulatory Guide 5.11, Washington, DC, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission.

A17. American National Standards Institute. *Plutonium-Bearing Solids Calibration Techniques for Calorimetric Assay.* ANSI N15.22-1987, American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.

APPENDIX B

^{239}Pu Equivalent Activity

The concept of ^{239}Pu equivalent activity is intended to eliminate the dependency of radiological analyses on specific knowledge of the radionuclide composition of a TRU waste stream. A unique radionuclide composition and/or distribution is associated with most TRU waste streams at each site. By normalizing all radionuclides to a common radiotoxic hazard index, radiological analyses that are essentially independent of these variations can be conducted for the WIPP facility. ^{239}Pu, as a common component of most defense TRU wastes, was selected as the radionuclide to which the radiotoxic hazard of other TRU radionuclides could be indexed.

Modeled operational releases from the WIPP facility, including both routine and accident-related, are airborne. There are no known significant liquid release pathways during the operational phase of the facility. This, and the fact that TRU radionuclides primarily represent inhalation hazards, allows a valid relationship to be established, which normalizes the inhalation hazard of a TRU radionuclide to that of ^{239}Pu for the purpose of the WIPP radiological analyses. In effect, the radiological dose consequences of an airborne release of a quantity of TRU radioactivity with a known radionuclide distribution will be essentially identical to that of a release of that material expressed in terms of a quantity of ^{239}Pu. To obtain this correlation, the 50-year effective whole-body dose commitment or dose conversion factor for a unit intake of each radionuclide will be used.

For a known radioactivity quantity and radionuclide distribution, the ^{239}Pu equivalent activity is determined using radionuclide-specific weighting factors. The ^{239}Pu equivalent activity (AM) can be characterized by

$$AM = \sum_{i=1}^{K} A_i / WF_i$$

where K is the number of TRU[3] radionuclides, A_i is the activity of radionuclide i, and WF_i is the PE-Ci weighting factor for radionuclide i.

WF_i is further defined as the ratio

$$WF_i = E_o / E_i$$

where E_o (rem/μCi) is the 50-year effective whole-body dose commitment due to the inhalation of ^{239}Pu particulates with a 1.0 μm activity median aerodynamic diameter (AMAD) and a weekly pulmonary clearance class, and E_i (rem/μCi) is the 50-year effective whole-body dose commitment due to the inhalation of radionuclide (i) particulates with a 1.0 μm AMAD and the pulmonary clearance class resulting in the

[3] TRU as designated in this equation refers to any radionuclide with an atomic number greater than 92 and including ^{233}U.

highest 50-year effective whole-body dose commitment. Weighting factors calculated in this manner are presented in Table B-1 for radionuclides typically present in CH TRU waste. If other TRU radionuclides are determined to be present in the payload container, their weighting factors can be obtained from the values of E_o and E_i contained in DOE/EH-0071 (Reference B1).

Table B-1 PE-Ci Weighting Factors for Selected Radionuclides

Radionuclide	Pulmonary Clearance Class[1]	Weighting Factor
^{233}U	Y	3.9
^{237}Np	W	1.0
^{236}Pu	W	3.2
^{238}Pu	W	1.1
^{239}Pu	W	1.0
^{240}Pu	W	1.0
^{241}Pu	W	51.0
^{242}Pu	W	1.1
^{241}Am	W	1.0
^{243}Am	W	1.0
^{242}Cm	W	30.0
^{244}Cm	W	1.9
^{252}Cf	Y	3.9

[1](W) Weekly, (Y) Yearly

References

B1. U.S. Department of Energy. *Internal Dose Conversion Factors for Calculation of Dose to the Public,* DOE/EH-0071, July 1988.

APPENDIX C

Glossary

10-160B Packaging – An NRC-certified TypeB transportation packaging used for transportation of TRU wastes.

Acceptable knowledge – Any information about the process used to generate waste, material inputs to the process, and the time period during which the waste was generated, as well as data resulting from the analysis of waste, conducted prior to or separate from the waste certification process authorized by EPA's Certification Decision, to show compliance with Condition 3 of the certification decision (Appendix A of this part) (40 CFR §194.2 and §194.67).

Activity – A measure of the rate at which a material emits nuclear radiation, usually given in terms of the number of nuclear disintegrations occurring in a given length of time. The common unit of activity is the curie, which amounts to 37 billion (3.7×10^{10}), disintegrations per second. The International Standard unit of activity is the becquerel and is equal to one disintegration per second.

Administrative controls – Provisions relating to organization and management, procedures, record keeping, assessment, and reporting necessary to ensure the safe operation of the facility.

Atomic energy defense activities – Activities of the Secretary of Energy (and predecessor agencies) performed in whole or in part in carrying out any of the following functions: naval reactors development; weapons activities, including defense inertial confinement fusion; verification and control technology; defense nuclear material production; defense nuclear waste and materials by-product management; defense nuclear materials security investigations; and defense research and development.

Authorization basis – Those aspects of the facility design and operational requirements relied upon by DOE to authorize the operation of nuclear facilities and processes.

Characterization – Sampling, monitoring, and analysis - whether by review of AK, nondestructive examination, NDA, or RC to identify and quantify the constituents of a waste material.

Chemical compatibility – Assessing the properties of chemicals in a payload container (>1 weight percent); there must be no adverse safety or health hazards produced as a result of any mixtures that occur.

Completeness – The percentage of measurements made that are judged to be valid measurements. The completeness goal is to generate a sufficient amount of valid data based on program needs. Valid results for radioassay and radiography data are those that were obtained when the laboratory or testing facility demonstrated that the instrumentation and method were in control; that is, that all calibration, verification, interference, and zero matrix checks met acceptance criteria.

Compressed gas – Compressed gases are those materials defined as such by 49 CFR Part 173, Subpart G.

Contact-handled transuranic waste – Transuranic waste with a surface dose rate not greater than 200 millirem per hour. (Reference 2, Section 2[3])

Contact-handled Transuranic Waste Authorized Methods for Payload Control (CH-TRAMPAC) – The governing document for shipments in the Transuranic Package Transporter-II (TRUPACT-II) and HalfPACT packagings (Reference 23a, Section 1).

Content code – A uniform system applied to waste forms to group those with similar characteristics for purposes of shipment in the TRUPACT-II, TRUPACT-III, HalfPACT, and RH-TRU 72-B packagings.

Corrosive/Corrosivity – A solid waste exhibits corrosivity if a sample of the waste is either aqueous and has a pH ≤ 2 or ≥ 12.5, or it is a liquid and corrodes steel at a rate > 6.35 mm (0.250 inch) per year at a test temperature of 55° (130°F) (40 CFR §261.22).

Curie – A unit of activity equal to 37 billion (3.7×10^{10}) disintegrations per second.

Disposal – Permanent isolation of TRU waste from the accessible environment with no intent of recovery, whether or not such isolation permits the recovery of such waste (Reference 2, Section 2[5]).

Dose conversion factor – A numerical factor used in converting radionuclide uptake (curies) in the body to the resultant radiation dose (rem).

Dose equivalent rate – The radiation dose equivalent delivered per unit time (e.g., rem per hour).

Drum – Includes 55-gallon, 85-gallon, and 100-gallon drums as described in the CH-TRAMPAC and HWFP.

Fissile gram equivalent – An isotopic mass of radionuclide normalized to ^{239}Pu.

Fissile material – Any material consisting of or containing one or more radionuclides that can undergo neutron-induced fission with neutrons of essentially zero kinetic energy (e.g., thermal neutrons), such as ^{233}U, ^{235}U, and ^{239}Pu.

HalfPACT – An NRC-certified Type B transportation packaging used for transportation of CH TRU wastes.

Hazardous waste – Those wastes that are designated hazardous by EPA (or state) regulations. For a detailed description, see 40 CFR § 261.3. Hazardous wastes are listed in 20.4.1 New Mexico Administrative Code (NMAC), subpart II (40 CFR Part 261), and/or exhibit one of the four characteristics in 20.4.1 NMAC, subpart II (40 CFR Part 261) (i.e., ignitability, corrosivity, reactivity, and toxicity).

Headspace – The total contained volume of a container minus the volume occupied by the waste material.

Headspace gas – The gas within the headspace of a container.

Internal container – A container inside the outermost container examined during radiography or VE. Drum liners, liner bags, plastic bags used for contamination control, capillary-type lab ware, and debris not designed to hold liquid at the time of original waste packaging are not internal containers (Reference 9, Part 1, Section 1.5.17).

Lower Limit of Detection – The level of radioactivity which, if present, will yield a measured value greater than the critical limit with a 95% probability. The critical limit is defined as that value which measurements of the background will exceed with a 5% probability.

Machine-compacted waste – Waste whose volume has been reduced using a mechanical process.

Observable liquid – Liquid that is observable using radiography or VE as specified in Permit Attachment C, Waste Analysis Plan (Reference 9, Part 1, Section 1.5.18).

Overpack – A container put around another container (Reference 35, Glossary of Terms).

Package – (1) A packaging plus its contents. (2) The reusable Type B shipping container (e.g., TRUPACT-II, TRUPACT-III, HalfPACT, RH-TRU 72-B, or 10-160B), loaded with TRU waste payload containers, which has been prepared for shipment in accordance with the package QA program. (3) In the regulations governing the transportation of radioactive materials, the packaging, together with its radioactive contents, as presented for transport.

Packaging – The reusable Type B shipping container for transport of TRU waste payload containers (e.g., TRUPACT-II, TRUPACT-III, HalfPACT, RH-TRU 72-B, or 10-160B).

Packaging quality assurance program – A site-specific document that defines the quality assurance and quality control activities applicable to usage of the NRC-approved packaging. This program shall meet the requirements of 10 CFR Part 71, Subpart H.

Payload container – The outermost container (e.g., a drum, shielded container, SLB2, SWB, TDOP, or canister) for TRU waste material that is placed in a reusable Type B shipping container (e.g., a TRUPACT-II, TRUPACT-III, HalfPACT, RH-TRU 72-B, or 10-160B) for transport.

Payload assembly – An assembly of payload containers qualified for transport in a TRUPACT-II, HalfPACT, or 10-160B.

Pipe overpack – A packaging configuration consisting of a vented cylindrical pipe component surrounded by dunnage within a vented 55-gallon drum with a rigid polyethylene liner and vented lid.

Plutonium-239 equivalent activity – An equivalent radiotoxic hazard of a radionuclide normalized to ^{239}Pu.

Precision – A measure of mutual agreement among individual measurements of the same property made under prescribed similar conditions, often expressed as a standard deviation or relative percent difference.

Pyrophoric – Materials that may ignite spontaneously in air or that emit sparks when scratched or struck, especially with materials such as steel. A flammable solid that, under transport conditions, might cause fires through friction or retained heat or that can be ignited readily and, when ignited, burns vigorously and persistently so as to create a serious transportation hazard. Included in the pyrophoric definition are spontaneously combustible materials, water reactive materials, and oxidizers. Examples of nonradioactive pyrophorics are organic peroxides, sodium metal, and chlorates.

Radioassay – Methods used to identify and quantify radionuclides in TRU waste. Radioassay includes NDA and RC.

Radiography – A nondestructive testing method that uses X -rays to inspect and determine the physical form of waste.

Radionuclide – A nuclide that emits radiation by spontaneous transformation.

Remote-handled transuranic waste – Transuranic waste with a surface dose rate of 200 millirem per hour or greater. (Reference 2, Section 2[12])

Remote-handled Transuranic Waste Authorized Methods for Payload Control (RH-TRAMPAC) – The governing document for shipments in the RH-TRU 72-B packaging (Reference 41, Section 1).

RH-TRU Waste Canister – Container that is transported in the RH-TRU 72B Cask.

RH-TRU 72B Packaging – An NRC-certified Type B transportation packaging used for transportation of RH TRU wastes.

Shielded container – A metal payload container authorized for use within the HalfPACT packaging, that has been tested by DOE to meet DOT Specification 7A Type A requirements. It is approximately the same size as a standard 55-gallon drum, contains one 30-gallon steel drum, and incorporates a nominal one-inch layer of lead lining to shield waste forms with high gamma energies. Although the shielded container is managed during handling, shipment, storage, and disposal as a CH payload container, the waste contained in a shielded container is characterized and inventoried in the WWIS as RH waste.

Shipper – A TRU waste site that releases an NRC-approved packaging to a carrier for shipment.

Shipping category – A shipping category is defined by the following parameters: chemical composition of the waste (waste type), gas generation potential of the waste material type (quantified by the g-value for hydrogen), and gas release resistance (type of payload container and type and maximum number of confinement layers used).

Sites – Department of Energy TRU waste generator or storage sites.

Standard large box 2 – A specialized metal payload container with a top-loading and a bottom-loading option for use within the TRUPACT-III packaging, that has been tested by DOE to meet DOT Specification 7A Type A requirements.

Standard waste box – A metal payload container authorized for use within the TRUPACT-II and HalfPACT packaging, that has been tested by DOE to meet DOT Specification 7A Type A requirements.

Summary category group – Used to segregate TRU-mixed wastes into broad groups having similar physical forms. The summary category groups include homogeneous solids (S3000) that are at least 50 percent by volume solid process residues, soil/gravel (S4000) that is at least 50 percent by volume soil/gravel, and debris (S5000) that is at least 50 percent by volume materials that meet the criteria specified in 20.4.1.800 New Mexico Administrative Code (incorporating 40 CFR §268.2(g)). Categorization is based on the Summary Category Group constituting the greatest volume of waste for a waste stream (Reference 9, Attachment C).

Ten-drum overpack – A metal payload container authorized for use within the TRUPACT-II packaging, that has been tested by DOE to meet DOT Specification 7A Type A requirements.

Test Category – Payload containers that do not meet the analytical category decay heat limits or whose concentration of flammable volatile organic compounds (VOCs) in the headspace exceeds 500 ppm are classified as test category (References 23a and 23b, Section 5.2.2).

Trace chemicals/materials – Chemicals/materials that occur individually in the waste in quantities less than 1 weight percent. The total quantity of chemicals/materials not listed as allowed materials for a given waste material type in any payload container is restricted to less than 5 weight percent (References 23a and 23b, Section 4.3.1; Reference 41, Section 4.3.1).

TRU isotope – An isotope of any element having an atomic number greater than uranium (i.e., 92).

TRU waste – Waste containing more than 100 nCi of alpha-emitting TRU isotopes per gram of waste, with half-lives greater than 20 years, except for (1) high-level radioactive waste, (2) waste that the Secretary has determined, with the concurrence of the Administrator, does not need the degree of isolation required by the disposal regulations, or (3) waste that the NRC has approved for disposal on a case-by-case basis in accordance with 10 CFR Part 61 (Reference 2, Section 2[18]).

TRU-mixed waste – TRU waste that is also a hazardous waste as defined by the Hazardous Waste Act and 20.4.1.200 NMAC (incorporating 40 CFR § 261.3) (Reference 9, Part 1, Section 1.5.7).

TRUPACT-II – An NRC-certified Type B transportation packaging used for transportation of CH TRU wastes.

TRUPACT-III – An NRC-certified Type B transportation packaging used for transportation of CH TRU wastes in the SLB2 container.

TRUPACT-III Transuranic Waste Authorized Methods for Payload Control (TRUPACT-III TRAMPAC) – The governing document for shipments in the TRUPACT-III packaging (Reference 23b, Section 1).

Verification – The act of authenticating or formally asserting the truth that a process, item, data set, or service is, in fact, that which is claimed. Data verification is the process used to confirm that all review and validation procedures have been completed.

Volatile organic compounds – For the purposes of the TRU waste program, those RCRA-regulated VOCs listed in the WIPP WAP and any additional compounds tentatively identified by VOC analytical procedures used to satisfy program requirements (i.e., any compound containing carbon and hydrogen with any other element that has a vapor pressure of 77.6 mL of mercury [1.5 psia], or greater under actual storage conditions).

Waste Acceptance Criteria – Constraints (limits) on the physical, chemical, and radiological properties of TRU waste and its packaging as determined by WIPP's authorization basis requirements. TRU waste will not be approved for shipment to and disposal at the WIPP until it has been certified as meeting these criteria. Waste acceptance criteria ensure that TRU waste is managed and disposed of in a manner that protects human health and safety and the environment.

Waste analysis plan – The waste analysis plan includes test methods, details of planned waste analysis for complying with the general waste analysis requirements of 20.4.1.500 NMAC (incorporating 40 CFR 264.13), a description of the waste shipment screening and verification process, and a description of the QA/QC program. Sites are required to implement the applicable requirements of the WAP.

Waste characterization – The process of determining that TRU waste meets the requirements of the WAC by the acceptable performance of the activities defined by CBFO-approved site-specific plans.

Waste certification – Formal and documented declaration by sites that waste has been characterized and meets the requirements of the WIPP WAC.

