



The Under Secretary of Energy

Washington, DC 20585

July 13, 2020

MEMORANDUM FOR HEADS OF DEPARTMENTAL ELEMENTS

FROM: MARK W. MENEZES

A handwritten signature in black ink, appearing to read "Mark W. Menezes", written over a horizontal line.

SUBJECT: Demolition Projects

The demolition of excess decontaminated buildings, subject to DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, poses fewer and different risks than capital asset construction and major items of equipment projects. To address these differences, the Office of Environmental Management (EM) has developed a *Cleanup Project Management Protocol and Implementation Standard for Demolition Projects* ("EM Protocol"). Effective immediately, EM will implement the EM Protocol for operations-funded projects demolishing excess decontaminated facilities.

The Office of Project Management will immediately initiate a limited administrative update of DOE Order 413.3B to incorporate the EM Protocol as an appendix to the Order by the end of this fiscal year. I appreciate your continued efforts and support in improving the efficiency and effectiveness of project management and execution in the Department.

Attachment

**EM PROTOCOL
FINAL: 06/08/2020**

**OFFICE OF ENVIRONMENTAL MANAGEMENT
CLEANUP PROJECT MANAGEMENT
PROTOCOL AND IMPLEMENTATION
STANDARD FOR DEMOLITION PROJECTS**



**Office of Environmental Management
U.S. Department of Energy
Washington, DC**

**OFFICE OF ENVIRONMENTAL MANAGEMENT
CLEANUP PROJECT MANAGEMENT
PROTOCOL AND IMPLEMENTATION STANDARD FOR DEMOLITION PROJECTS
(May 21, 2020)**

I. OBJECTIVE

The objective of this protocol is to establish tailored project management requirements that are applicable to Office of Environmental Management (EM) demolition projects and consistent with Department of Energy (DOE) Order (O) 413.3B. These demolition projects differ from traditional capital asset projects, namely construction projects, in that they do not necessarily result in a tangible asset (but instead result in reduction of future liabilities) and are funded using operating (versus line item) funds. Additionally, established regulatory processes frequently govern the initiation and definition phases of the projects. Demolition projects differ from deactivation and decontamination efforts, which are undertaken to remove physical, chemical, and radiological hazards and material-at-risk that would prevent the safe and efficient razing of the building or structure. Demolition projects typically begin with the concerted, large-scale destruction and removal of a facility or structure that has been placed in a stable, de-energized configuration as a result of the completion of deactivation and decontamination efforts. The precise conditions of this configuration will vary depending on the demolition approach and final end state selected. However, typical conditions may include making a criticality event “incredible” under normal and credible abnormal conditions, including those initiated by design basis events, or removal of sufficient material-at-risk to prevent a release above applicable safety basis or air quality thresholds, while balancing the benefits of further deactivation and decontamination work with the principles of as low as reasonably achievable (ALARA) according to DOE Orders.

This protocol establishes the requirements for planning, decision-making, execution, performance measurement, and reporting of demolition projects. The requirements described herein follow a comparable level of rigor to that described in DOE O 413.3B but are designed to address the unique aspects of demolition projects. EM often demolishes and disposes of facilities where the design elements common to construction may not be applicable. Further, demolition projects are often conducted subject to a regulatory framework, court orders, decrees, or site-specific cleanup agreements that are legally binding and may govern their process, schedule, alternative selection, technical approaches, scope, end states, decision points and approvals required. The work is frequently covered by a Record of Decision (ROD) or Action Memorandum. For these projects, the performance and scope parameters and start/end dates may be based on negotiated terms with Federal and/or State regulatory agencies and other stakeholders. These regulatory processes and agreements provide equivalency to some standard project management requirements.

This protocol establishes a standard tailored approach to comply with project management requirements specifically related to demolition projects within the framework of DOE O 413.3B by allowing substitution of equivalent processes and consolidating Critical Decision (CD) phases. Tables are provided that summarize the tailored requirements for CD-0/1, (Document Mission Need/Alternative Selection and Cost Range), CD-2/3 (Approve Performance Baseline/Start of Demolition Activities for EM Demolition Projects), and CD-4 (Approve Project Completion) for these projects. Additional approval to utilize this protocol is not required.

II. APPLICABILITY

This protocol applies to demolition work performed by EM, whether at EM-managed sites or on behalf of another organizational entity at a site controlled by that entity (e.g., National Nuclear Security Administration, Naval Reactors, and Office of Science).