Waste matrix code – A DOE-developed coding system for grouping waste streams that have similar matrix constituents, especially for treatment objectives. This coding system allows waste streams within the DOE TRU waste system that have similar physical and chemical waste form properties to be categorized together (Transuranic Waste Baseline Inventory Report, DOE/CAO-95-1121).

Waste stream – A waste stream is waste materials that have common physical form, that contain similar hazardous constituents and that are generated from a single process or activity (Reference 9, Attachment C).

WIPP Waste Information System – A computerized data management system used by WIPP to gather, store, and process information pertaining to CH and RH TRU waste destined for or disposed of at WIPP. The WWIS database is a subsystem of the WDS.

APPENDIX D

Payload Container Integrity Checklist

The operator is to visually examine 100% of the payload container exterior to determine if the payload container meets the criteria of sections 3.2.1 and 4.2.1. At a minimum, sites shall incorporate the questions and criteria contained in the following checklist into applicable site procedures. This payload container inspection shall be performed and documented as a part of the loading process. Any "YES" answer on the inspection checklist will result in the operator discontinuing the inspection, marking the payload container as unacceptable for shipment, and removal of the payload container from the shippable inventory. Before the rejected container can be shipped, it must undergo appropriate corrective actions (e.g., evaluation, repackaging, overpacking, etc.), as applicable. All containers must have an acceptable and complete inspection checklist documenting that it meets the DOT 7A criteria.

CONTAINER EXAMINATION		**DISCUSSION OF CRITERIA**	**COMPLIANCE**	
			YES	**NO**
1.	Is the payload container obviously degraded?	Obviously degraded means clearly visible and potentially significant defects in the payload container or payload container surface.		
2.	Is there evidence that the payload container is, or has been, pressurized?	Pressurization can be indicated by a fairly uniform expansion of the sidewalls, bottom or top. Past pressurization can be indicated by a notable outward deflection of the bottom or top. Verify that the payload container is not warped.		
3.	Is there any potentially significant rust or corrosion such that wall thinning, pin holes, or breaches are likely or the load bearing capacity is suspect?	Rust shall be assessed in terms of its type, extent, and location. Pitting, pocking, flaking, or dark coloration characterizes potentially significant rust or corrosion. This includes the extent of the payload container surface area covered, thickness, and if it occurs in large flakes or built-up (caked) areas. Rusted payload containers may not be accepted if: • Rust is present in caked layers or deposits • Rust is present in the form of deep metal flaking, or built-up areas of corrosion products In addition, the location of rust should be noted; for example on a drum: top lid; filter region; locking chine; top one-third, above the second rolling hoop; middle one-third, between the first and second rolling hoops; bottom one-third, below the second rolling hoop; and on the bottom. Payload containers may still be considered acceptable if the signs of rust show up as: • Some discoloration on the payload container • If rubbed would produce fine grit or dust or minor flaking (such that wall thinning does not occur)		
4.	Are any of the following apparent? • wall thinning • pin holes • breaches	Wall thinning, pin holes, and breaches can be a result of rust/corrosion (see discussion for #3).		

CONTAINER EXAMINATION		DISCUSSION OF CRITERIA	COMPLIANCE	
5.	Are there any split seams, tears, obvious holes, punctures (of any size), creases, broken welds, or cracks?	Payload containers with obvious leaks, holes or openings, cracks, deep crevices, creases, tears, broken welds, sharp edges or pits, are either breached or on the verge of being breached. Verify that there is no warpage that could cause the container to be unstable or prevent it from fitting properly in the applicable package.		
6.	Is the load-bearing capacity suspect?	The load-bearing capacity could be reduced for excessive rust (see discussion for #3), wall thinning (see discussion for #4), breaches, cracks, creases, broken welds, etc. (see discussion for #5).		
7.	Is the payload container improperly closed?	Inspect the fastener and fastener ring (chine) if applicable for damage or excessive corrosion. Check the alignment of the fastener to ensure that it is in firm contact around the entire lid and the payload container will not open during transportation.		
8.	Are there any dents, scrapes, or scratches that make the payload container's structural integrity questionable or prevent the top and bottom surfaces from being parallel?	Deep gouges, scratches, or abrasions over wide areas are not acceptable. If top and bottom surfaces are not parallel, this would indicate that the container is warped. Dents should be less than ¼ inch deep by 3 inches long and between ½ inch to 6 inches wide. All other dents must be examined to determine impact of structural integrity.		
9.	Is there discoloration which would indicate leakage or other evidence of leakage of material from the payload container?	Examine the payload container regions near vents, top lid fittings, bottom fittings, welds, seams and intersections of one or more metal sheets or plates. Payload containers must be rejected if evidence of leakage is present.		
10.	Is the payload container bulged?	For the purposes of this examination, bulging is indicated by: • A fairly uniform expansion of the sidewalls, bottom, or top (e.g., in the case of a drum, either the top or bottom surface protrudes beyond the planar surface of the top or bottom ring, • A protrusion of the side wall (e.g., in the case of a drum, beyond a line connecting the peaks of the surrounding rolling hoops or a line between a surrounding rolling hoop and the bottom or top ring), or • Expansion of the sidewall (e.g., in the case of a drum, such that it deforms any portion of a rolling hoop).		

References

D1. INEEL Engineering Design File. "*Waste Container Integrity Evaluation for Storage"*, EDF-RWMC-705, September 25, 1996. Idaho National Engineering and Environmental Laboratory, Idaho Falls, ID.

D2. Title 49 CFR Part 173, Subpart 475. "Quality Control Requirements Prior to Each Shipment of Class 7 (Radioactive) Materials." *Code of Federal Regulations,* Washington, D.C., Office of the Federal Register, National Archives and Records Administration. (http://www.ecfr.gov)

D3. DOE/RL-96-57, Section 2.5.5. "Test & Evaluation Document for the U.S. Department of Transportation Specification 7A Type A Packaging." (Formerly WHC-EP-0558). (http://rampac.energy.gov/certinfo/special/noncertified/dot7a/pdot7a.aspx)

APPENDIX E

Payload Management of TRU Alpha Activity Concentration

E.1 Scope

The policies and methods for the management of TRU alpha activity concentration within each TRU waste payload container disposed of at WIPP are set out below. They are based on the definition of TRU waste in the WIPP LWA, Public Law 102-579. The WIPP LWA defines TRU waste as:

"…waste containing more than 100 nanocuries of alpha emitting transuranic isotopes per gram of waste, with half lives greater than 20 years…" (Sec. 2(18))

This appendix pertains specifically to the payload management of TRU alpha activity concentration of waste containers selected for overpacking.

E.2 Policies

The National TRU Waste Program has established the following policies for managing TRU alpha activity concentration in compliance with the WIPP LWA (References E1, E2, and E3):

- The TRU alpha activity concentration limit for TRU waste (>100 nCi/g) applies to the TRU waste stream as a whole.

- Waste containers belonging to a TRU waste stream may vary in their TRU alpha activity concentration, some containing >100 nCi/g and some containing ≤100 nCi/g. Using process knowledge in combination with radioassay measurements to determine the presence of transuranic isotopes within the waste stream, sites define a TRU waste stream based on its potential to include waste containers with a TRU alpha activity concentration in excess of 100 nCi/g.

- Waste containers belonging to the same TRU waste stream may be overpacked into a payload container (e.g., SWB or TDOP) provided the TRU alpha activity concentration of the payload container exceeds 100 nCi/g.

E.3 Prerequisites for Implementation

- Each waste container selected for payload management must be part of the TRU waste stream identified in the AK summary report for that waste stream (References E2 and E3).

- Sites shall submit to the CBFO, for its review and approval, applicable plans and procedures for making TRU waste determinations based on payload management practices that involve the overpacking of waste containers (Reference E2).

- CBFO will notify EPA of sites seeking such authorization prior to CBFO's approval of a site to manage TRU alpha activity concentration using payload management. The WIPP will not accept payload managed waste for disposal until EPA has received notice (Reference E3).

E.4 Implementation and Practice

- Each TRU waste stream selected for payload management must include in its acceptable knowledge summary report an estimate of the total waste volume and the percentage of the waste volume that is above and below 100 nCi/g. (It should be noted that this information, although based on the best available AK information, is preliminary and subject to the performance of WIPP certified radiological characterization processes and cannot and will not be used as a measure of AK accuracy) (Reference E3).

- Each waste container selected for payload management must contain at least one TRU isotope (e.g., ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{242}Pu, etc.) whose activity exceeds the LLD of the radioassay system used to characterize the waste (References E2 and E3). The applicability of LLD will vary from system to system and may be on a container basis. Sections 3.3.1 and A.3 of this document provide the applicable requirements for determining and reporting LLDs.

- Each waste container selected for payload management may only be overpacked into a payload container with other waste containers from the same TRU waste stream.

- The TRU alpha activity concentration of the payload container is determined according to sections 3.3.3 and 4.3.3 of this document.

E.5 References

E1. Public Law 102-579, 106 Stat.4777, 1992 (as amended by Public Law 104-201, 1996). Waste Isolation Pilot Plant Land Withdrawal Act. (http://www.wipp.energy.gov/library/cra/baselinetool/documents/regulatory%20tools/10%20WIPPLWA1996.pdf)

E2. Letter to Mr. Frank Marcinowski (Director, Office of Radiation and Indoor Air, U.S. Environmental Protection Agency) from Dr. Ines R. Triay (Manager, Carlsbad Field Office, U.S. Department of Energy), August 4, 2003.

E3. Letter to Dr. Ines R. Triay (Manager, Carlsbad Field Office, U.S. Department of Energy) from Mr. Frank Marcinowski (Director, Office of Radiation and Indoor Air, U.S. Environmental Protection Agency), August 8, 2003.

.

APPENDIX F

Radiography Requirements for Contact-Handled Transuranic Waste for EPA Compliance

F.1 Radiography Requirements for Contact-Handled Waste

Radiography aids in the examination and identification of containerized waste. All activities required to achieve radiography objectives shall be described in site Program documents. These documents shall include instructions specific to the radiography systems used at the site. This appendix applies to radiography of CH waste; requirements for radiography of RH waste are found in the WCPIP.

A radiography system (e.g., real-time radiography or digital radiography/computed tomography) normally consists of an X-ray producing device, an imaging system, an enclosure for radiation protection, a waste container handling system, an audio/video recording system, and an operator control and data acquisition station. Although these six components are required, it is expected there will be some variation within a given component between sites. The radiography system shall have controls or an equivalent process which allow the operator to control image quality. On some radiography systems, it should be possible to vary the voltage between 150 and 400 kilovolts to provide an optimum degree of penetration through the waste.

To perform radiography, the waste container is scanned while the operator views the video monitor. An audio/video recording shall be made of the waste container scan and is maintained as a non-permanent record. A radiography data form shall also be used to document the Waste Matrix Code; verify there are no ignitable, reactive, or corrosive wastes present by verification that there is no observable liquid in excess of the waste acceptance criteria limits and there are no compressed gases; and estimated waste material parameter weights of the waste.

The estimated waste material parameter and weights for CH waste should be determined by compiling an inventory of waste items and packaging materials. The items on this inventory should be sorted by waste material parameter and combined with a standard weight look-up table to provide an estimate of waste material parameter weights.

Containers whose contents prevent full examination of the remaining contents shall be subject to visual examination unless the site certifies that visual examination would provide no additional relevant information for that container using acceptable knowledge for the waste stream.

For containers which contain classified shapes and undergo radiography, the radiography recording shall be considered classified information. The radiography data forms will not contain classified information.

F.2 Radiography Training

The radiography system involves qualitative and semiquantitative evaluations of visual displays. Operator training and experience are the most important considerations for assuring quality controls in regard to the operation of the radiography system and for interpretation and disposition of radiography results. Only trained and qualified radiography operators shall be allowed to operate radiography equipment.

Standardized training and qualification requirements for radiography operators shall be based upon existing industry standard training requirements and shall comply with the training and qualification requirements of this waste acceptance criteria document and the QAPD.

The site shall develop a training program that provides radiography operators with both formal and on-the-job training (OJT). Radiography operators shall be instructed in the specific waste generating practices, typical packaging configurations, and associated waste material parameters expected to be found in each Waste Matrix Code at the site. The OJT and apprenticeship shall be conducted by an experienced, qualified radiography operator prior to qualification of the training candidate. The training programs shall be site-specific due to differences in equipment, waste configurations, and the level of waste characterization efforts. For example, certain sites use digital radiography equipment, which is more sensitive than real-time radiography equipment. In addition, the particular physical forms and packaging configurations at each site will vary; therefore, radiography operators shall be trained on the types of waste that are generated, stored, or characterized at that particular site.

The training program shall contain the following elements:

- Project Requirements
- State and Federal Regulations
- Basic Principles of Radiography
- Radiographic Image Quality
- Radiographic Scanning Techniques
- Application Techniques
- Radiography of Waste Forms
- Standards, Codes, and Procedures for Radiography
- Site-Specific Instruction

The training program shall also contain OJT, which addresses:

- System Operation
- Identification of Packaging Configurations
- Identification of Waste Material Parameters
- Weight and Volume Estimation
- Identification of Prohibited Items

Radiography test drums shall contain items common to the waste streams to be generated and stored at the site. The test drums shall be divided into layers with varying packing densities or different drums may be used to represent different situations that may occur during radiography examination at the site. Test drums shall be representative of the waste matrix codes for which WSPF approval is sought. Test drums shall be examined and successfully identified prior to waste stream shipment. The following is a list of required elements of a radiography test drum:

- A punctured aerosol can
- Pigtails on poly liners (horsetail bag)
- Pair of coveralls
- Empty bottle
- Irregular shaped pieces of wood
- Empty one-gallon paint can
- Full container
- Aerosol can with fluid
- One-gallon bottle with three tablespoons of fluid
- One-gallon bottle with one cup of fluid (upside down)
- Leaded glove or leaded apron
- Wrench

These items shall be successfully identified by the operator as part of the qualification process. Qualifications of radiography operators shall, at a minimum, encompass the following requirements:

- Successfully pass a comprehensive exam based upon training enabling objectives. The comprehensive exam will address all of the radiography operations, documentation, characterization and procedural elements stipulated in this WAC.

- Perform a practical capability demonstration in the presence of appointed site radiography subject matter expert. The person will be an experienced radiography operator who is also qualified as an OJT trainer.

Requalifications of operators are based on evidence of continued satisfactory performance (primarily audio/video recording reviews), and shall be done at least every two years. Unsatisfactory performance will result in disqualification. Unsatisfactory performance is defined as the misidentification of a prohibited item in a training drum or a score of less than 80% on the comprehensive exam. Retraining and demonstration of satisfactory performance are required before a disqualified operator is again allowed to operate the radiography system.

A training drum with internal containers of various sizes shall be scanned semiannually by each operator. The audio/video recording shall then be reviewed by a supervisor to ensure that operator's interpretations remain consistent and accurate. Imaging system characteristic shall be verified on a routine basis.

F.3 Quality Control

Independent replicate scans and replicate observations of the video output of the radiography process shall be performed under uniform conditions and procedures. Independent replicate scans shall be performed on one waste container per day or once per testing batch, whichever is less frequent. Independent observation of one scan (not the replicate scan), shall be made once per day or once per testing batch, whichever is less frequent, by a qualified radiography operator other than the individual who performed the first examination. A testing batch is a suite of waste containers undergoing radiography using the same testing equipment. A testing batch can be up to 20 waste containers without regard to waste matrix.

Oversight functions include periodic audio/video recording reviews of accepted waste containers by a qualified radiography operator other than the operator who dispositioned the waste container. The results of this independent verification shall be made available to the radiography operator.

F.4 Data Review and Validation

A testing batch data report for data validation and QA purposes is required when radiography is used to characterize waste. A testing batch data report (or equivalent), includes data pertaining to radiography for up to 20 waste containers or samples.

All measurement data must be reviewed and approved by qualified personnel prior to being reported. Reviews shall meet the requirements of the QAPD. At a minimum, the data must be reviewed by an independent technical reviewer and approved by the SPM. This review shall be performed by an individual other than the data generator who is qualified to have performed the initial work. The independent technical reviewer shall verify, at a minimum, the following information:

- Data generation and reduction were conducted in a technically correct manner in accordance with the methods used (verification of procedure and revision).
- Data were reported in the proper units and correct number of significant figures.
- Calculations have been verified by a valid calculation program, a spot check of verified calculation programs, and/or 100 percent check of all hand calculations.
- Values that are not verifiable to within rounding or significant difference discrepancies must be rectified prior to completion of independent technical review.
- The data have been reviewed for transcription errors.

- The testing QA documentation for batch data reports is complete and includes, as applicable, raw data, calculation records, calibration records (or references to an available calibration package), list of containers in the batch, and QC sample results. Corrective action will be taken to ensure that all batch data reports are complete and include all necessary raw data prior to completion of the independent technical review.

- QC sample results are within established control limits and, if not, the data have been appropriately dispositioned using the nonconformance process. This shall include complete summarized qualitative and quantitative data for all waste containers with data flags or qualifiers.

- Radiography tapes have been reviewed (independent observation) on a waste container basis at a minimum of once per testing batch or once per day of operation, whichever is less frequent.

- The container contains no indication that there is observable liquid in excess of this waste acceptance criteria, no indication of compressed gas, no indication of incompatible wastes, and the physical form matches the Waste Matrix Code.

- The appropriate quality assurance objectives (QAOs) have been met.

All data must be approved by the SPM. The SPM shall verify, at a minimum, the following information:

- Data generation-level independent technical review, validation, and verification have been performed as evidenced by the completed review checklists and appropriate signature release. Batch data review checklists are complete.

- Batch data reports are complete and data are properly reported (e.g., data are reported in the correct units and with the correct number of significant figures).

- Data meet all applicable QAOs.

The SPM shall provide a SPM Summary and a Data Validation Summary for each batch data report. These reports may be combined and shall consist of a detailed checklist documenting that the batch has been adequately reviewed and that the data meet program objectives.

To ensure that data of known and documented quality are generated, each participating measurement facility shall implement a documented facility QA program. Facility QA programs shall specify qualitative and quantitative acceptance criteria for the QC checks of this program, and corrective actions to be taken when these criteria are not satisfied. Only appropriately trained and qualified personnel shall be allowed to perform data validation/review.

APPENDIX G

Visual Examination Requirements for Contact-Handled Transuranic Waste for EPA Compliance

G.1 Visual Examination Requirements for Contact-Handled Waste

This appendix applies to visual examination requirements for CH waste; requirements for visual examination of RH waste are found in the WCPIP.

Contact-handled waste container contents may be verified directly by performing VE on the waste container contents. Visual examination may also be performed during packaging or repackaging of waste.

Visual examination does not require audio/video recordings of the examination; the examination is documented on a data form and certified with signatures from two qualified VE operators. If the second operator cannot verify the descriptions of the first operator, corrective actions will be taken in accordance with the established QA Program.

Visual examination shall be conducted to describe all contents of a waste container and includes estimated or measured weights of the contents. The description shall clearly identify all discernible waste items, packaging materials, and waste material parameters in the waste container. Visual examination activities shall be documented on VE data forms.

Visual examination video/audio recordings of containers that contain classified shapes shall be considered classified information. Visual examination data forms will not contain classified information.

G.2 Visual Examination Training

Visual examination shall consist of a semi-quantitative and qualitative evaluation of the waste container contents and may be recorded on audio/video recording media. Standardized training for VE shall be developed to include both formal classroom training and OJT. Personnel performing VE shall be instructed in the specific waste generating processes, typical packaging configurations, and the waste material parameters expected to be found in each Waste Matrix Code at the site. The OJT and apprenticeship shall be conducted by an operator experienced and qualified in VE prior to qualification of the candidate. The training shall be site-specific to include the various waste configurations at the site. For example, the particular physical forms and packaging configurations at each site will vary so operators shall be trained on types of waste that are generated, stored, or characterized at that particular site. Visual examination operators need only be trained to the physical forms and packaging configurations used on the waste stream that they are examining and packaging. Visual examination personnel shall be requalified once every two years.

Training shall address the following required elements:

- Project Requirements
- State and Federal Regulations
- Application Techniques
- Site-Specific Instruction

Training shall also include OJT that addresses:

- Identification of Packaging Configurations
- Identification of Waste Material Parameters
- Weight and Volume Estimation
- Identification of Prohibited Items

Each visual examination facility shall designate one or more VE experts. The VE expert shall be familiar with the waste generating processes that have taken place at the site and will also be familiar with all types of waste being characterized at that site. The VE expert shall be responsible for the overall direction and implementation of the visual examination at that facility. The VE expert shall receive training in the same elements as the visual examination personnel, including both formal training and OJT. Qualification of a VE expert shall be based on familiarity with waste generating processes, familiarity with the types of waste being characterized, and meeting the training requirements discussed above. Consistent with other VE personnel, the VE expert shall be requalified once every two years. Site documents shall specify the selection, qualification and training requirements for the VE expert.

G.3 Method

Visual examination recorded on video/audio media shall meet the following minimum requirements:

- The video/audio media shall record the waste packaging event for the container such that all waste items placed into the container are recorded in sufficient detail and shall contain an inventory of waste items in sufficient detail that another trained visual examination operator can identify the associated waste material parameters.

- The video/audio media shall capture the waste container identification number

- The personnel loading the waste container shall be identified on the video/audio media or on packaging records traceable to the loading of the waste container

- The date of loading of the waste container will be recorded on the video/audio media or on packaging records traceable to the loading of the waste container.

Visual examination performed using two operators shall meet the following minimum requirements:

- At least two site personnel who witnessed the packaging of the waste shall approve the data forms or packaging records attesting to the contents of the waste container

- The data forms or packaging records shall contain an inventory of waste items in sufficient detail that a trained VE operator can identify the associated waste material parameters

- The container identification number shall be recorded on the data forms or packaging records.

A description of the waste container contents shall be recorded on a VE data form. The description shall clearly identify all waste material parameters and provide enough information to estimate weights of waste material parameters. In cases where bags are not opened, a brief written description of the contents of the bags shall contain an estimate of the amount of each waste type in the bags. The written records of VE shall be supplemented with the audio/videotape recording, if applicable.

G.4 Data Review and Validation

A testing batch data report for data validation and QA purposes is required when VE is used to characterize waste. A testing batch data report (or equivalent) includes data pertaining to VE for up to 20 waste containers or samples.

All measurement data must be reviewed and approved by qualified personnel prior to being reported. Reviews shall meet the requirements of the QAPD. At a minimum, the data must be reviewed by an independent technical reviewer and approved by the SPM. This review shall be performed by an individual other than the data generator who is qualified to have performed the initial work. The independent technical reviewer shall verify, at a minimum, the following information:

- Data generation and reduction were conducted in a technically correct manner in accordance with the methods used (verification of procedure and revision).

- Data were reported in the proper units and correct number of significant figures.

- Calculations have been verified by a valid calculation program, a spot check of verified calculation programs, and/or 100 percent check of all hand calculations.

- Values that are not verifiable to within rounding or significant difference discrepancies must be rectified prior to completion of independent technical review.

- The data have been reviewed for transcription errors.

- The testing QA documentation for batch data reports is complete and includes, as applicable, raw data, calculation records, and list of containers in the batch. Corrective action will be taken to ensure that all batch data reports are complete and include all necessary raw data prior to completion of the independent technical review.

- The container contains no indication that there is observable liquid in excess of this waste acceptance criteria, no indication of compressed gas, no indication of incompatible wastes, and the physical form matches the Waste Matrix Code.

- The appropriate QAOs have been met.

All data must be approved by the SPM. The SPM shall verify, at a minimum, the following information:

- Data generation-level independent technical review, validation, and verification have been performed as evidenced by the completed review checklists and appropriate signature release. Batch data review checklists are complete.

- Batch data reports are complete and data are properly reported (e.g., data are reported in the correct units and with the correct number of significant figures).

- Data meet all applicable QAOs.

The SPM shall provide a SPM Summary and a Data Validation Summary for each batch data report. These reports may be combined and shall consist of a detailed checklist documenting that the batch has been adequately reviewed and that the data meet program objectives.

To ensure that data of known and documented quality are generated, each participating measurement facility shall implement a documented facility QA program. Facility QA programs shall specify qualitative and quantitative acceptance criteria for the QC checks of this program, and corrective actions to be taken when these criteria are not satisfied. Only appropriately trained and qualified personnel shall be allowed to perform data validation/review.

Document ID: OREM-16-2557
Revision: 1
Effective Date: April 2017

U.S. Department of Energy
Oak Ridge Office of
Environmental Management

PERFORMANCE EVALUATION AND MEASUREMENT PLAN FOR TRANSURANIC WASTE PROCESSING CENTER WASTE MANAGEMENT OPERATIONS CONTRACT LINE ITEM NUMBER 3

EVALUATION PERIOD: DECEMBER 11, 2015 – OCTOBER 26, 2016

CONTRACT NUMBER DE-EM0003760

APPROVALS

John A. Mullis II
Fee Determination Official

6/29/17
Date

Linda J. Beach, Program Manager
North Wind Solutions, LLC

7/5/17
Date

REVISION CHANGE LOG

Revision	Section	Description	Date
0	ALL	Initial issue of document.	March 2016
1	4.0	Revise the Award Fee table in Section 4 to reflect amounts determined after true up.	April 2017
1	Attachment A	Revise the processing goals for the contact-handled and remote-handled waste, as determined in the Award Fee Evaluation Criteria and Process.	April 2017

CONTENTS

ACRONYMS

CH	contact-handled
CLIN	Contract Line Item Number
CO	Contracting Officer
DOE	U.S. Department of Energy
FDO	Fee Determination Official
LLW	low-level (radioactive) waste
MLLW	mixed low-level (radioactive) waste
OREM	Oak Ridge Office of Environmental Management
PEB	Performance Evaluation Board
PEM	Performance Evaluation Monitor
PEMP	Performance Evaluation and Measurement Plan
PWS	Performance Work Statement
RH	remote-handled
TRU	Transuranic
TWPC	Transuranic Waste Processing Center

1.0 INTRODUCTION

This Performance Evaluation and Measurement Plan (PEMP) is the basis for the Transuranic (TRU) Waste Processing Center (TWPC), Contract Line Item Number (CLIN) 3 evaluation of the Contractor's performance. This PEMP covers the Period of Performance for the first evaluation period from December 11, 2015 through October 26, 2016, and serves as the basis for the Contractors's performance assessment to the Fee Determination Official (FDO). It describes specific criteria and procedures used to assess the Contractor's performance and determine the amount of award fee earned. Actual award fee determinations and methodology for determining fees are unilateral decisions made solely at the discretion of the Government. The fee earned and payable will be determined by the FDO based upon review of the Contractor's performance against the criteria set forth in this plan. The FDO may unilaterally change this plan prior to the beginning of an evaluation period. The Contractor will be notified of changes to the plan by the Contracting Officer (CO), in writing, before the start of the affected evaluation period (see Section 5.0, *Fee Plan Change Procedure,* for details). Changes to this plan that are applicable to a current evaluation period will be incorporated by mutual consent of both parties.

The Contractor shall operate TWPC in a safe and compliant manner that facilitates the Central Characterization Project TRU waste characterization activities. The waste to be managed under this contract's Performance Work Statement (PWS) includes contact-handled (CH) and remote-handled (RH) TRU waste currently in storage, or to be generated by ongoing activities, on the Oak Ridge Reservation. Additionally, the PWS involves the processing and disposal of low-level (radioactive) waste (LLW), mixed low-level (radioactive) waste (MLLW), and hazardous or industrial waste resulting from CH and RH TRU waste processing.

These wastes must be processed and packaged for compliant disposal in offsite radioactive waste repositories; Waste Isolation Pilot Plant for TRU wastes and the Nevada National Security Site for LLW and MLLW. In addition, the Contractor may choose to use other commercial treatment and disposal facilities for LLW, MLLW, hazardous, and industrial wastes. These wastes originate from the processing of the TWPC TRU waste inventory or facility operations. All LLW and MLLW treatment and disposal strategies must comply with the U.S. Department of Energy (DOE) requirements specified in DOE Order 435.1, Change 1, *Radioactive Waste Management*. The use of commercial facilities must be authorized by DOE prior to shipment.

The Contractor shall be responsible for planning, integrating, managing, and executing the programs, projects, operations, and other activities as described in the PWS in compliance with DOE requirements listed in Section J, List of Documents, Exhibits and Other Attachments, and terms and conditions of the contract. All services shall be completed safely and in accordance with all applicable Federal, state, and local regulations, laws, and permits.

This contract is a hybrid contract consisting of firm fixed price type CLINs (CLINs 1, 2, and 5-8), cost plus award fee CLIN (CLIN 3), and an Indefinite Delivery/Indefinite Quantity CLIN (CLIN 4). The contract consists of a 34.5 month base period for CLINs 1 through 5 and a 24 month option period for CLINs 6 through 8. There will be no award fee during the 24 month

option period as CLIN 3 starts and ends in the 34.5 month base period. The Government will make payment of any award fee at the conclusion of each specified evaluation period after a determination is made. The award fee provides a performance incentive for the Contractor and gives the Government a tool to identify and reward superior performance. The amount of award fee the Contractor earns is based on both objective and subjective criteria that is evaluated by the Government. The amount of award fee earned will be commensurate with the Contractor's overall cost, schedule, and technical performance as measured against the contract requirements and in accordance with the performance objectives/criteria established in this plan. Award fee assessments will occur annually. The Contractor will not earn any award fee if its overall cost, schedule, and technical performance are below satisfactory. The unearned award fee in any given period will not be carried forward or "rolled-over" into subsequent periods.

2.0 ORGANIZATION

The award fee process utilizes a three-level system to ensure a full and fair performance evaluation. Members at all levels will be assigned by separate memorandum.

- Level 1.0 - FDO
- Level 1.1 - TWPC CO
- Level 2.0 - Performance Evaluation Board (PEB)
- Level 3.0 - Performance Evaluation Monitors (PEMs)

3.0 RESPONSIBILITIES

3.1 LEVEL 1.0 – FEE DETERMINATION OFFICIAL

The FDO ensures independent, executive-level review of the work of the PEB and PEM. The FDO for this contract is the Acting Manager of the DOE Oak Ridge Office of Environmental Management (OREM). The FDO's primary responsibilities are to:

1. Appoint the PEB Chair and members by memorandum.
2. Review the recommendation of the PEB; consider the PEMP findings for each evaluation period; and discuss the findings with the PEB Chair and, if appropriate, with others such as the Contractor.
3. Determine the amount of award fee earned and payable for each evaluation period and ensure that the amount and percentage of award fee earned is commensurate with, and accurately reflects, the Contractor's performance.
4. Notify the Contractor via the CO of performance strengths, areas for improvement, and future expectations.
5. Issue and sign the award fee determination letter for the evaluation period specifying the amount of award fee determined and the basis for that determination.
6. Recommend changes to the PEMP to the CO.

Level 1.1 – CO

The CO for this contract is provided in Section G of the contract. The CO's primary responsibilities are to:

1. Issue the PEMP on an annual basis.
2. Approve the PEMP and any significant changes thereto.
3. Ensure that the award fee and contract incentives process is managed consistent with applicable acquisition regulations.
4. Ensure that the award fee process meets the overall TWPC business objectives.
5. Issue the award fee determination as authorized by the FDO.

3.2 LEVEL 2.0 – PERFORMANCE EVALUATION BOARD

The PEB includes:

- PEB Chair
- CO
- TWPC Performance Evaluation Program Manager
- Designated PEMs

The PEB's primary responsibilities are to:

1. Conduct ongoing evaluations of Contractor performance according to the objectives, elements, and measures stated in the PEMP.
2. Review the PEM reports and such additional performance information as may be obtained from the Contractor and other pertinent sources.
3. Consider the Contractor's self-assessment, if submitted.
4. Prepare the draft and final performance reports, and arrive at an earned award fee recommendation to be presented to the FDO.
5. Appoint non-voting members, if appropriate, to assist the PEB in performing its functions (e.g., a recording secretary).
6. Request and obtain performance information from other units or personnel involved in observing Contractor performance, as appropriate.
7. Ensure timeliness of award fee evaluations.
8. Recommend changes to the PEMP for consideration by the CO in consultation with the FDO.

The PEB Chair

The PEB will also include a Chair who will be identified and appointed by the FDO. The Chair may assign or reassign PEMs at any time without advance notice to the Contractor.

The PEB Chair's primary responsibilities are to:

1. Review the PEM's evaluations and consider the Contractor's self-assessment.
2. Analyze the Contractor's performance against the criteria set forth in the PEMP.
3. Provide feedback to the Contractor via the CO.
4. Provide a recommendation on the award fee scoring and the amount earned by the Contractor.
5. Recommend changes to the PEMP for consideration by the CO in consultation with the FDO.

3.3 LEVEL 3.0 – PERFORMANCE EVALUATION MONITORS

TWPC Performance Evaluation Program Manager

The Performance Evaluation Program Manager's primary responsibilities are to:

1. Advise the PEB on cost plus award fee rating standards, policies, and procedures and ensure the consistent application of Agency policy in these matters.
2. Receive and analyze the Performance Monitor Reports submitted by PEMs.
3. Monitor, evaluate, and assess Contractor performance.
4. Consider changes to this plan and recommend those determined appropriate to the CO and FDO.
5. Attend all PEB meetings and assist the PEB Chair in preparing all PEB correspondence for the FDO.
6. Coordinate the administrative actions required by the PEMs, PEB, and FDO, including:
    a. Receipt and processing of individual PEM evaluation reports from all required sources including consolidation of individual PEM reports into a single overall performance evaluation report.
    b. Scheduling and assisting with internal evaluation milestones, such as briefings.