This protocol applies to contracts and task orders to be awarded after the effective date of the protocol. Application of this protocol to capital work on contracts awarded prior to the effective date of the protocol will be evaluated on a case-by-case basis.

This protocol applies to demolition projects with a Total Project Cost (TPC) greater than \$50 million (M), although the use of these requirements and project management best practices is encouraged for demolition projects with a TPC less than \$50M.

This protocol does not apply to EM construction projects. All EM construction projects with a TPC greater than \$50M are subject to the requirements of DOE O 413.3B. All EM construction projects with a TPC less than \$50M are subject to the policy memorandum with the subject “Office of Environmental Management Policy for Management of Capital Asset Projects with Total Project Costs (TPC) equal to or less than \$50 million,” from Anne White, dated August 31, 2018, and any subsequent revisions or replacements of that policy.

III. DEFINITIONS

Definitions for many of the common terms used in this protocol may be found in DOE O 413.3B, Attachment 2.

IV. OVERVIEW OF EM DEMOLITION PROJECTS AND RELATIONSHIP TO PROJECT MANAGEMENT

Demolition projects comprise the majority of projects performed by EM within the EM Program, exclusive of line item construction, information technology projects, and major items of equipment. Many demolition projects use operating funds and are suited to use of a project management approach. Demolition projects may involve cleanup of large

facilities or complexes, thus defining the scope as precisely as possible allows for discrete work activities to be performed and measured to reduce risks. Some key characteristics of these projects include:

- A “temporary endeavor undertaken to create a unique product, service, or result” (PMI, 2017);
- An effort undertaken to meet specific performance objectives within a defined schedule, cost and in accordance with key performance parameters (KPPs);
- A specific scope of work with definitive start and end points and which can be practically measured; or
- An activity that is non-repetitive.

While EM may utilize any appropriate contract vehicle, task order contracts may provide the ability to improve project management performance. Federal teams should consider how best to package their site program and/or projects within a task order or series of task orders, if possible. Disaggregation of site program work into smaller, discrete work activities is encouraged as it provides better project definition and clarity, is more manageable, reduces time horizons and risks, and is consistent with the project management best practices found in DOE O 413.3B. The contract mechanism utilized shall establish the project performance measurement baseline (PMB) within the contract cost target (the contract budget base). Once that contract cost target is established (which includes PMB and management reserve (MR)), the addition of fee, and federal contingency, establishes the TPC. Funding profiles for federal contingency should be interwoven into the budget for the applicable Congressional control point(s), just as MR is included in contractor’s contract cost targets. The CD-4 project completion date is established by the contract schedule target including contractor schedule reserve and DOE schedule contingency, or by the project component within the task order.

V. OVERVIEW OF EM DEMOLITION PROJECT CRITICAL DECISIONS

When established regulatory or congressional processes govern the initiation and definition phases of demolition projects, the regulatory processes, combined with the EM Mission Statement and specific applicable legislation, satisfy the mission need and dictate the alternative selection process. In this case, the regulatory processes provide equivalency for CD-0 and CD-1. The Life Cycle Baselines (LCBs) associated with the preferred alternative are a part of environmental liabilities, site LCBs, and changes thereto. LCBs shall use General Accounting Office (GAO) cost estimating best practices, and be reliable and integrated with the site and the entire EM program. Likewise, they shall be periodically assessed and measured, at all levels, along with project/site/portfolio integrated master schedules (IMSs). As a key driver of LCBs, risks shall also be reviewed throughout the life of the demolition project as part of EM’s risk management program. The risk management program includes appropriate programmatic and project risk registers, mitigation strategies, and resulting programmatic/project contingency.

Demolition projects will obtain a concurrent CD-2/3 approval. Regulatory processes may provide equivalency for the establishment of KPPs. KPPs will align with end state requirements when possible. Projects with a TPC greater than \$50M will begin Project Assessment and Reporting System (PARS) reporting at CD-2/3 approval. Project costs will be collected from CD-2/3 to CD-4 for all demolition projects¹. Only the costs from CD-2/3 through CD-4 will be considered in establishing the TPC when the project is baselined. However, all costs from CD-0/1 shall be captured and reported as part of program costs in an effort to inform the overarching site and EM Program planning and budgeting effort.

In instances when a regulatory compliance framework is not applicable to drive the cleanup, the mission need is satisfied by the connection between the proposed project, site integrated life cycle plan and the EM strategic goals; the EM Mission Statement; and/or specific applicable legislation. The CD-1 requirements and LCB information in this case will apply in a graded fashion and be tailored to accommodate the specific project need consistent with project management best practices.