PEM

As necessary, PEMs may be drawn as needed from the following individuals and/or units or others as deemed necessary by the PEB Chair:

- Portfolio Federal Project Director for TWPC
- Facility Representative(s) for TWPC
- DOE OREM
- Planning and Execution Division at DOE OREM
- Safety, Security, and Waste Management Branch at DOE OREM
- Quality and Mission Support Division at DOE OREM
- Property Administrator for TWPC

- Other offices within DOE OREM and the DOE Integrated Support Center-Oak Ridge as necessary.

The PEM's primary responsibilities are to:

1. Monitor, evaluate, and assess Contractor performance in their assigned areas.
2. Prepare a Contractor Performance Monitor Report for the PEB.
3. Provide performance input to the PEB.
4. Recommend any needed changes to the PEMP for consideration by the CO in consultation with the FDO.
5. Maintain performance dialogue with PEB throughout the evaluation period.

4.0 FEE PROCESSES

A determination of the award fee earned for each evaluation period will be made by the FDO and provided to the Contractor no later than 90 calendar days after the end of the period.

NOTE: Provisional award fee payments may also be made in accordance with Contract Clause H.16, *DOE-H-1054 Performance Evaluation and Measurement Plan – Award Fee Process for CLIN 3*, paragraph (j). The method to be followed in monitoring, evaluating, and assessing Contractor performance during the period, as well as for determining the award fee earned or paid, is described below.

The fee earned by the Contractor will be determined at the completion of evaluation periods shown below. The dollar amount corresponding to each period is the maximum available fee amount that can be earned during that particular period. Assessments will be completed annually, and the maximum available award fee are identified in the schedule below.

Award Fee Evaluation Period	Maximum Available Award Fee	Total Award Fee Earned
December 11, 2015 to October 26, 2016	$ 285,106**	$TBD
October 27, 2016 to October 26, 2017	$ 452,841**	$TBD
October 27, 2017 to October 26, 2018	$ 298,507**	$TBD
TOTALS*	$1,036,454	$TBD

*The total for the Maximum Available Award Fee shall be equal to the total for CLIN 3 in Clause B.2, *Cost/Price Schedule*.

**Award fee per period will be finalized after true-up, expected to be complete in June 2016. There are some waste processing quantity and scope differences that may require changes to the Contractor's approach for each period which, in accordance with the DOE Acquisition Guide Section 43.2, may require corresponding award fee adjustments.

This PEMP utilizes the following structure:

- Performance Objective - The highest level award fee incentive areas and a statement of the Contractor performance necessary to safely and successfully complete the project with respect to specified outcomes (e.g., cost, schedule, and technical performance).
- Performance Element - Targeted performance areas necessary to achieve the performance objective.
- Performance Measure - Specific criteria to objectively or subjectively evaluate Contractor performance in performance elements that will lead to achieving the performance objective.

Where possible, objective performance measures are used to determine award fee earnings. However, in the performance objectives identified, subjective (qualitative-based judgment) criteria are used, where appropriate. The performance objectives will be covered by two incentives; one covering cost and schedule, and one covering technical performance. Allocation of the award fee will be based on a 60/40 split between technical and cost/schedule as identified in the table below.

Award Fee Allocation Table – Evaluation Period 1

Incentive	Value (%)	Value ($)
1 - Cost and Schedule	40%	$114,042
2 - Technical Performance for Waste Processing Operations	60%	$171,064
Total Award Fee Available	100%	$285,106

DOE will evaluate performance of activities under CLIN 3 for Incentives 1 and 2 against the performance measures specified in Attachement A. As a result of DOE's evaluations, a numerical rating of 0 to 100 and an associated confidence or adjectival rating will be assigned for each incentive. The numerical ratings shall correspond to the Percent of Award Fee Earned for each incentive as shown in the Ratings and Definitions tables (see Tables A.1 and A.2 in Attachment A). Ratings shall take into account whether Contractor performance (as opposed to other factors and conditions) directly contributed to the overall outcome.

- The PEB Chair will ensure that a monitor is assigned for each Performance Element. Monitors will be selected on the basis of their expertise relative to prescribed performance area emphasis.
- The PEB Chair may change monitor assignments at any time without advance notice to the Contractor.
- The PEB Chair and Performance Evaluation Program Manager will ensure that each monitor receives the following:
  - A copy of this plan along with any changes made.

  - Appropriate orientation and guidance.
  - Specific instructions applicable to the monitors' assigned performance areas.
- PEMs will submit semi-annual Performance Monitor Reports and, if required, make verbal presentations to the PEB.
- The Contractor may submit a self-evaluation of performance for each evaluation period. While it is recognized that the basis for determination of the fee shall be the evaluation by the Government, the self-evaluation, which should be received no later than 30 calendar days after the end of the period being evaluated, will be given consideration as the FDO finds appropriate.
- Contractor self-evaluations will be forwarded to the appropriate Performance Monitors, who will identify and/or acknowledge differences between their reports and the Contractor's self-evaluations prior to the PEB meeting. Such self-evaluation summaries will be included in the PEB package.
- Promptly after the end of each evaluation period, the PEB will meet to consider all the performance information it has obtained. As requested by the PEB Chair, monitors and other personnel involved in performance evaluation will attend the meeting and participate in discussions. At the meeting, the PEB will summarize its preliminary findings and recommendations for inclusion in the performance reports and other documentation such as PEB minutes.
- The PEB will prepare the award fee determination letter for the period, which will be submitted to the FDO.
- The FDO will consider the recommendations of the PEB, information provided by the Contractor, if any, and any other pertinent information in determining the amount of the award fee to be paid for the period. The FDO's determination of the amount of award fee earned and the basis for this determination will be stated in the award fee determination letter.
- The Contractor will be notified by the CO of the FDO's determination. The Contractor may request a debriefing from the PEB Chair. The Contractor will not earn any award fee if its overall cost, schedule, and technical performance are below satisfactory.

5.0 FEE PLAN CHANGE PROCEDURE

All significant changes are approved by the CO in consultation with the FDO; the PEB Chair approves other changes. Examples of significant changes include changing evaluation criteria, adjusting weights to redirect the Contractor's emphasis to areas needing improvement, and revising the distribution of the fee dollars. The Contractor may recommend changes to the CO no later than 30 days prior to the beginning of the new evaluation period. The CO, within 10 days, shall notify the Contractor in writing of any change(s). Unilateral changes may be made to the fee plan if the Contractor is provided written notification by the CO before the start of the upcoming evaluation period. Changes effecting the current evaluation period must be by mutual agreement of both parties.

6.0 CONTRACT TERMINATION

If the contract is terminated for the convenience of the Government after the start of a fee evaluation period, the fee deemed earned for that period shall be determined by the FDO using the normal fee evaluation process. After termination for convenience, the remaining fee amounts allocated to all subsequent fee evaluation periods cannot be earned by the Contractor and, therefore, shall not be paid.

ATTACHMENT A.

AWARD FEE EVALUATION CRITERIA AND PROCESS

The Performance Objectives related to cost, schedule, and technical performance will be evaluated using two performance elements: The Cost and Schedule Performance element will cover cost and schedule objectives while the Technical Performance for Waste Processing Operations element will cover the technical performance objective.

Cost and Schedule Performance Element – (40 percent)

Description of Performance Objective: The cost and schedule performance objective is a performance measurement tool to assess the Contractor's ability to control and efficiently manage cost associated with waste processing activities as related to management of CLIN 3. The primary objective of the Cost and Schedule Performance element is to encourage the Contractor to achieve an actual cost that is equal to or less than the Total Estimated Cost of CLIN 3 for the contract period as reflected in the PEMP, while fully achieving all scope requirements. An approved performance measurement baseline that aligns with the contract is critical to properly evaluate project performance.

- The Contractor shall be evaluated using the following performance measures:
  - Cost Control: The Contractor's cost shall be evaluated against the budgeted costs commensurate with schedule performance. The Contractor will follow sound business practices for incurrence and management of costs. The analysis of cost control performance will give consideration to changes clearly beyond the Contractor's control which impact actual costs.
  - Estimate at Completion (EAC): The Contractor is expected to take actions to provide an EAC that reflects the scope under CLIN 3 and is realistic and reasonable. The Contractor is expected to provide an adequate explanation and justification if EAC is not consistent with performance trends or forecasting tools such as To Complete Performance Indicies.
  - The Contractor is expected to achieve a final actual cost that is equal to or less than the Total Estimated Contract Cost (TECC) for CLIN 3 while achieving all scope requirements under CLIN 3.
  - Baseline Management: The Contractor shall be evaluated based on establishing a contract performance baseline, for CLIN 3 activities only that is aligned with the negotiated estimated contract cost, and submitting Baseline Change Proposals (BCPs) required by contract modifications within 30 days of issuance of the modification and aligned with the scope, schedule, and cost changes in the modification.

Consideration will be given to how the Contractor prudently manages costs while meeting CLIN 3 requirements. DOE will assign a confidence rating and percentage of fee earned to the Cost and Schedule Performance Element based on Table A-1.

Table A-1. Cost and Schedule Performance Element Confidence Ratings and Definitions

Confidence Rating	Award Fee Pool Available To Be Earned	Description
High Confidence	91%--100%	• Costs are generally less than budgeted costs, commensurate with schedule performance, and have been incurred with sound business practices. • All BCPs required for contract performance baseline were submitted within the timeframe specified in Section J of the contract and all BCPs required for contract modifications were submitted within 30 days of the issuance of the modification and align with the modification. All BCPs are of sufficient quality. • EAC is less than the TECC
Medium-High Confidence	76%--90%	• Costs are generally equal to budgeted costs, commensurate with schedule performance, and have been incurred with sound business practices. • The majority of the BCPs required for contract performance baseline were submitted within the timeframe specified in Section J of the contract and the majority of the BCPs required for contract modifications were submitted within 30 days of the issuance of the modification and align with the modification. The majority of BCPs are of sufficient quality. • EAC exceeds the TECC by no more than two percent.
Medium Confidence	51%--75%	• Costs do not exceed budgeted costs by more than five percent, commensurate with schedule performance, and have been incurred with sound business practices. • Most BCPs required for contract performance baseline were submitted within the timeframe specified in Section J of the contract and most BCPs required for contract modifications were submitted within 30 days of the issuance of the modification and align with the modification. Most BCPs are of sufficient quality. • EAC exceeds the TECC by two to four percent.
Low Confidence	1%--50%	• Costs do not exceed budgeted costs by more than five to seven percent, commensurate with schedule performance, and have been incurred with sound business practices. • Most BCPs required for contract performance baseline were not submitted within the timeframes specified in Section J of the contract and most BCPs required for contract modifications were not submitted within 30 days of the issuance of the modification and align with the modification. Most BCPs are not of sufficient quality. • EAC exceeds the TECC by four to six percent.
No Confidence	0%	• Costs exceed budgeted costs by more than seven percent, commensurate with schedule performance, or have been incurred with less than sound business practices. • The majority of the BCPs required for contract performance baseline were not submitted within timeframe specified in Section J of the contract and the majority of the BCPs required for contract modifications were not submitted within 30 days of the issuance of the modification and did not align with the modification. The majority of BCPs are not of sufficient quality. • EAC exceeds the TECC by more than six percent.

Technical Performance for Waste Processing Operations – (60 percent)

Description of Performance Objective: The waste processing operations performance objective is a performance measurement tool to assess the Contractor's ability to meet the National TRU Program waste management and disposition requirements as described in the PWS and the Contractor Performance Baseline for the CLIN 3 scope.

The performance elements and measures that support the performance objective are described below:

1. CH TRU Waste Processing: By the end of the evaluation period (October 26, 2016), complete the processing of 29.94m^3 of the CH TRU debris waste inventory.
2. CH TRU Shipping: Measures cannot be determined at this time due to the Waste Isolation Pilot Plant closure.
3. RH TRU Waste Processing: By the end of the evaluation period (October 26, 2016), complete processing of 50.23m^3 of the RH TRU debris waste inventory.
4. RH TRU Shipping: Measures cannot be determined at this time due to the Waste Isolation Pilot Plant P closure.
5. LLW, MLLW, and Liquid Low-Level Waste Treatment: LLW, MLLW, and liquid low-level waste resulting from TWPC waste operations, including that treated by offsite vendors and empty concrete casks, shall be shipped to disposal in a timely manner. Treatment and packaging of LLW and MLLW shall meet disposal site requirements. Use of macro-encapsulation or other methods to treat MLLW, including use of vendor provided services will be evaluated for efficiency and effectiveness. The TWPC Contractor shall monitor work by offsite vendors and ensure timely waste treatment. For waste that has been determined to be non-TRU before the Central Characterization Program, the Contractor shall ensure that the necessary characterization and certification are performed to meet disposal site requirements.
6. Management of the Nevada National Security Site (NNSS) Certification Program: Existing waste stream profiles shall be maintained and revised as needed. New profiles shall be developed as needed to support packaging, treatment, shipment, and disposal of all LLW and MLLW. The NNSS Waste Certification Program shall be maintained compliant with the latest revision of the NNSS Waste Acceptance Criteria.
7. The Contractor shall ensure the implementation of an effective worker safety and health program by:
    - 7.1 Ensuring effective safety and health programs (e.g., *Worker Safety and Health Program*, Title 10, Code Federal Regulations [CFR], Part 851; *Radiation Protection Program*, Title 10, CFR, Part 835; *Safety Basis Requirements*, Title 10, CFR, Part 830; *Facility Safety*, DOE Order 420.1B Chg 1; *Transportation Safety*, DOE Order 460.1C/ DOE Order 460.2A; etc.) are successfully implemented at TWPC facilities.
    - 7.2 Maintaining a Total Recordable Case rate and Days Away, Restricted or Transferred rate such that safety performance indicates an improving trend. In cases where the trend is not improving, the Contractor will implement compensatory measures to improve performance.

7.3 Ensuring the safe and compliant packaging and transportation of hazardous materials and waste in accordance with applicable rules and regulations.

8. Efficient operation of CH and RH processing facilities:

8.1 Maintain safe and efficient processing in the Box Breakdown Area, Hotcell, and the Glovebox areas. Monitor processing rates throughout processing of wastes deemed difficult to process (e.g., Nuclear Safety concerns not standard to RH or CH processing).

8.2 Monitor drums of MLLW with the primary of not exceeding 270 days, while also resolving any issues to keep containers off the 180 day list. Performance will be measured by the number of containers not covered by a Burden of Proof statement on each list from month to month during the evaluation period.

8.3 Install and test the Glovebox for handling the Solid Waste Storage Area-5 waste and successfully complete the readiness reviews necessary to initiate processing. (Final scope to be determined after true-up which is expected to be complete in June 2016.)

Table A-2. Technical Performance Element Ratings and Definitions

Award Fee Adjectival Rating	Award Fee Pool Available To Be Earned	Description
Excellent	91-100%	Contractor has exceeded the majority of the significant award fee criteria and has met overall technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award fee plan for the award fee evaluation period.
Very Good	76 - 90%	Contractor has exceeded many of the significant award fee criteria and has met overall technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award fee plan for the award fee evaluation period.
Good	51 - 75%	Contractor has exceeded some of the significant award fee criteria and has met overall technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award fee plan for the award fee evaluation period.
Satisfactory	No Greater Than 50%	Contractor has met overall technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award fee plan for the award fee evaluation period.
Unsatisfactory	0%	Contractor has failed to meet overall technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award fee plan for the award fee evaluation period.

ATTACHMENT B.

SAMPLE AWARD FEE EVALUATION

SAMPLE AWARD FEE EVALUATION

PERIOD FROM December 11, 2015 TO October 26, 2016 DATE OF REPORT: _____

CONTRACT NUMBER: DE-EM0003760 CONTRACTOR: North Wind Solutions, LLC

BOARD MEMBERS:

_____

_____

INCENTIVE

Incentive	Assigned Numerical Rating	Percent of Award Fee Earned	Maximum Available Award Fee for the Evaluation Period	Amount of Fee Earned*
(1) Cost and Schedule	40%			
(2) Technical Performance of Waste Processing	60%			
Total	100%			

***The Amount of Fee Earned = Assigned Numerical Rating x Percent of Award Fee Earned x Maximum Available Award Fee for the Evaluation Period.

ID#

QL-1 DOC	
YES	NO
	X

Concurrence
Rtg. Symbol **EM-91**
Initials **Jennings**
Date
Rtg. Symbol **EM-91**
Initials **Hancsarik**
Date
Rtg. Symbol **EM-91**
Initials **Shears**
Date
Rtg. Symbol **EM-90**
Initials **Wilkerson**
Date
Rtg. Symbol **EM-90**
Initials **Mullis**
Date
Rtg. Symbol
Initials
Date
Rtg. Symbol
Initials
Date
Rtg. Symbol
Initials
Date

READY FOR DISPATCHING

File Code: 413.2.G.4 Reference:

EM-91:Jennings:574-5563:bdm:241-5683:06/23/2017/

https://intranet.osc.doe.gov/depts/em/em%20documents/EM%2091%20Procurement%20Contracts%20Division/Jennings/ID%204612%20TWPC%20Performance%20Evaluation%20Measurement%20Plan%20(11%20Dec%202015-26%20Oct%202016)Rev%201.doc

Document ID: OREM-16-2567
Revision: 1
Effective Date: April 2017

U.S. Department of Energy
Oak Ridge Office of
Environmental Management

PERFORMANCE EVALUATION AND MEASUREMENT PLAN FOR TRANSURANIC WASTE PROCESSING CENTER WASTE MANAGEMENT OPERATIONS CONTRACT LINE ITEM NUMBER 3

EVALUATION PERIOD
OCTOBER 27, 2016 – OCTOBER 26, 2017

CONTRACT NUMBER DE-EM0003760

APPROVALS

John A. Mullis II
Fee Determination Official

6/29/17
Date

Linda J. Beach, Program Manager
North Wind Solutions, LLC

7/5/17
Date

REVISION CHANGE LOG

Revision	Section	Description	Date
0	ALL	Initial issue of document.	August 2016
1	4.0	Revised the Award Fee Table in Section 4.	April 2017
1	Attachment A	Technical Performance for Waste Processing Operations: Revised the goals for contact-handled and remote-handled waste processing.	April 2017

CONTENTS

ACRONYMS

CH	contact-handled
CLIN	Contract Line Item Number
CO	Contracting Officer
DOE	U.S. Department of Energy
FDO	Fee Determination Official
LLW	low-level (radioactive) waste
MLLW	mixed low-level (radioactive) waste
OREM	Oak Ridge Office of Environmental Management
PEB	Performance Evaluation Board
PEM	Performance Evaluation Monitor
PEMP	Performance Evaluation and Measurement Plan
PWS	Performance Work Statement
RH	remote-handled
TRU	Transuranic
TWPC	Transuranic Waste Processing Center

1.0 INTRODUCTION

This Performance Evaluation and Measurement Plan (PEMP) is the basis for the Transuranic (TRU) Waste Processing Center (TWPC), Contract Line Item Number (CLIN) 3 evaluation of the Contractor's performance. This PEMP covers the Period of Performance for the second evaluation period from October 27, 2016 through October 26, 2017, and serves as the basis for the Contractors's performance assessment to the Fee Determination Official (FDO). It describes specific criteria and procedures used to assess the Contractor's performance and determine the amount of award fee earned. Actual award fee determinations and methodology for determining fees are unilateral decisions made solely at the discretion of the Government. The fee earned and payable will be determined by the FDO based upon review of the Contractor's performance against the criteria set forth in this plan. The FDO may unilaterally change this plan prior to the beginning of an evaluation period. The Contractor will be notified of changes to the plan by the Contracting Officer (CO), in writing, before the start of the affected evaluation period (see Section 5.0, *Fee Plan Change Procedure*, for details). Changes to this plan that are applicable to a current evaluation period will be incorporated by mutual consent of both parties.

The Contractor shall operate the TWPC in a safe and compliant manner that facilitates the Central Characterization Project TRU waste characterization activities. The waste to be managed under this contract's Performance Work Statement (PWS) includes contact-handled (CH) and remote-handled (RH) TRU waste currently in storage, or to be generated by ongoing activities, on the Oak Ridge Reservation. Additionally, the PWS involves the processing and disposal of low-level (radioactive) waste (LLW), mixed low-level (radioactive) waste (MLLW), and hazardous or industrial waste resulting from CH and RH TRU waste processing.

These wastes must be processed and packaged for compliant disposal in offsite radioactive waste repositories; Waste Isolation Pilot Plant for TRU wastes and the Nevada National Security Site for LLW and MLLW. In addition, the Contractor may choose to use other commercial treatment and disposal facilities for LLW, MLLW, hazardous, and industrial wastes. These wastes originate from the processing of the TWPC TRU waste inventory or facility operations. All LLW and MLLW treatment and disposal strategies must comply with the U.S. Department of Energy (DOE) requirements specified in DOE Order 435.1, Change 1, *Radioactive Waste Management*. The use of commercial facilities must be authorized by DOE prior to shipment.

The Contractor shall be responsible for planning, integrating, managing, and executing the programs, projects, operations, and other activities as described in the PWS in compliance with DOE requirements listed in Section J, List of Documents, Exhibits and Other Attachments, and terms and conditions of the contract. All services shall be completed safely and in accordance with all applicable Federal, state, and local regulations, laws, and permits.

This contract is a hybrid contract consisting of firm fixed price type CLINs (CLINs 1, 2, and 5-8), cost plus award fee CLIN (CLIN 3), and an Indefinite Delivery/Indefinite Quantity CLIN (CLIN 4). The contract consists of a 34.5 month base period, for CLINs 1 through 5 and a 24 month option period for CLINs 6 through 8. There will be no award fee during the 24 month option period as CLIN 3 starts and ends in the 34.5 month base period. The Government will

make payment of any award fee at the conclusion of each specified evaluation period after a determination is made. The award fee provides a performance incentive for the Contractor and gives the Government a tool to identify and reward superior performance. The amount of award fee the Contractor earns is based on both objective and subjective criteria that is evaluated by the Government. The amount of award fee earned will be commensurate with the Contractor's overall cost, schedule, and technical performance as measured against the contract requirements and in accordance with the performance objectives/criteria established in this plan. Award fee assessments will occur annually. The Contractor will not earn any award fee if its overall cost, schedule, and technical performance are below satisfactory. The unearned award fee in any given period will not be carried forward or "rolled-over" into subsequent periods.

2.0 ORGANIZATION

The award fee process utilizes a three-level system to ensure a full and fair performance evaluation. Members at all levels will be assigned by separate memorandum.

- Level 1.0 - FDO
- Level 1.1 - TWPC CO
- Level 2.0 - Performance Evaluation Board (PEB)
- Level 3.0 - Performance Evaluation Monitors (PEMs)

3.0 RESPONSIBILITIES

3.1 LEVEL 1.0 – FEE DETERMINATION OFFICIAL

The FDO ensures independent, executive-level review of the work of the PEB and PEM. The FDO for this contract is the Acting Manager of the DOE Oak Ridge Office of Environmental Management (OREM). The FDO's primary responsibilities are to:

1. Appoint the PEB Chair and members by memorandum.
2. Review the recommendation of the PEB; consider the PEMP findings for each evaluation period; and discuss the findings with the PEB Chair and, if appropriate, with others such as the Contractor.
3. Determine the amount of award fee earned and payable for each evaluation period and ensure that the amount and percentage of award fee earned is commensurate with, and accurately reflects the Contractor's performance.
4. Notify the Contractor via the CO of performance strengths, areas for improvement, and future expectations.
5. Issue and sign the award fee determination letter for the evaluation period specifying the amount of award fee determined and the basis for that determination.
6. Recommend changes to the PEMP to the CO.

Level 1.1 - CO

The CO for this contract is provided in Section G of the contract. The CO's primary responsibilities are to:

1. Issue the PEMP on an annual basis.
2. Approve the PEMP and any significant changes thereto.
3. Ensure that the award fee and contract incentives process is managed consistent with applicable acquisition regulations.
4. Ensure that the award fee process meets the overall TWPC business objectives.
5. Issue the award fee determination as authorized by the FDO.

3.2 LEVEL 2.0 – PERFORMANCE EVALUATION BOARD

The PEB includes:

- PEB Chair
- CO
- TWPC Performance Evaluation Program Manager
- Designated PEMs

The PEB's primary responsibilities are to:

1. Conduct ongoing evaluations of Contractor performance according to the objectives, elements, and measures stated in the PEMP.
2. Review the PEM reports and such additional performance information as may be obtained from the Contractor and other pertinent sources.
3. Consider the Contractor's self-assessment, if submitted.
4. Prepare the draft and final performance reports and arrive at an earned award fee recommendation to be presented to the FDO.
5. Appoint non-voting members, if appropriate, to assist the PEB in performing its functions (e.g., a recording secretary).
6. Request and obtain performance information from other units or personnel involved in observing Contractor performance, as appropriate.
7. Ensure timeliness of award fee evaluations.
8. Recommend changes to the PEMP for consideration by the CO in consultation with the FDO.

The PEB Chair

The PEB will also include a Chair who will be identified and appointed by the FDO. The Chair may assign or reassign PEMs at any time without advance notice to the Contractor.

The PEB Chair's primary responsibilities are to:

1. Review the PEM's evaluations and consider the Contractor's self-assessment.
2. Analyze the Contractor's performance against the criteria set forth in the PEMP.
3. Provide feedback to the Contractor via the CO.
4. Provide a recommendation on the award fee scoring and the amount earned by the Contractor.
5. Recommend changes to the PEMP for consideration by the CO in consultation with the FDO.

3.3 LEVEL 3.0 – PERFORMANCE EVALUATION MONITORS

TWPC Performance Evaluation Program Manager:

The Performance Evaluation Program Manager's primary responsibilities are to:

1. Advise the PEB on cost plus award fee rating standards, policies, and procedures and ensure the consistent application of Agency policy in these matters.
2. Receive and analyze the Performance Monitor Reports submitted by PEMs.
3. Monitor, evaluate, and assess Contractor performance.
4. Consider changes to this plan and recommend those determined appropriate to the CO and FDO.
5. Attend all PEB meetings and assist the PEB Chair in preparing all PEB correspondence for the FDO.
6. Coordinate the administrative actions required by the PEMs, PEB, and FDO, including:
    a. Receipt and processing of individual PEM evaluation reports from all required sources including consolidation of individual PEM reports into a single overall performance evaluation report.
    b. Scheduling and assisting with internal evaluation milestones, such as briefings.

PEM

As necessary, PEMs may be drawn as needed from the following individuals and/or units or others as deemed necessary by the PEB Chair:

- Portfolio Federal Project Director for TWPC
- Facility Representative(s) for TWPC
- DOE OREM
- Planning and Execution Division at DOE OREM
- Safety, Security, and Waste Management Branch at DOE OREM
- Quality and Mission Support Division at DOE OREM
- Property Administrator for TWPC

- Other offices within DOE OREM and the DOE Integrated Support Center-Oak Ridge as necessary

The PEM's primary responsibilities are to:

1. Monitor, evaluate, and assess Contractor performance in their assigned areas.
2. Prepare a Contractor Performance Monitor Report for the PEB.
3. Provide performance input to the PEB.
4. Recommend any needed changes to the PEMP for consideration by the CO in consultation with the FDO.
5. Maintain performance dialogue with PEB throughout the evaluation period.

4.0 FEE PROCESSES

A determination of the award fee earned for each evaluation period will be made by the FDO and provided to the Contractor no later than 90 calendar days after the end of the period.

NOTE: Provisional Award Fee payments may also be made in accordance with Contract Clause H.16, *DOE-H-1054 Performance Evaluation and Measurement Plan – Award Fee Process for CLIN 3*, paragraph (j). The method to be followed in monitoring, evaluating, and assessing Contractor performance during the period, as well as for determining the award fee earned or paid, is described below.

The fee earned by the Contractor will be determined at the completion of evaluation periods shown below. The dollar amount corresponding to each period is the maximum available fee amount that can be earned during that particular period. Assessments will be completed annually and the maximum available award fee are identified in the schedule below.

Award Fee Evaluation Period	Maximum Available Award Fee	Total Award Fee Earned
December 11, 2015 to October 26, 2016	$ 286,106*	$265,149
October 27, 2016 to October 26, 2017	$ 452,841*	$TBD
October 27, 2017 to October 26, 2018	$ 298,507*	$TBD
TOTALS*	$1,036,454	$TBD

*Maximum Available Award Fee for each period as of Modification 0022. Amount used for determining Maximum Available Award Fee will be pulled from Contract Clause H.16, *DOE-H-1054 Performance Evaluation and Measurement Plan – Award Fee Process for CLIN 3*, at close of Award Fee Evaluation Period.

This PEMP utilizes the following structure:

- Performance Objective - The highest level Award Fee incentive areas and a statement of the Contractor performance necessary to safely and successfully complete the project with respect to specified outcomes (e.g., cost, schedule, and technical performance).
- Performance Element - Targeted performance areas necessary to achieve the performance objective.
- Performance Measure - Specific criteria to objectively or subjectively evaluate Contractor performance in performance elements that will lead to achieving the performance objective.

Where possible, objective performance measures are used to determine award fee earnings. However, in the performance objectives identified, subjective (qualitative-based judgment) criteria are used, where appropriate. The performance objectives will be covered by two incentives, one covering cost and schedule, and one covering technical performance. Allocation of the award fee will be based on a 60/40 split between technical and cost/schedule as identified in the table below.

Award Fee Allocation Table – Evaluation Period 2

Incentive	Value (%)	Value ($)
1 - Cost and Schedule	40%	$181,136
2 - Technical Performance for Waste Processing Operations	60%	$271,705
Total Award Fee Available	100%	$452,841

DOE will evaluate performance of activities under CLIN 3 for Incentives 1 and 2 against the performance measures specified in Attachement A. As a result of DOE's evaluations, a numerical rating of 0 to 100 and an associated confidence or adjectival rating will be assigned for each incentive. The numerical ratings shall correspond to the Percent of Award Fee Earned for each incentive as shown in the Ratings and Definitions tables (see Tables A.1 and A.2 in Attachment A). Ratings shall take into account whether Contractor performance (as opposed to other factors and conditions) directly contributed to the overall outcome.

- The PEB Chair will ensure that a monitor is assigned for each Performance Element. Monitors will be selected on the basis of their expertise relative to prescribed performance area emphasis.
- The PEB Chair may change monitor assignments at any time without advance notice to the Contractor.
- The PEB Chair and Performance Evaluation Program Manager will ensure that each monitor receives the following:
  - A copy of this plan along with any changes made.
  - Appropriate orientation and guidance.
  - Specific instructions applicable to the monitors' assigned performance areas.

- PEMs will submit semi-annual Performance Monitor Reports and, if required, make verbal presentations to the PEB.
- The Contractor may submit a self-evaluation of performance for each evaluation period. While it is recognized that the basis for determination of the fee shall be the evaluation by the Government, the self-evaluation which should be received no later than 30 calendar days after the end of the period being evaluated, will be given consideration as the FDO finds appropriate.
- Contractor self-evaluations will be forwarded to the appropriate Performance Monitors, who will identify and/or acknowledge differences between their reports and the Contractor's self-evaluations prior to the PEB meeting. Such self-evaluation summaries will be included in the PEB package.
- Promptly after the end of each evaluation period, the PEB will meet to consider all the performance information it has obtained. As requested by the PEB Chair, monitors and other personnel involved in performance evaluation will attend the meeting and participate in discussions. At the meeting, the PEB will summarize its preliminary findings and recommendations for inclusion in the performance reports and other documentation such as PEB minutes.
- The PEB will prepare the award fee determination letter for the period, which will be submitted to the FDO.
- The FDO will consider the recommendations of the PEB, information provided by the Contractor, if any, and any other pertinent information in determining the amount of the award fee to be paid for the period. The FDO's determination of the amount of award fee earned and the basis for this determination will be stated in the award fee determination letter.
- The Contractor will be notified by the CO of the FDO's determination. The Contractor may request a debriefing from the PEB Chairperson. The Contractor will not earn any award fee if its overall cost, schedule, and technical performance are below satisfactory.

5.0 FEE PLAN CHANGE PROCEDURE

All significant changes are approved by the CO in consultation with the FDO; the PEB Chair approves other changes. Examples of significant changes include changing evaluation criteria, adjusting weights to redirect the Contractor's emphasis to areas needing improvement, and revising the distribution of the fee dollars. The Contractor may recommend changes to the CO no later than 30 days prior to the beginning of the new evaluation period. The CO, within 10 days, shall notify the Contractor in writing of any change(s). Unilateral changes may be made to the fee plan if the Contractor is provided written notification by the CO before the start of the upcoming evaluation period. Changes effecting the current evaluation period must be by mutual agreement of both parties.

6.0 CONTRACT TERMINATION

If the contract is terminated for the convenience of the Government after the start of a fee evaluation period, the fee deemed earned for that period shall be determined by the FDO using the normal fee evaluation process. After termination for convenience, the remaining fee amounts allocated to all subsequent fee evaluation periods cannot be earned by the Contractor and, therefore, shall not be paid.

ATTACHMENT A.

AWARD FEE EVALUATION CRITERIA AND PROCESS

The Performance Objectives related to cost, schedule, and technical performance will be evaluated using two performance elements: The Cost and Schedule Performance element will cover cost and schedule objectives while the Technical Performance for Waste Processing Operations element will cover the technical performance objective.