VI. CRITICAL DECISION APPROVAL AUTHORITY AND THRESHOLDS

Approval authority for CD packages resides with the Project Management Executive (PME) consistent with TPC thresholds and delegated authorities.

- The Under Secretary for Science serves as the PME for demolition projects with a TPC greater than \$750M.
- The Assistant Secretary for Environmental Management (EM-1) serves as the PME for demolition projects less than \$750M and promulgates program-wide policy and direction.
- EM-1 will normally delegate PME authority for demolition projects with a TPC of less than \$100M to EM Site/Field Office Managers².
- EM Site/Field Office Managers may further delegate PME authority only with EM-1 approval.

Under special circumstances, the Undersecretary for Science and EM-1 may choose to delegate authority for any demolition projects with TPCs greater than the amounts stated above but falling within their respective authority limits.

This protocol applies to demolition projects with a TPC of \$50M, or more, although the use of these requirements and project management best practices is encouraged for demolition projects with a TPC less than \$50M.

¹ See Section VIII for exceptions related to projects with approved Long Lead Procurements.

² The EM Site/Field Office Manager shall be the Director of the EM Consolidated Business Center (EMCBC) for the EMCBC-serviced sites.

VII. REQUIREMENTS FOR APPROVAL OF CRITICAL DECISIONS

A. CD-0/1, Document Mission Need/Alternative Selection and Cost Range

The requirements of CD-0 for demolition projects are inherently satisfied by the EM Mission Statement, specific applicable legislation, and the applicable regulatory framework driving the cleanup or the connection between the project, the site life cycle baseline, and EM strategic goals. For demolition projects operating under a regulatory framework, the CD-1 requirements are typically satisfied by equivalent processes established under regulatory and legal frameworks such as the National Environmental Policy Act (NEPA), Resource Conservation and Recovery Act (RCRA), National Priority List, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as these regulatory processes progress. Typical equivalencies are shown in Table 1. In these cases, CD-0/1 documentation shall consist of a memorandum submitted to the PME for record-keeping purposes that documents the scope of the demolition project, cites the drivers for the demolition, and describes the applicable regulatory framework under which it will progress with any special circumstances. This memorandum may be submitted in combination with a CD-2/3 approval package. If it is determined that a regulatory framework applicable to the demolition project will not lead to development of the usual equivalent documentation and analysis such as those noted in Table 1, the PME reserves the right to request standalone documents to address the gap, consistent with documentation required under DOE O 413.3B and EM administrative requirements.

Table 1. Demolition Project Phases, Requirements Areas, and Potentially Equivalent Documentation¹

Baseline Management	Project Management		Environmental Management Cleanup		
			CERCLA	RCRA	Facility Disposition ²
Planning Phase	Initiation Phase CD-0 Document Mission Need	<ul style="list-style-type: none"> Identify Program Performance gap Identify need in terms of the mission, purpose, capability, schedule and cost goals, and operating constraints 	<ul style="list-style-type: none"> Preliminary Assessment/Site Inspection (PA/SI) Removal Site Evaluation (includes removal PA and, if warranted, removal SI) and Approval Memorandum Federal Facility Agreement/ Interagency Agreement 	<ul style="list-style-type: none"> RCRA Facility Assessment Report (RFA) RCRA Permit/Consent Order 	<ul style="list-style-type: none"> Facility Assessment (Site Wide Infrastructure Long Range Plan)
		Establish Integrated Project Team	Establish Project and Core Team	Establish Project and Core Team	
	Definition Phase Critical Decision-1 Approve Alternative Selection and Cost Range	<u>Pre-conceptual Design and Conceptual Design includes:</u> <ul style="list-style-type: none"> Project Risk Management Plan Alternative Analysis Environmental Compliance Waste Management Quality Assurance Value Engineering (VE) Safeguards and Security Plans <u>Preliminary Baseline Range includes:</u>	<u>Remedial Investigation/Feasibility Study (RI/FS) includes:</u> <ul style="list-style-type: none"> Scoping the RI/FS RI Site Characterization RI: Baseline Risk Assessment (supplement with a project risk management plan) RI Report FS: Development and screening of alternatives FS: Detailed analysis of the alternatives FS: Treatability Studies FS: Development of preliminary cost ranges and implementation timeframes 	<u>RCRA Facility Investigation (RFI) includes:</u> <ul style="list-style-type: none"> Scoping the RFI RFI: Work Plan RFI: Site Characterization RFI Report (supplement with a project risk assessment plan) <u>Corrective Measures Study (CMS) includes:</u> <ul style="list-style-type: none"> Scoping the CMS and potential costs of alternatives CMS: Work Plan 	<u>Facilities Characterization Phase includes:</u> <ul style="list-style-type: none"> Develop Mission Alternatives NEPA (CX, EA, EIS) Sampling and Analysis Plan Characterization Work Plan Characterization Report Develop Risk Assessments and Impacts (supplement with a project risk assessment plan) Develop Preferred Alternative Prepare Fiscal Year Execution Plan and baselines