Cost and Schedule Performance Element – (40 percent)

Description of Performance Objective: The cost and schedule performance objective is a performance measurement tool to assess the Contractor's ability to control and efficiently manage cost associated with waste processing activities as related to management of CLIN 3. The primary objective of the Cost and Schedule Performance element is to encourage the Contractor to achieve an actual cost that is equal to or less than the Total Estimated Cost of CLIN 3 for the contract period as reflected in the PEMP, while fully achieving all scope requirements. An approved performance measurement baseline that aligns with the contract is critical to properly evaluate project performance.

- The Contractor shall be evaluated using the following performance measures:
  - Cost Control: The Contractor's cost shall be evaluated against the budgeted costs commensurate with schedule performance. The Contractor will follow sound business practices for incurrence and management of costs. The analysis of cost control performance will give consideration to changes clearly beyond the Contractor's control which impact actual costs.
  - Estimate at Completion (EAC): The Contractor is expected to take actions to provide an EAC that reflects the scope under CLIN 3 and is realistic and reasonable. The Contractor is expected to provide an adequate explanation and justification if EAC is not consistent with performance trends or forecasting tools such as To Complete Performance Indicies.
  - The Contractor is expected to achieve a final actual cost that is equal to or less than the Total Estimated Contract Cost (TECC) for CLIN 3 while achieving all scope requirements under CLIN 3.
  - Baseline Management: The Contractor shall be evaluated based on establishing a contract performance baseline, for CLIN 3 activities only that is aligned with the negotiated estimated contract cost, and submitting Baseline Change Proposals (BCPs) required by contract modifications within 30 days of issuance of the modification and aligned with the scope, schedule, and cost changes in the modification.

Consideration will be given to how the Contractor prudently managed costs while meeting CLIN 3 requirements. DOE will assign a confidence rating and percentage of fee earned to the Cost and Schedule Performance Element based on Table A-1.

Table A-1. Cost and Schedule Performance Element Confidence Ratings and Definitions

Confidence Rating	Award Fee Pool Available To Be Earned	Description
High Confidence	91%--100%	• Costs are generally less than budgeted costs, commensurate with schedule performance, and have been incurred with sound business practices. • All BCPs required for contract performance baseline were submitted within the timeframe specified in Section J of the contract and all BCPs required for contract modifications were submitted within 30 days of the issuance of the modification and align with the modification. All BCPs are of sufficient quality. • EAC is less than the TECC
Medium-High Confidence	76%--90%	• Costs are generally equal to budgeted costs, commensurate with schedule performance, and have been incurred with sound business practices. • The majority of the BCPs required for contract performance baseline were submitted within the timeframe specified in Section J of the contract and the majority of the BCPs required for contract modifications were submitted within 30 days of the issuance of the modification and align with the modification. The majority of BCPs are of sufficient quality. • EAC exceeds the TECC by no more than two percent.
Medium Confidence	51%--75%	• Costs do not exceed budgeted costs by more than five percent, commensurate with schedule performance, and have been incurred with sound business practices. • Most BCPs required for contract performance baseline were submitted within the timeframe specified in Section J of the contract and most BCPs required for contract modifications were submitted within 30 days of the issuance of the modification and align with the modification. Most BCPs are of sufficient quality. • EAC exceeds the TECC by two to four percent.
Low Confidence	1%--50%	• Costs do not exceed budgeted costs by more than five to seven percent, commensurate with schedule performance, and have been incurred with sound business practices. • Most BCPs required for contract performance baseline were not submitted within the timeframes specified in Section J of the contract and most BCPs required for contract modifications were not submitted within 30 days of the issuance of the modification and align with the modification. Most BCPs are not of sufficient quality. • EAC exceeds the TECC by four to six percent.
No Confidence	0%	• Costs exceed budgeted costs by more than seven percent, commensurate with schedule performance, or have been incurred with less than sound business practices. • The majority of the BCPs required for contract performance baseline were not submitted within timeframe specified in Section J of the contract and the majority of the BCPs required for contract modifications were not submitted within 30 days of the issuance of the modification and did not align with the modification. The majority of BCPs are not of sufficient quality. • EAC exceeds the TECC by more than six percent.

Technical Performance for Waste Processing Operations – (60 percent)

Description of Performance Objective: The waste processing operations performance objective is a performance measurement tool to assess the Contractor's ability to meet the National TRU Program waste management and disposition requirements as described in the PWS and the Contractor Performance Baseline (CPB) for the CLIN 3 scope.

The performance elements and measures that support the performance objective are described below:

1. CH TRU Waste Processing: By the end of the evaluation period (October 26, 2017), complete the processing of-16.01m^3. Final quantity will be drawn from the CPB at the close of the evaluation period of the CH TRU debris waste inventory.
2. CH TRU Shipping: Measures cannot be determined at this time due to the Waste Isolation Pilot Plant closure.
3. RH TRU Waste Processing: By the end of the evaluation period (October 26, 2017), complete processing of 76.32m^3. Final quantity will be drawn from the CPB at the close of the evaluation period of the RH TRU debris waste inventory.
4. RH TRU Shipping: Measures cannot be determined at this time due to the Waste Isolation Pilot Plant closure.
5. LLW, MLLW, and Liquid Low-Level Waste Treatment: LLW, MLLW, and liquid low-level waste resulting from TWPC waste operations, including that treated by offsite vendors and empty concrete casks, shall be shipped to disposal in a timely manner. Treatment and packaging of LLW and MLLW shall meet disposal site requirements. Use of macro-encapsulation or other methods to treat MLLW, including use of vendor provided services will be evaluated for efficiency and effectiveness. The TWPC Contractor shall monitor work by offsite vendors and ensure timely waste treatment. For waste that has been determined to be non-TRU before the Central Characterization Program, the Contractor shall ensure that the necessary characterization and certification are performed to meet disposal site requirements.
6. Management of the Nevada National Security Site (NNSS) Certification Program: Existing waste stream profiles shall be maintained and revised as needed. New profiles shall be developed as needed to support packaging, treatment, shipment, and disposal of all LLW and MLLW. The NNSS Waste Certification Program shall be maintained compliant with the latest revision of the NNSS Waste Acceptance Criteria.
7. The Contractor shall ensure the implementation of an effective worker safety and health program by:
    7.1 Ensuring effective safety and health programs (e.g., *Worker Safety and Health Program*, Title 10, Code Federal Regulations [CFR], Part 851; *Radiation Protection Program*, Title 10, CFR, Part 835; *Safety Basis Requirements*, Title 10, CFR, Part 830; *Facility Safety*, DOE Order 420.1B Chg 1; *Transportation Safety*, DOE Order 460.1C/ DOE Order 460.2A; etc.) are successfully implemented at TWPC facilities.

7.2 Maintaining a Total Recordable Case rate and Days Away, Restricted or Transferred rate such that safety performance indicates an improving trend unless the rate is zero. In cases where the trend is not improving, the Contractor will implement compensatory measures to improve performance.

7.3 Ensuring the safe and compliant packaging and transportation of hazardous materials and waste in accordance with applicable rules and regulations.

8. Efficient operation of CH and RH processing facilities:

8.1 Maintain safe and efficient processing in the Box Breakdown Area, Hotcell, and the Glovebox areas. Monitor processing rates throughout processing of wastes deemed difficult to process (e.g., Nuclear Safety concerns not standard to RH or CH processing).

8.2 Monitor drums of MLLW with the primary of not exceeding 270 days, while also resolving any issues to keep containers off the 180 day list. Performance will be measured by the number of containers not covered by a Burden of Proof statement on each list from month to month during the evaluation period.

8.3 Install and test the Glovebox for handling the Solid Waste Storage Area-5 waste and successfully complete the readiness reviews necessary to initiate processing.

Table A-2. Technical Performance Element Ratings and Definitions

Award Fee Adjectival Rating	Award Fee Pool Available To Be Earned	Description
Excellent	91-100%	Contractor has exceeded the majority of the significant award fee criteria and has met overall technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award fee plan for the award fee evaluation period.
Very Good	76 - 90%	Contractor has exceeded many of the significant award fee criteria and has met overall technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award fee plan for the award fee evaluation period.
Good	51 - 75%	Contractor has exceeded some of the significant award fee criteria and has met overall technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award fee plan for the award fee evaluation period.
Satisfactory	No Greater Than 50%	Contractor has met overall technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award fee plan for the award fee evaluation period.
Unsatisfactory	0%	Contractor has failed to meet overall technical performance requirements of the contract in the aggregate as defined and measured against the criteria in the award fee plan for the award fee evaluation period.

ATTACHMENT B.

SAMPLE AWARD FEE EVALUATION

SAMPLE AWARD FEE EVALUATION

PERIOD FROM October 27, 2016 TO October 26, 2017 DATE OF REPORT: _____

CONTRACT NUMBER: DE-EM0003760 CONTRACTOR: North Wind Solutions, LLC

BOARD MEMBERS:

_____

_____

INCENTIVE

Incentive	Assigned Numerical Rating	Percent of Award Fee Earned	Maximum Available Award Fee for the Evaluation Period	Amount of Fee Earned*
(1) Cost and Schedule	40%			
(2) Technical Performance of Waste Processing	60%			
Total	100%			

*The Amount of Fee Earned = Assigned Numerical Rating x Percent of Award Fee Earned x Maximum Available Award Fee for the Evaluation Period.

ID# 4614

QL-1 DOC	
YES	NO
	X

Concurrence	
Rtg. Symbol	EM-91
Initials	Jennings
Date	
Rtg. Symbol	EM-91
Initials	Hancsarik
Date	
Rtg. Symbol	EM-91
Initials	Shears
Date	
Rtg. Symbol	EM-90
Initials	Wilkerson
Date	
Rtg. Symbol	EM-90
Initials	Mullis
Date	
Rtg. Symbol	
Initials	
Date	
Rtg. Symbol	
Initials	
Date	
Rtg. Symbol	
Initials	
Date	

File Code: 413.2.G.4 Reference:

READY FOR DISPATCHING

EM-91:Jennings:574-5563:bdm:241-5683:06/23/2017/
https://intranet.osc.doe.gov/depts/em/em%20documents/EM%2091%20Procurement%20Co
ngs/ID%204614%20DE-EM-
0003760%20Performance%20Evaluation%20and%20Measurement%20Plan%20(27%20Oct%2016%20-
%2026%20Oct%2017)_Revision1.doc

ECAS TERM		DESCRIPTION
PROJECT IDENTIFICATION	WBS LEVEL 1	This is currently a default to "EM"
	WBS LEVEL 2	This is the EM Site where work is performed (i.e., ANL (Argonne National Lab}, BNL (Brookhaven National Lab), INL (Idaho National Lab}, OR (Oak Ridge), SR (Savannah River) ; RL (Richland), etc., etc., in accordance with the EM CWBS Structure). This is provided by DOE.
	WBS LEVEL 3	This includes the Site and Program Baseline Summary (PBS) identifier and is provided to the contractor by DOE.
	WBS LEVEL 4	The Unique Project ID established by EM consistent with the CWBS. In accordance with the Implementing Guidance Memorandum from EM-2 dated August 26, 2010, DOE EM has implemented a corporate work breakdown structure (CWBS). The CWBS follows the American National Standards Institute (ANSI) Standard 748-A, Section 3. DOE will provide the appropriate CWBS information to be used by the contractor.
	PROJECT NAME	This is typically, but not necessarily, the EM defined project name associated with the CWBS at the ECAS Project Level. ECAS projects are typically reported in PARS II and may be part of a parent project. The project name is provided by DOE and is unique to each ECAS project.
	PROJECT DESCRIPTION	Brief single paragraph describing the project identified and work scope completed and reported. This is developed by the contractor and should capture the start and end state for work completed under the contract.
	PARAMETER PROJECT TYPE	Identify whether the project being reported is one of (4) project types: • 1)"Building/ Structure D&D"; • 2)(ER) "Environmental Restoration"; • 3) or Nuclear Material Operations (NMO), or• • 4) (WMO) "Waste Management Operations" based on the work associated with the majority of costs for the particular project. This is identified by the Contractor.
	PROJECT_ DETAIL_TYPE	For D&D and Waste Management Projects: Specific types of buildings or structures decommissioned, or waste management or nuclear operations performed, as prescribed in the ECAS User's Manual.
	ER_TYPE	In-situ, ex-situ, buried, soil and groundwater; characterization, lonq term manaqement and S&M
	ER_TYPE DETAIL	Specific technologies or process used to address, as DETAIL prescribed in the ECAS User's Manual.

SITE WBS INFORMATION	**WBS 5 THRU 8**	These fields are used to store the site or contract specific WBS identifiers and represent drilling to three levels below the defined project level. These are unique to each site. The Work Activity resides at or below this level.
	WBS DESCRIPTION	This corresponds to the narrative description for the lowest level identified. This is only used at ECAS Level " 6 Comp T A Element" and is established by the contractor.
	ECAS LEVEL	This refers to the level of the data being reported. Projects may be grouped based on their complexity into "parent" projects. All "parent" projects are reported as ECAS Level "_4_T_A_Proj"; All projects are reported at ECAS Level "_5_T_A_Proj" ; All data reported which is part of a project is reported at ECAS Level "_6_Comp_T_A Elmnt".
	SUM_OR_CE	This refers to how the numeric data is derived. All ECAS Level SUM_OR_CE "4_T_A_Proj" and "_5_T_A_Proj" information is calculated based on a summation of lower level elements. ECAS Level " 6 Comp T A Elmnt" entries are direct contractor entries.
	SUBPROJECT NAME	This field is optional and is used to identify subprojects typically represented as a phase, or other portion of an ECAS Level "_5_T_A_Proj" project and will depend on how these projects are executed.
	PHASE_START DATE	This reflects the start date of the work being reported from the contract in the followinq format "mo/day/year" or "xxlxxlxxxx"
	PHASE_END DATE	This reflects the end date of the work being reported from the contract in the followinq format "mo/day/year" or "xxlxxlxxxx "

ENVIRONMENTAL COST ELEMENT STRUCTURE	**ECES_LEVEL_1**	ECES level 1 represents the project life cycle (LC) phase per ASTM 2150. The ASTM 2150 LC definitions do not correlate directly to the Project Life Cycle Phases "CD-0 thru CD-4" that are spelled out in DOE 0 413.38. The ECES phase will vary depending on how the project is executed. If each phase is a discreet procurement action then: Environmental • Phase "1"-Assessment Phase: This phase includes the Cost Element assessment and inspection of the site, and preparation of Structure (ECES) site inspection report. Specific activities comprise of the following: • CERCLA Preliminary Investigation/Site Investigation (PA/SI) • RCRA Facility Assessment (RFA) • Preliminary Planning for waste and special material operations • Pre-Decommissioninq actions and planning • Phase "2" -Studies: This phase includes characterization, investigations, risk assessment, development and evaluation of treatment or remedial options, and treatability studies. For example, the CERCLA Remedial Investigation and Feasibility Studies (Rl/FS), RCRA Facility Investigation/Corrective Measure Study (RFl/CMS), and Pre-conceptual Design/Research and Development are conducted in this phase. • Phase "3" -Design phases: This phase consists of engineering design and pre-construction activities of treatment or remediation alternatives. Examples of phase three activities include: CERCLA Remedial Design (RD), RCRA - Design portion of Corrective Measures, Waste Management facility design, and decommissioning and dismantlement design. • Phase "4" -Capital Construction: This phase includes construction of selected treatment or remediation

		• Phase "5" -Operations and Maintenance: This phase includes all operations and maintenance activities for the selected treatment or remediation alternatives. Phase 5 ends when clean-up or waste treatment goals are met. Examples of tasks for this phase include: CERCLA technology or remediation operations and maintenance; RCRA facility O&M; Waste Management facility O&M, and D&D O&M. • Phase "6" -Long Term Surveillance and Maintenance: Phase 6 starts when operations have ceased or maintenance of a shut-down facility begins. Examples of phase 6 elements include: post closure surveillance and long term monitoring and on-site storage/disposal facility. • "8" is used for Cross Cutting for program management where costs cannot be segregated into discreet projects. Phase 8 is not an environmental life-cycle element. This Phase is meant to capture program wide or cross-cutting costs that cannot be readily separated into a specific project. This element is also used to indicate those cost that are expended over all the life-cycle phases of a project. • "8" is used for Cross Cutting for program management where costs cannot be segregated into discreet projects. Phase 8 is not an environmental life-cycle element. This Phase is meant to capture program wide or cross-cutting costs that cannot be readily

	ECES_LEVEL_2	ECES level 2 represents a major work element under the LC Phase. These elements will usually correlate with a WBS element and typically include: • ".01" is used for Program Management Support and Infrastructure, • ".02" is used for "Project Management and Support", • ".03" is used for "Preparation of Plans and Specifications", • ".04" is used for "Project Studies and Design", • ".05" is used for "Site Work", • ".06" is used for "Surveillance and Maintenance" • ".07" is used for "Investigations and Monitoring/ Sample collection" • ".08" is used for "Sample Analysis" • ".09" is used for " Sample ManagemenUData Validation/Data Evaluation" • ".1O" is used for "Treatability/Research And Develppmeht" • ".11" is used for "Treatment PlanUFacility/Process" • ".12" is used for "Storage Facility/Process" • ".13" is used for "Disposal Facility/Process" • ".14" is used for "Ordnance And Explosives (OE) Removal And Destruction" • ".15" is used for "Drums/ Tanks/ Structures/ Miscellaneous Removal/ Abatement" • ".16" is used for "Air Pollution/Gas Collection And Control" • ".17" is used for "Surface Water/ Sediments Containment, Collection, And Control" • ".18" is used for "Groundwater Containment, Collection, Or Control" • ".19" is used for "Solids/S Oils Containment (E.G., Capping/ Barrier) Collection Or Control"
		• ".25" is used for "IN-Situ Physical Treatment" • ".26" is used for "EX-Situ Physical Treatment" • ".27" is used for "IN-Situ Thermal Treatment" • ".28" is used for "EX-Situ Thermal Treatment" • ".29"is used for "IN-Situ Stabilization/Fixation/ Encapsulation" • ".30"is used for "EX-Situ Stabilization/Fixation/Encapsul ation" • ".31" is used for "Facility Decommissioning And Dismantlement" • ".32" is used for "Material Handling/Transportation" • ".33" is used for "Disposal" • ".34" is used for "Air Emission and Off-Gas Treatment" • ".91, .92, .9x, etc." Is used for an element not otherwise identified in the ECES structure

	ECES_LEVEL_3, ECES_LEVEL_4, ECES_LEVEL_5, ECES_LEVEL_6	The ECES has also identified lower elements in Level 3 through 6 which allow for drilling down to specific work activities under the major element identified in ECES Level 2. All projects entered into ECAS should have data at least to ECES Level 3 and contractor accounting systems should capture data to at least this level. Because of the ECES structure, D&D (under .31 "Facility Decommissioning And Dismantlement") projects will require codification to at least Level 4. Waste Management projects/programs (under .11 "Treatment PlanUFacility/Process") will likewise require codification to at least ECES Level 4. The complete list of ECES codes in the DOE Adjunct to ASTM 2150 is available through the EMCBC Office of Cost Estimating & Project Management Support, Applied Cost Engineering (ACE) Team site at: " http://www .emcbc .doe.gov/Office/ACETeam " Users should go to the listed internet and select the "ECES Download" tab. Additional information is also available at this location regarding ECES levels and definitions, and the DOE Adjunct. Use the "Other" element ending with the value ".9x" under the application ECES code if a work activity does not have a direct corollary, and renumber the ".9x" to the next available unique number.
	ECES_ DESCRIPTION	This field is used to capture the ECES description of the lowest ECES level captured as stated in the "All Level" listing of ECES codes.
LABOR HOUR AND COST DATA	**BUDGET HOURS**	This should represent the total budget labor hours per the approved Contract Performance Baseline (CPB) for the project.
	BUDGET COST	This should represent the total estimated cost per the approved Contract Performance Baseline (CPB) for the work completed for the project under the contract.
	PROF LABOR HOURS	These are the actual total hours for "non-craft" labor used during performance of the contract. These will include hours for both FLSA "exempt" and "non-exempt" employees and can also include employees covered under collective bargaining agreements. Hours for all employees not otherwise designated as "craft" labor should be included here.
	PROF LABOR COST	This is the total "fully burdened" cost for all "PROF_LABOR_HOURS" reported. This generally excludes profit or fee, and indirect costs applied to labor that are captured in other fields.

	CRAFT_LABOR HOURS	These are the actual total hours for "craft" labor used during performance of the contract. Craft labor typically falls under Davis-Bacon Act requirements, is typically FLSA "non-exempt", and at most EM sites are also affected by collective bargaining agreements. Hours for all employees not otherwise designated as "professional" labor should be included here.
	CRAFT_COST	This is the total "fully burdened" cost for all "CRAFT_LABOR_HOURS" reported. This generally excludes profit or fee, and indirect costs applied to labor that are captured in other fields.
NON-LABOR ELEMENTS OF COST	**MATERIALS_SUPPLIES_COST**	Prime Contractors and Major subcontractors are required to report their hours charged to the project per the contract by element of cost. This field reflects all costs charged for materials and supplies consumed during the completion of work under the contract.
	EQUIPMENT_COST	Prime Contractors and Major subcontractors are required to report their hours charged to the project per the contract by element of cost. This field reflects all costs charged for equipment rental during the completion of work under the contract.
	PROFESSIONAL SERVICES_HOURS	Major subcontractors are required to report their hours charged to the project per the contract. This field reflects all hours charged for professional services by major subcontractors.
	PROFESSIONAL SERVICES_COST	This field reflects all labor and non-labor costs completed by a subcontractor providing professional services that are charged to the project.
	CONST_SUBCONTRACT HOURS	Major subcontractors are required to report their hours charged to the project per the contract. This field reflects all hours charged for worked performed by major subcontractors.
	CONST_SUBCONTRACT COST	This field reflects all labor and non-labor costs completed by a subcontractor, or completed work other than professional services that are charged to the project.
	FUEL_UTILITIES COST	Prime Contractors and Major subcontractors are required to report their hours charged to the project per the contract by element of cost. This field reflects all costs charged for fuel and utility costs incurred during the completion of work under the contract.
	OTHER DIRECT COSTS	Prime Contractors and Major subcontractors are required to report their hours charged to the project per the contract by element of cost. This field reflects all costs charged for other direct costs not otherwise captured during the completion of work under the contract.

	GENERAL ADMIN	"General and administrative (G&A) expense" means any management, financial, and other expense which is incurred by or allocated to a business unit and which is for the general manaoement and administration of the business unit as a whole.
	PROFIT_ OVERHEAD COSTS	This field reflects the profit or fee paid to the contractor attributable to completion of the work required under the contract. This cost should be the portion allocated to each reportable project.
	CALC OR ACTUAL	Actual reported costs is required, and the contractor should identify whether or not the "GRAND_TOTAL _COST" is calculated from summing lower level costs reported, or is based on actual reported costs.
	COST_PEDIGREE	The best sources of data are original documents and databases, such as cost accounting databases that were used to develop the actual costs reported to DOE. The validity of such data is considered to be at the highest level. Even so, it should be confirmed against contractual documents to ensure that it represents the correct scope of work. This should be identified as "high, medium, or low" based majority of costs meeting these criteria
INDIRECT COSTS	**INDIRECT DISTRIBUTED COST_L5**	ECAS "Distributed" costs consist of management or support costs that the site has collected that is applicable to a specific ECAS Project or subproject. These costs may also be distributed across elements of the project.
	INDIRECT DISTRIBUTED COST_L4	These "Distributed" costs consist of management or support costs that the site has collected at a level above the ECAS Project or subproject (i.e., it is "distributed" over several projects). These costs are most easily addressed as costs that may be pro-rated against direct costs in ECAS Projects or subprojects.
	INDIRECT DISTRIBUTED COST_SITE	"Indirect cost" means any cost not directly identified with a single final cost objective, but identified with two or more final cost objectives or with at least one intermediate cost objective. "Indirect cost rate" means the percentage or dollar factor that expresses the ratio of indirect expense incurred in a given period to direct labor cost, manufacturing cost, or another appropriate base for the same period (see also "final indirect cost rate")..
	INDIRECT DISTRIBUTED COST_WASTE	"Waste costs" consist of the costs of on-site waste management, on-site treatment/ transportation , and disposal costs for those wastes generated by an ECAS Project. In most multi-project DOE sites a central materials disposition or waste management organization handles the waste generated by an EM project.

PRIMARY PARAMETERS	**PARAMETER_ UOM**	This field captures the primary parameter unit of measure and is reported at ECAS level "_5_T_A_Proj" . Facility D&D projects will have a primary parameter of square feet (SF) for the gross square feet of the facility. Waste type projects will have volumetric parameter (cubic feet (CF), cubic meter (m\ cubic yards (yd\ etc.). Environmental Restoration type projects will have a volumetric parameter, or flow rate, etc.
	PARAMETER_ VALUE	Quantity or numeric value of primary parameter
	PRINCIPLE CONTAMINANT	Acids/Caustics, Asbestos , Fuels, Herbicides, Metals, Multi-contaminant, perchlorate, pesticides, Poly Chlorinated Biphenyls (PCBs), Radiation (High, Low, Transuranic(TRU)), Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs), Other
WASTE PARAMETERS	**PARAMETER_ UOM**	As above
	WASTE_OR_ MATERIAL_ TYPE	Mixed, Contact handled (CH), Remote handled (RH), Transuranic (TRU), Low Level Waste (LLW), High Level Waste (HLW), Hazardous (HAZ), Sanitary Waste, Spent Nuclear Material (SNM), Spent Nuclear Fuel (SNF), PCBs, Non- Hazardous (Non-Haz), etc.
	PCKG_TYPE	"Bulk; Containerized-general, small-medium-large box; Cask (HLW); Liquid-Tank, HIC; Drum; 825; Overpack; Other
	DISP_TRTMT	No Treatment, Treatment at Origin, Treatment at Disposal facility
	DISP FAC REG	None; Treatment at OriQin; Treatment at Disposal Facility
SUPPLEMENTAL D&D PARAMETERS	**BUILDING- TYP**	B_Typ_1- (SF) Transite, non-rad, contaminated, coal/oil/steam plant; office building; non-contaminated equipment; other. B_Typ_2 -(SF) Pu Storage; Small Reactor; LLW Tanks w/ and w/o sludge; Low level lab; Generic rad facility (GRF); GRF plus loose contamination; solid waste packaging; contaminated equipment; water storage (pkg. waste) ; other. B_Type-3 - (SF) Reactor (Weapons/commerci al; Spent Nuclear Fuel (SNF)-reprocessing; Plutonium/ Enriched Uranium Processing; Remote/Semi-remote waste treatment; HLW Tanks wt and w/o sludge; Other
	CONSTRUCTI ON TYPE	Number of stories-below grade surface, above grade surface, hiqh bay facility, multi-story no levels, Other
	STRUCTURE-TYPE	Masonry exterior walls; brick & glass; Metal; prefabricated/ modular; reinforced concrete; steel frame-siding; wood frame- siding
	FSA TYPE	Specific types of Functional Space Area related to a D&D subproject, as prescribed in the ECAS User's Manual.
	FSA COMPLEX	Complexitv (hiah. Medium, low)
	MGMT_COMPLE	Manaqement Complexity (High. Medium, low)
	TECH_COMPLEX	Technical Complexity (High. Medium, low)

PROJECT DESCRIPTORS	REG_COMPLEX	Requlatorv Complexity (Hiqh. Medium, low)
	PUB_COMPLEX	Public or Stakeholder Complexity (High. Medium, low)
	PL_ALL	Protection (PPE) Level: A-E; Graded, based on OSHA standards
	ER CMPLX	Environmental Restoration Complexity (High, Medium, low)
	GW CMPLX	Groundwater Complexity (Hiqh. Medium, low)
	SW_CMPLX	Surface Water Complexity (High. Medium, low)
	SOIL CMPLX	Soil Complexity (Hiqh. Medium, low)
	ECO CMPLX	Ecological Complexity (High. Medium, low)
	WET WILD	Wetlands/ Wildlife Complexity (Hiqh. Medium, low)
	HIST	Historical/ Archaeological Complexity (High. Medium, low)
	MEDIA ST	Media Interest Complexity (high. Medium, low)

Integrated Work Control Systems and Reporting Requirements (April 2014)

The following Environmental Management (EM) policies and guidance apply to Section H, Integrated Contractor Work Control Systems and Reporting Requirements.

A. Project Control System

1. **Operations Activities:**
   a. Office of Environmental Management's Operations Activities Protocol, dated March 15, 2012
   b. DOE Work Breakdown Structure Handbook, August 16, 2012
   c. Primavera Project Manager version P6 (or most current version) for scheduling activities to ensure standardization
   d. EVMS is encouraged, but not required. Data elements for the Monthly Reporting requirements are in paragraph B.2. Performance Reporting table, Operation Activities.
   e. Contract Performance Reports in the following five formats unless specified otherwise. For instructions on how to fill the forms refer to Dl-MGMT-81861 (item A.2.f.)
      i. Format 1, DD Form 2734/1 , March 05, Work Breakdown Structure
      ii. Format 3, DD Form 2734/3, March 05, Baseline;
      iii. Format 5, Form; NIA , Explanations and Problem Analysis
      iv. Format 6, Form: NIA, Integrated Master Schedule
      v. Format 7, Form: N/A, Electronic History and Forecast File
   f. Data Item Description, Dl-MGMT-81468, Contract Funds Status Report (CFSR) or equivalent
   g. Integrated Planning, Accountability, and Budgeting System – Guidance Documents, dated June 2011 (or most current version).

2. **Other Documents:** The following documents provide background and context for planning and reporting requirements in Section H, Integrated Contractor Work Control Systems and Reporting Requirements:
   a. Federal Acquisition Regulation (FAR) and Department of Energy Acquisition Regulation (DEAR)
   b. DOE Acquisition Guide
   c. Office of Environmental Management Corporate Work Breakdown Structure, November 9, 2011
   d. Work Breakdown Structures, MIL-STD-881 C
   e. Data Item Description, Dl-MGMT-81334D, Contract Work Breakdown Structure
   f. Data Item Description, Dl-MGMT-81861, Integrated Program Management Report (IPMR), June 20, 2012
   g. IPMR Final Implementation Guide, Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics (OUSD AT&L) Performance Assessments and Root Cause Analyses (PARCA), January 24, 2013
   h. Over Target Baseline and Over Target Schedule Guide, OUSD AT&L (PARCA), December 5, 2012
   i. Environmental Cost Element Structure (ECES), ASTM International Designation E: 2150-02 DOE Adjunct to ASTM 2150-02

B. Baseline Development and Performance Reporting

1. Contract Performance Baseline Submittal

a. Contract Performance Baseline (CPB) segments for performance planning, tracking and reporting will generally map to level 4 of the Corporate Work Breakdown Structure (CWBS) (see paragraph A.2.c.) but may be tailored, as negotiated by CO and contractor, when combining or further disaggregation maximizes efficiency for performance planning, tracking and reporting.

b. The full CPB and CPB segments must reflect the requirements of the Contract SOW, identify key milestones and performance metrics (regulatory, DOE, and incentive) and be consistent with the estimated cost or target cost (excluding fee/profit and cost overruns) in Section B of the contract as agreed to by the contractor and the Government.

c. CPB segment(s) for operations activities will consist of detailed work plans for current and succeeding fiscal years; at a minimum, planning level work plans are required for the remainder of the Contract period of performance. CPB for operations activities will include a Management Plan that documents contractor's process for work planning and management including change control, performance tracking and reporting systems and methods. The Management Plan will also document any assumptions, regulatory requirements, safety and quality assurance management, risk management, milestones and metrics, budget profile, roles and responsibilities of the contractor's integrated management and support team.

d. WBS will start for each CPB segment at the CWBS level 4, .and further broken down into appropriate elements for planning, budgeting, scheduling, cost accounting, work authorization, measuring progress, and management control. The WBS must be extended to the level necessary for management action and control based on the complexity of the work (See Section H, *Integrated Work Control Systems And Reporting Requirements*, Section B, Baseline Development and Performance Reporting). WBS and WBS dictionary sheets or scoping narratives will be at the level at which costs are collected. The WBS submittal shall include a cross-reference of the WBS elements to the CPB segment and CLIN consistent with the Contract Line Item Number Assignment against Contract Structure.

e. The Initial CPB is the baseline plan that must be submitted at Contract award. It shall be 100% aligned with the scope, cost and schedule as submitted with the contractor's proposal with any revisions resulting from negotiations leading to Contract award. The Interim CPB is generally required within 90 days from contract award or Notice to Proceed and will cover the first approximately 15 months of the Contract.

f. The Interim CPB must match the scope and cost for this period in the Contract. When the Contract includes multiple projects and operations activities the Interim CPB allows tracking of the scope, cost and schedule for each CPB segment until the full CPB with its unique segments are in place.

g. The full CPB will subsume the Interim CPB as currently approved in its entirety. An Interim CPB is required to be submitted during the Contract Transition Period that will cover the first approximately 15 months of the Contract (See Section D.4.a. for more details. The full CPB will be an extension of the Interim CPB that includes any modifications approved up to the time when the full CPB is submitted.

2. Performance Reporting

CPB Segment	Reporting Requirement
Operations Activities	Monthly Performance Report will include narrative description of scope accomplished, progress on corporate and Contract specific performance metrics, costs incurred versus CPB plan, any related impacts and corrective action, and status of CPS milestones and deliverables. If the Contract requires EV reporting, the contractor's Monthly Performance Report for each CPB segment will include Contract Performance Reports (CPR) formats 1, 3, 5, and 6. If the CPS segment consists primarily of Level of Effort (LOE) activities, the status report will tabulate planned versus actual cost by major functions as agreed to between the contractor and the CO. [Note: IPABS is the central repository for EM planning and performance data. Contractor Monthly Performance Report is used by the site or field office to enter the monthly performance data into IPABS.]