Table 1. Demolition Project Phases, Requirements Areas, and Potentially Equivalent Documentation¹

Baseline Management	Project Management		Environmental Management Cleanup		
			CERCLA	RCRA	Facility Disposition ²
		<ul style="list-style-type: none"> • Project Requirements • Alternatives Analysis Process • Technical Scope • High-Level/Summary Schedule • Cost Estimate Range 	<ul style="list-style-type: none"> • FS Report <p>Remedy Selection includes:</p> <ul style="list-style-type: none"> • Identifying the preferred alternative • Record of Decision • Corrective Action Plan • VE • Quality Assurance (QA) Project Plan <p>Engineering Evaluation/Cost Analysis (EE/CA) includes:</p> <ul style="list-style-type: none"> • Scoping EE/CA • Site Characterization • Streamlined Risk Evaluation (SRE) (supplement with a project risk management plan) • Development and screening of alternatives • Analysis of the alternatives • Development of preliminary cost ranges and implementation timeframes • Removal Action Recommendation • EE/CA Report 	<ul style="list-style-type: none"> • CMS Report <p>NEPA (in parallel with CMS): Categorical Exclusion (CX), Environmental Assessment (EA), Environmental Impact Statement (EIS), Supplement Analysis (SA)</p> <p>Remedy Selection includes:</p> <ul style="list-style-type: none"> • Identifying the preferred alternative • Statement of Basis • Corrective Action Plan • VE, QA 	<p>Remedy Selection includes:</p> <ul style="list-style-type: none"> • Document final decision
	Acquisition Strategy	Acquisition Strategy	Acquisition Strategy	Acquisition Strategy	
	Preliminary Project Execution Plan (PPEP)	Proposed Plan and Draft Record of Decision Public participation	NEPA Public Participation Proposed RCRA Permitting Actions with public participation	Define Decommissioning Work Plan	
	Identify Project Endpoint	Define risk-based end state that is consistent with intended future use	Define risk-based end state that is consistent with intended future use	Define risk-based end state that is consistent with intended future use	
Performance Phase (Performance Baseline)	<p>Execution Phase CD-2</p> <p>Approved Acquisition Performance Baseline</p>	<p>Performance Baseline is the original baseline for the project that defines:</p> <ul style="list-style-type: none"> • Performance parameters • Technical scope • Schedule • Cost <p>Reviews May Include:</p> <ul style="list-style-type: none"> • External Independent Review (EIR) • Independent Project Review (IPR) 	<p>Final ROD or Action Memorandum</p> <p>Remedial Design/Remedial Action Work Plan (RD/RAWP)³ includes:</p> <ul style="list-style-type: none"> • Cost and Schedule refined • Waste Management • Contractor/Subcontractor strategies • Independent Field Office and HQ Assessments • Land Use Control Implementation Plan 	<p>Final RCRA Permit Modification and NEPA ROD</p> <p>Corrective Measure Implementation Plan (CMIP) includes:</p> <ul style="list-style-type: none"> • Cost and Schedule refined • Environmental Compliance • Waste Management • Public Participation • Independent Field Office and HQ Assessment 	<p>Final Decommissioning Work Plan includes:</p> <ul style="list-style-type: none"> • Environmental Compliance • Cost and Schedule • Waste Management • Environment, Safety and Health • Safety Analysis Report • Quality Assurance • Safeguards and Security • Public Participation • Independent Field Office and HQ Assessments
		Final Project Execution Plan (PEP)	Final RD/RAWP	Final CMIP	
	<p>Execution Phase CD-2</p> <p>Approved Performance Baseline,</p>	<p>Performance Baseline is the original baseline for the project that defines:</p> <ul style="list-style-type: none"> • Performance parameters • Technical scope • Schedule • Cost <p>Reviews May Include:</p> <ul style="list-style-type: none"> EIR IPR 	<p>Final ROD RD/RAWP includes:</p> <ul style="list-style-type: none"> • Cost and Schedule finalized • Waste Management • Contractor/Subcontractor strategies • Independent Field Office and HQ Assessments • Land Use Control Implementation Plan 	<p>Final RCRA Permit Modification Corrective Measure Implementation Plan includes:</p> <ul style="list-style-type: none"> • Cost and Schedule further refined • Environmental Compliance • Waste Management • Public Participation • Independent Field Office and HQ Assessment 	<p>Final Decommissioning Work Plan includes:</p> <ul style="list-style-type: none"> • Environmental Compliance • Cost and Schedule finalized • Waste Management • Environment, Safety and Health • Safety Analysis Report • Quality Assurance • Safeguards and Security • Public Participation • Independent Field Office and HQ Assessments
	Final PEP	Final RD/RAWP	Final CMIP		
Execution Phase CD-3	Construction	• Execute RD/RAWP	• Execute CMIP	<ul style="list-style-type: none"> • Execute D&D Work Plan • Independent cleanup verification per Work Plan 	