C. Baseline Terms

DOE and EM use baseline terms to communicate Contract and project status. Therefore it is critical for contractors working on DOE contracts to understand and use consistent terminology to promote effective communication and performance. The following definitions and explanations are provided to ensure a common understanding and clarification of Contract language consistent with the requirements EM Policy and Protocol for managing EM Operations Activities (OAs) issued March 15, 2012

1. Baseline Terminology for Operations Activities

a. Contract Performance Baseline (CPB)

The Contract Performance Baseline (CPB) represents the cost, schedule, and the entire scope and entire period of performance as it relates to the total estimated cost of the Contract exclusive of fee and any contract overruns as stated in Section B of the Contract. Contract Budget Base (CBB) is the cost element of the CPB and equals the Estimated Cost (excluding fee and cost overrun).

Many EM contracts include multiple capital asset projects as well as multiple operations activities. The CPBs for each capital asset project and each operations activity in a contract that has multiple projects and operations activities are called CPB segments. Contract segments may be pre-defined in a Contract as CLINs, but may also be identified later during Contract execution as the work execution approach becomes clearer and the contractor and DOE mutually agree to further sub-divide ("chunk") larger activities or projects into more manageable segments. The full CPB for a Contract with multiple projects and operations activities is the sum of all the CPB segments.

EM has put in place a Corporate Work Breakdown Structure for its entire program scope. See reference document listed in paragraph A.2.c. Level 4 of the CWBS are the Activity Building Blocks (ABBs). The CPB segments may map to one or more ABBs, but an ABB can only be part of one CPB.

b. Fiscal Year Work Plans (FYWP)

FYWPs are annual work plans that define the work scope to be accomplished in each fiscal year thru the Contract period of performance based on planned budget allocations. FYWP for each operations activity provides the scope, cost, schedule, performance metrics, milestones, assumptions, and risks associated with the operations activity. Even though the FYWP is a Federal document, it is based on the contractor's CPB segment for the operations activity (See Figure 1 below).

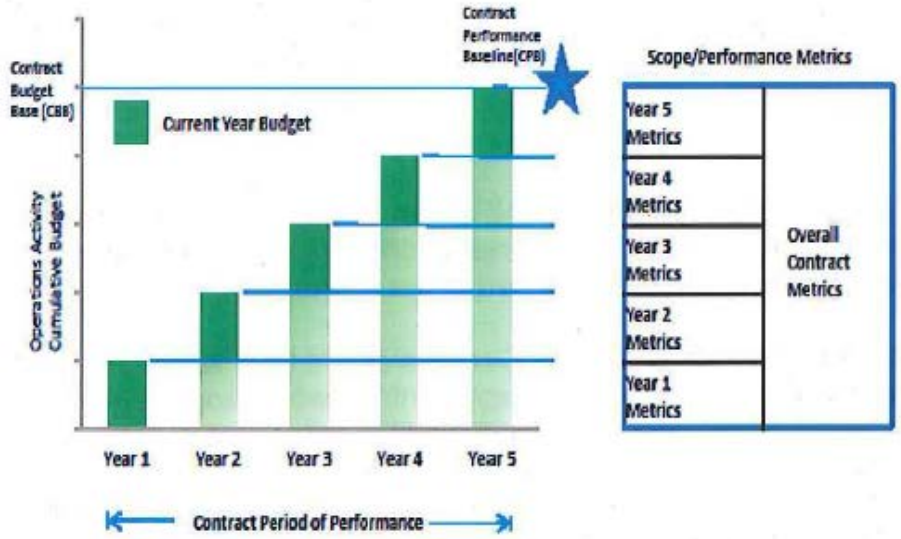


Figure 1: Contract Performance for an Operations Activity

c. CPB Segment for an Operations Activity

A CPB segment for an operations activity represents the contractor's work plan for planning and executing an operations activity through the Contract period of performance in accordance with the requirements of the Operations Activities Protocol (See Paragraph A.1.a).

2. Other Baseline Terms

a. Contingency: For capital asset projects, contingency is the portion of the project budget that is available for risk uncertainty within the project scope, but outside the scope of the Contract. Contingency is budget that is not placed on the Contract and is included in the TPC. Contingency is controlled by Federal personnel as delineated in the Project Execution Plan (PEP).

b. Initial CPB is simply the baseline plan at Contract award. It should be the scope, cost and schedule as submitted with the contractor's proposal with any revisions resulting from negotiations leading to Contract award.

c. Interim CPB: An Interim CPB is generally required within 90 days from Notice to Proceed and will cover the first approximately 15 months of the Contract. The Interim CPB must match the scope and cost for this period in the Contract. When the Contract includes multiple projects and operations activities the Interim CPB allows tracking of the scope, cost and schedule for each CPB segment until the full CPB with its unique segments are in place.

d. DOE Other Direct Costs (ODCs): For capital asset projects, DOE ODCs are DOE costs attributable to the project that are outside of the Contract.

e. PBS Life Cycle Cost: In 1997, EM organized its entire cleanup program at each site into a corporate Project Baseline Summary (PBS) structure. EM formulates its annual budget request to Congress using the PBS structure and maintains configuration control of lifecycle cost estimates for each PBS. PBSs include costs for both capital asset projects and operations activities through completion of cleanup at each site.

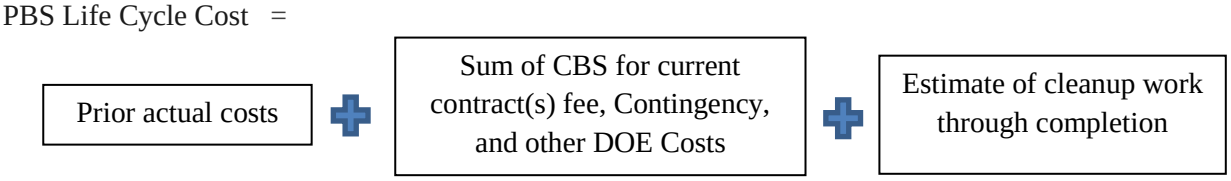


Figure 2: PBS Life Cycle Cost Formula

f. Management Reserve (MR): MR is an amount of total contract budget and schedule withheld for management control purposes by the contractor. Management Reserve is not part of the Performance Measurement Baseline.
Note: MR is established after Contract award from within the Contract Budget Base (CBS) to effectively manage contract work scope. Also, MR is not a separately priced cost element in a contractors' cost proposal. The expectation is that the contractor's proposal takes into consideration any contractor-owned performance risks associated with delivery of the proposed scope of work. MR is necessary to effectively implement EVMS, as such if the contract requires EVMS reporting, each CPB segment must establish a risk informed MR no later than full CPB submittal. The use of MR should be tied to changes that have scope, schedule, and budget impact at the control account level.

g. Typical Baseline Documents:
   i. WBS and WBS dictionary
   ii. Integrated Resource-Loaded Schedule with monthly Budgeted Cost of Work Planned when EV is required, supported by cost and schedule basis
   iii. Annual work plans for Operations Activities
   iv. Overall cost estimate with supporting basis of estimates
   v. Documentation of risks, assumptions, risk analysis, determination of a Management Reserve (MR) and a Risk Management Plan
   vi. Contractor's Project Management Plan including Change Control process

h. Work Breakdown Structure (WBS): The WBS is a product-oriented hierarchical decomposition of the work required to accomplish the project objectives and produce the contractual deliverables. The WBS should subdivide the work into smaller, independent pieces of work; with each descending level of the WBS representing increasingly detailed definition of the planned project work. Contractor's WBS will flow down from Level 4 of EM's Corporate WBS[1] (CWBS) - see reference document listed in paragraph A.2.c. The WBS provides the basis for all work control system components, including estimating, scheduling, budgeting, performing, managing, and reporting. Cost and schedule estimates should be developed using activity or commodity-based cost estimating techniques to facilitate review and approval by DOE.

[1] CPB segments for performance planning, tracking and reporting will generally map to level 4 of the CWBS but may be tailored, as negotiated by CO and contractor

Attachment N – Performance Guarantee Agreement

Transuranic Waste Processing Center (TWPC) Contract
Solicitation No. DE-SOL-0006331
Section L

ATTACHMENT L-10
PERFORMANCE GUARANTEE AGREEMENT

*****Only to be completed if Offeror is a joint venture, limited liability company, other similar entity or a newly formed entity**

For value received, and in consideration of, and in order to induce the United States (the Government) to enter into Contract DE-EM0003760 for managing and operating the TRU Waste Processing Center (TWPC) Category II nuclear facility in support of processing DOE Office of Environmental Management legacy Transuranic (TRU) waste at the DOE Oak Ridge Site (the "Contract") dated June 18, 2015, by and between the Government and North Wind Solutions, LLC (Contractor), the undersigned, Christopher P. Leichtweis of North Wind Group (Guarantor), a corporation incorporated in the State of Alaska with its principal place of business at 1425 Higham Street, Idaho Falls, Idaho, hereby unconditionally guarantees to the Government (a) the full and prompt payment and performance of all obligations, accrued and executory, which Contractor presently or hereafter may have to the Government under the Contract, and (b) the full and prompt payment and performance by Contractor of all other obligations and liabilities of Contractor to the Government, fixed or contingent, due or to become due, direct or indirect, now existing or hereafter and howsoever arising or incurred under the Contract, and Guarantor further agrees to indemnify the Government against any losses the Government may sustain and expenses it may incur as a result of the enforcement or attempted enforcement by the Government of any of its rights and remedies under the Contract, in the event of a default by Contractor thereunder, and/or as a result of the enforcement or attempted enforcement by the Government of any of its rights against Guarantor hereunder.

Guarantor has read and consents to the signing of the Contract. Guarantor further agrees that Contractor shall have the full right, without any notice to or consent from Guarantor, to make any and all modifications or amendments to the Contract without affecting, impairing, or discharging, in whole or in part, the liability of Guarantor hereunder.

Guarantor hereby expressly waives all defenses which might constitute a legal or equitable discharge of a surety or guarantor, and agrees that this Performance Guarantee Agreement shall be valid and unconditionally binding upon Guarantor regardless of (i) the reorganization, merger, or consolidation of Contractor into or with another entity, corporate or otherwise, or the liquidation or dissolution of Contractor, or the sale or other disposition of all or substantially all of the capital stock, business or assets of Contractor to any other person or party, or (ii) the institution of any bankruptcy, reorganization, insolvency, debt agreement, or receivership proceedings by or against Contractor, or adjudication of Contractor as a bankrupt, or (iii) the assertion by the Government against Contractor of any of the Government's rights and remedies provided for under the Contract, including any modifications or amendments thereto, or under any other document(s) or instrument(s) executed by Contractor, or existing in the Government's favor in law, equity, or bankruptcy.

Guarantor further agrees that its liability under this Performance Guarantee Agreement shall be continuing, absolute, primary, and direct, and that the Government shall not be required to pursue any right or remedy it may have against Contractor or other Guarantors under the Contract, or any modifications or amendments thereto, or any other document(s) or instrument(s) executed by Contractor, or otherwise. Guarantor affirms that the Government shall not be required to first commence any action or obtain any judgment against Contractor before enforcing this Performance Guarantee Agreement against Guarantor, and that Guarantor will, upon demand, pay the Government any amount, the payment of which is guaranteed hereunder and the payment of which by Contractor is in default under the Contract

or under any other document(s) or instrument(s) executed by Contractor as aforesaid, and that Guarantor will, upon demand, perform all other obligations of Contractor, the performance of which by Contractor is guaranteed hereunder.

Guarantor agrees to assure that it shall cause this Performance Guarantee Agreement to be unconditionally binding upon any successor(s) to its interests regardless of (i) the reorganization, merger, or consolidation of Guarantor into or with another entity, corporate or otherwise, or the liquidation or dissolution of Guarantor, or the sale or other disposition of all or substantially all of the capital stock, business, or assets of Guarantor to any other person or party, or (ii) the institution of any bankruptcy, reorganization, insolvency, debt agreement, or receivership proceedings by or against Guarantor, or adjudication of Guarantor as a bankrupt.

Guarantor further warrants and represents to the Government that the execution and delivery of this Performance Guarantee Agreement is not in contravention of Guarantor's Articles of Organization, Charter, by-laws, and applicable law; that the execution and delivery of this Performance Guarantee Agreement, and the performance thereof, has been duly authorized by the Guarantor's Board of Directors, Trustees, or any other management board which is required to participate in such decisions; and that the execution, delivery, and performance of this Performance Guarantee Agreement will not result in a breach of, or constitute a default under, any loan agreement, indenture, or contract to which Guarantor is a party or by or under which it is bound.

No express or implied provision, warranty, representation or term of this Performance Guarantee Agreement is intended, or is to be construed, to confer upon any third person(s) any rights or remedies whatsoever, except as expressly provided in this Performance Guarantee Agreement.

In witness thereof, Guarantor has caused this Performance Guarantee Agreement to be executed by its duly authorized officer, and its corporate seal to be affixed hereto on (date) November 20, 2014.

NAME OF CORPORATION: **North Wind Solutions, LLC**

NAME AND POSITION OF OFFICIAL EXECUTING PERFORMANCE GUARANTEE AGREEMENT ON BEHALF OF GUARANTOR:

Christopher P. Leichtweis, President, North Wind Group

ATTESTATION INCLUDING APPLICATION OF SEAL BY AN OFFICIAL OF GUARANTOR AUTHORIZED TO AFFIX CORPORATE SEAL:

Bradley W. Trost, Chief Financial Officer

GOVERNMENT FURNISHED SERVICES AND ITEMS (GFS/I)

Listed below is a description of the Government Furnished Services and Items (GFS/I) to be furnished under this contract.

Description of Government Furnished Services and Items

- Provide Waste Isolation Pilot Plant shipping casks (TRUPACT II, RH-72B)
- Bear the cost of transportation to and disposal of wastes at WIPP.
- Provide electrical power and water to the TWPC at no cost to the contractor.
- Coordinate with TRU Waste Processing Center for transfer of sludge from other sludge storage tanks into the MVSTs and W-35.
- Occurrence Reporting and Processing System (ORPS) access
- Security Clearances
- Security at site
- Federal Telephone System Access

Attachment P – IDIQ Rates

CLIN 4 IDIQ Schedule of Rates [(1)]

#	Container Management, Tracking, and Loading Scenario	Fully-Burdened Fixed Price Rate per Container "Year 1" (July 1, 2015 thru May 15, 2016)	"Year 2" (May 16, 2016 thru May 15, 2017)	"Year 3" (May 16, 2017 thru May 15, 2018)
1	Support CCP in the loading and for shipment of previously packaged and certified CH-TRU inventory	$23.87	$24.52	$25.20
2	Support CCP in the loading and for shipment, in accordance with CBFO directed shipping schedule, of legacy CH processing, and "newly generated" CH processing	$23.87	$24.52	$25.20
3	Support CCP in the loading for shipment of NFS soil waste	$23.87	$24.52	$25.20
4	Perform CH-TRU drum movements for waste characterization efforts, such as NDA/NDE; transfer to processing areas and transfer to staging areas	$357.42	$367.25	$377.35
5	Perform on-site CH-TRU drum movement, as needed, to support management of materials-at-risk (MAR)	$440.55	$452.66	$465.11
6	Load CH-TRU drums for transport from TWPC building 7880 (-A, -BB, or -QQ) to UCOR-managed storage facility 7572, 7869, 7883, or 7574	$440.55	$452.66	$465.11
7	Receive CH-TRU drums from UCOR-managed storage facility 7572, 7869, 7883, or 7574 to TWPC (at a designated staging location)	$440.55	$452.66	$465.11
8	Support macro-encapsulation CH-TRU drum movement for MLLW resulting from waste processing	$394.76	$405.61	$416.77
9	Load RH-TRU canisters into concrete overpacks for transport from TWPC building 7880 to UCOR-managed storage facility 7883 and/or facility 7860A	$1,288.62	$1,324.06	$1,360.47
10	Receive RH-TRU concrete overpacks from UCOR-managed storage facility 7883 and/or facility 7860A to TWPC building 7880	$1,288.62	$1,324.06	$1,360.47
11	Remove RH-TRU canisters from concrete overpacks for either staging in the Hot Cell or direct loading into the 72B casks	$1,222.55	$1,256.17	$1,290.72
12	Support CCP in the removal of canisters from concrete overpacks, loading and shipment of RH-72B casks	$1,288.62	$1,324.06	$1,360.47
13	Support macro-encapsulation RH-TRU drum movement for MLLW resulting from waste processing	$1,288.62	$1,324.06	$1,360.47