Table 1. Demolition Project Phases, Requirements Areas, and Potentially Equivalent Documentation¹

Baseline Management	Project Management		Environmental Management Cleanup		
			CERCLA	RCRA	Facility Disposition ²
	Approve Start of Demolition Activity		<ul style="list-style-type: none"> Independent cleanup verification per Work Plan/ROD 	<ul style="list-style-type: none"> Independent cleanup verification per RCRA Permit/CMP 	
	Transition/Closeout Phase CD-4 Approve Project Completion	<ul style="list-style-type: none"> Final Financial Closeout Site/Facility/System/Transition Transition/Acceptance Criteria Begin beneficial occupancy Begin initial or full operating capability Transition to Long Term Remedial Action 	<ul style="list-style-type: none"> Field Demobilization Final RA report or equivalent Notice of Deletion from NPL, if required Operation and Maintenance plan Five-Year Reviews of Remedy Effectiveness 	<ul style="list-style-type: none"> Field Demobilization Corrective Measures report Operation and Maintenance plan Post-Closure Inspection and Maintenance plan Periodic Corrective Action reports RCRA permit renewals 	<ul style="list-style-type: none"> Demobilization D&D Final report Post Closure Monitoring if necessary
	Post Completion Phase (No CD) Transition and Start of Long-Term Stewardship	<ul style="list-style-type: none"> CD-4 accomplishes transition of completed short-term cleanup to long-term response action, institutional controls and other needed caretaker actions. Site/project transferred from EM to the Lead Program Secretarial Office (PSO) or other receiving entity. 	<ul style="list-style-type: none"> Post Construction Report Site Completion Report 		Execute the actions of the disposition baseline (DOE O 430.1C and associated guides)
		Project/Site Transfer Plan	Site Completion Report	Closure Report	Field Decommissioning Report

¹ Source: Environmental Management (EM) Cleanup Projects, DOE Guide (G) 413.3-8 (cancelled 7-23-2011).

² Source: Implementation Guide for Surveillance and Maintenance During Facility Transition and Disposition, (DOE G 430.1-2); Deactivation Implementation Guide, (DOE G 430.1-3); Decommissioning Implementation Guide, (DOE G 430.1-4); and Transition Implementation Guide (DOE G 430.1-5). All steps within this approach may be supplemented by regulatory processes and documentation produced under CERCLA or RCRA, if applicable.

³ Some sites refer to this document as the Remedial Design/Remedial Action Implementation Plan (RD/RAIP). Others use both RD/RAWPs and RD/RAIPs constructing the documents in a tiered fashion. It should be noted that this is all part of the implementation phase.

In instances when a regulatory framework is not applicable, the CD-0 requirements shall consist of a memorandum that documents the scope of the demolition project, cites the drivers for the demolition as they relate to the site life cycle baseline and EM strategic goals, and describes any special circumstances. CD-1 requirements will include development of a Preliminary Project Execution Plan (PPEP), an Analysis of Alternatives (AoA), and a Risk Management Plan, at a minimum. The AoA may be satisfied by appropriate NEPA analyses or other state and Federal processes that require an appropriate evaluation of alternatives. The resulting evaluation will be summarized in the PPEP. The Risk Management Plan should include identification of the time-phased contingency needed for the demolition project. The combined CD-0/1 package shall be submitted to the appropriate PME for review and approval, in accordance with Section VI.

In all cases, a Federal Project Director (FPD) should be appointed as soon as is practicable. Experience gained in management of demolition projects shall be creditable toward FPD certification requirements under the Project Management Career Development Program.

B. CD-2/3, Approve Performance Baseline/Start of Demolition Activity for EM Demolition Projects

Regardless of the driver, demolition project execution begins at CD 2/3 approval. The project planning must be sufficiently mature at the time of CD-2/3 approval to provide reasonable assurance that the project will be executed within the approved Performance Baseline (PB) (refer to DOE O 413.3B, Appendix C, Paragraph 4). If applicable, a Remedial Design/Remedial Action Work Plan (RD/RAWP) or Corrective Measure Implementation Plan (CMIP) should be completed and results form the basis for the development of the scope, cost, and schedule. CERCLA processes incorporating NEPA values (Schiffer, 1995) may be used to satisfy NEPA requirements. All other activities are subject to completion of standalone NEPA documentation in accordance with applicable regulations. If task order contracts are utilized, the performance measurement baseline with schedule and cost estimates are developed in association with each task order. They are then integrated for the contract on a rolling basis upon award of each task order. Site managers and directors, contracting officers, budget analysts, and FPDs shall evaluate each proposed cost and schedule baseline against the integrated baseline prior to task order award to ensure that annual budget profiles are not exceeded and that existing performance metrics will not be compromised due to task order award. The schedule must be an IMS, consistent with GAO best practices, and updated on a regular basis and integrated with the site and complex-wide schedule in accordance with the EM Program Management Policy. When possible, EM uses firm-fixed price and cost-plus incentive fee task order contracting to enhance program and project management. Timeliness of the Independent Government Cost Estimate (IGCE) creation compared to the CD-2/3 decision date may permit the use of the task order IGCE with Independent Project Review (IPR)-validated DOE contingency estimates as a substitute for a project independent cost review or independent cost estimate (and provides a stronger alignment between program and project management and contract management. In such cases, the IGCE shall use GAO cost estimating best practices. The DOE risk estimate and Other Direct Costs (ODCs) shall be developed by the FPD. The demolition project success (at completion of CD-4) will be measured against the PB plan (at CD-2/3), consistent with the DOE O 413.3B success metric standard.

The document signed by the PME approving CD-2/3 must clearly specify the project's approved PB. The PB includes:

1. The TPC (Contract Budget Base (Performance Measurement Baseline with MR and Fee) plus DOE-owned contingency value at 80 percent confidence level (or higher if required by the PME) and DOE ODCs), as driven by the required funding profile;
2. CD-4 date (month and year) at 80 percent confidence level (or higher if required by the PME);
3. Scope; and,
4. KPPs that must be achieved at CD-4.

KPPs will be clearly defined in the scope, contract inspection section, acceptance sections, and any applicable milestone description sheets that may be negotiated and appended to the contract. Acceptance of these contract deliverables by the Contracting Officer (CO) with input and verification from the FPDs shall constitute documentation of successful achievement of KPPs for CD-4. COs and FPDs shall ensure that contract deliverables include all necessary documentation to support the

Table 2. Requirements Prior to CD-0/1 for Demolition Projects for which Regulatory Framework is Not Applicable or Not Fully Equivalent

Prior to CD-0/1	Approval Authority
Submit a memorandum to the PME that documents the scope of the demolition project, cites the drivers for the demolition as they relate to the site life cycle baseline and EM strategic goals, and describes any special circumstances	PME
<p>Approve <u>PPEP for demolition project not operating under regulatory framework process to provide equivalency</u>. (Refer to DOE G 413.3-15A, or current revision.)</p> <ul style="list-style-type: none"> • Prepare a <u>Funding Profile</u> to support the execution of the PB, inclusive of funded contingency, and reflected in the budget document. The funding profile should be included in the PPEP. • Prepare and justify long-lead item procurements, if applicable. 	PME
Develop Risk Management Plan if not satisfied through regulatory framework process.	Field Organization
If not utilizing a CERCLA process, issue the draft NEPA analysis as required by 10 CFR Part 1021. (e.g., Environmental Impact Statement (EIS), Programmatic EIS, Supplemental EIS, Supplement Analysis, or Environmental Assessment) (Refer to DOE Policy (P) 451.1 and EM-specific policies and procedures.)	Delegated Authority

completion and payment claim. For projects completed under regulatory frameworks, KPPs are defined in regulatory agreements such that regulatory approval of project completion documentation may serve as documentation of successful achievement of KPPs for CD-4. Documenting KPPs for demolition projects should adhere to DOE Guide (G) 413.3-5A 6.0 Establishing Key Performance Parameters (KPPs). In general:

- KPPs must be specific scope statements that are discrete, achievable, and support regulatory key decisions;
- KPPs must not be so specific or broad that they are overly complex;
- KPPs must be reasonable, measurable, and provide reasonable assurance that key project objectives are met within cost and schedule milestones; and
- KPPs must be quantifiable scope or meet objective criteria.

Work execution will be accomplished in accordance with applicable state and Federal regulations, including the requirements in 10 Code of Federal Regulations (CFR) Part 851, Worker Safety and Health Program; applicable DOE Orders; and established work control practices to ensure safety and health, quality, environmental protection, and work planning requirements are met.

Table 2 lists the minimum additional requirements needed to attain CD-0/1 for demolition projects that will not operate under a regulatory framework that provides full equivalency to the elements shown in Table 1. Table 3 lists the requirements needed to attain CD-2/3, while Table 4 shows requirements after CD-2/3 is obtained. Table 5 shows requirements associated with CD-4.

Table 3. Requirements for All Demolition Projects Prior to CD-2/3

Prior to CD-2/3	Approval Authority
Develop <u>Acquisition Strategy</u> .	PSO ¹
Establish a <u>Performance Baseline</u> , reflective of identified and assessed risks and uncertainties, to include TPC, CD-4 date, and minimum KPPs. The key project milestones and completion dates shall be stated no less specific than month and year. The scope will be stated in quantity, size and other parameters, as appropriate, that give shape and form to the project. The funding assumptions upon which the PB is predicated will be clearly documented and approved. (Refer to DOE G 413.3-5A, or current revision.)	FPD
<p>Approve a <u>PEP</u>. For activities not operating under regulatory framework process to provide equivalency, a full PEP shall be prepared. Activities operating under a regulatory framework shall prepare a limited scope PEP for any necessary content elements not fully satisfied by the regulatory process (Refer to DOE G 413.3-15A, or current revision.)</p> <ul style="list-style-type: none"> • Approve a <u>Funding Profile</u> to support the execution of the PB, inclusive of funded contingency, and reflected in the budget document. The funding profile should be included in the PEP and should be quantified and time-phased at the agreed-upon confidence level (minimum 80%, or higher if required by the PME). Prepare and justify long-lead item procurements, if applicable. 	PME
Develop a Risk Management Plan if not satisfied through regulatory framework process.	Field Organization
Complete <u>Project Definition Rating Index Analysis</u> (projects with TPC greater than \$100M)	FPD
Project Management Support Office (PMSO) will conduct <u>Independent Project Review</u> (IPRs) to validate the PB for demolition projects with a TPC greater than \$100M (Refer to DOE G 413.3-9) unless justification is provided and a waiver is granted by the PME. The PMSO must issue a Performance Baseline Validation Letter to the PME that describes the cost, schedule, and scope being validated. (Refer to DOE G 413.3-9A, or current revision). For projects greater than \$50M and less than \$100M, prior to CD-2, an Independent Project Review shall be performed by PMSO or another organization independent of the project.	PMSO or other independent organization (based on TPC value)

Employ an <u>Earned Value Management System</u> compliant with American National Standards Institute/Electronic Industries Alliance (ANSI/EIA)-748, or as required by the contract, for projects greater than \$50M. (Refer to DOE G 413.3-10, or current revision.) If the contract does not require use of EVMS (e.g., a firm-fixed price contract), file an exemption memorandum in accordance with DOE O 413.3B.	Certified by: DOE Office of Project Management Oversite and Assessment (DOE PM) greater than or equal to \$100M
Update and approve the <u>Documented Safety Analysis</u> for nuclear facilities or <u>Hazard Analysis Report</u> for facilities that are below the Hazard Category 3 nuclear facility threshold as defined in 10 CFR Part 830, Subpart B, based on new hazards and design information.	Field Organization and Delegated Authority
Review and update for demolition projects, as needed, the <u>Quality Assurance Program (QAP)</u> and make any necessary updates. (Refer to 10 CFR Part 830, Subpart A; DOE O 414.1D and DOE G 413.3-2 or current revisions; and applicable version of NQA-1.) If work is not being performed under an EM quality program, approval must be established using EM-QA-001 Rev. 2, or current revision.	Delegated Authority
Perform vulnerability assessments, as required. (Refer to DOE O 470.4B and DOE G 413.3-3A, or current revisions.)	Officially Designated Federal Security Authority (ODFSA)
If not utilizing a CERCLA process, issue the final NEPA documentation as required by 10 CFR Part 1021. (e.g., EIS, Programmatic EIS, Supplemental EIS, or Supplement Analysis and Record of Decision or Amended Record of Decision; or Environmental Assessment and Finding of No Significant Impact) (Refer to DOE P 451.1 and EM-specific policies and procedures)	Delegated Authority
Prepare a project funding document, similar to a project data sheet, and in consultation with the Office of the Chief Financial Officer (CFO), for demolition projects that delineates the budget year funding request, prior year budget requests and appropriations, and future planned budget requests. This funding document will reflect the most recent PME approved and document funding profile. (Refer to DOE CFO Budget Call for project funding document template.)	PME ²
Appoint Federal Project Director appropriate to the proposed project TPC if not already completed.	PME
Complete all Integrated Safety Management and Work Planning and Control documentation.	Field Organization
Complete Contractor Management Self-Assessment and DOE Readiness Assessment or Operational Readiness Review, as appropriate.	Field Organization
Complete site assessments and characterization with hazards identified and plans for remediation and restoration included in Statement of Work when applicable to demolition project scope.	Field Organization
¹ Approval of the Acquisition Strategy may be delegated to the PME for activities with a TPC less than \$100M. ² In such instances, PME endorsement is required to ensure that appropriate (baselined) funding targets are being met, consistent with the cost baseline.	

Table 4. Requirements for All Demolition Projects After CD-2/3 Approval

Post CD-2/3	Approval Authority
Submit all CD documents, and if there are changes to the PB, submit Baseline Change Proposal (BCP) documents to PMSO with a copy to DOE PM and within PARS, to ensure independent oversight.	FPD
Endorse any changes to the approved funding profile that negatively impact the project.	FPD and PME
Provide Congressional notification pursuant to 50 U.S.C. 2753(a)(4), as appropriate. ¹	PMSO
Within 90 days, submit Lessons Learned regarding up-front project planning and design to Program Secretarial Office (PSO) and DOE PM.	FPD
For demolition projects with a TPC greater than \$50M, initiate monthly PARS reporting (including earned value data) ² . FPD, Program Manager and DOE PM will provide monthly assessments.	FPD
Commence Quarterly Project Reviews (QPRs) with the PME or their designee.	
Conduct Project Peer Review (PPR) annually for projects with TPC greater than \$100M. A DOE PM representative shall participate on each PPR team as a means to provide a simultaneous independent review.	PMSO
Review and finalize the site restoration plan to meet regulatory and site requirements ³ , if applicable.	Field Organization
<p>¹(A) In general The Secretary shall establish a cost and schedule baseline under the project management protocols of the Department of Energy for each defense environmental cleanup project that is (i) in excess of \$50,000,000; and (ii) carried out by the Department pursuant to such protocols.</p> <p>(B) Notification to congressional defense committees -Not later than 30 days after establishing a cost and schedule baseline under subparagraph (A), the Secretary shall submit the cost and schedule baseline to the congressional defense committees.</p> <p>² See Section VIII for exceptions related to projects with approved Long Lead Procurements.</p> <p>³ Site restoration plans must include, at a minimum, engineering specifications for materials to be used, materials placement and compaction, vegetative cover (e.g., percent coverage to be established and allowable species), contour requirements, satisfaction of special permit conditions (e.g., wetlands and protected and endangered species), and native or cultural resources protection/restoration. Several of these elements may require additional documentation to fully satisfy regulatory requirements (e.g., protection of cultural resources under the National Historic Preservation Act), but the approaches and commitments should be summarized in the restoration plan.</p>	

C. CD-4, Approve Project Completion

CD-4 is the achievement of the project completion criteria defined in the Project Execution Plan (PEP), contract documents, and regulatory framework documents. This achievement marks the completion of the execution phase. The approval of CD-4 is predicated on completion of the demolition project. The PME approves CD-4 upon notification from the project team that all project completion criteria defined in the PEP, contract documents, and regulatory framework documents have been met. The document signed by the PME approving CD-4 must clearly specify the scope accomplished, the TPC, KPPs met, and the completion date (month and year) as it relates to the original CD-2/3 performance baseline and latest approved baseline change. The date the PME signs the document represents the CD-4 completion date. Table 5 lists the requirements needed to attain CD-4 and actions required after CD-4 approval. If

a demolition project is terminated prior to completion (CD-4), the FPD shall coordinate with Project Management Support Office (PMSO) to document the project closeout in accordance with Section VII. D of this protocol.

Table 5. CD-4 Requirements¹ for All Demolition Projects

Prior to CD-4	Approval Authority ²
Verify that <u>Key Performance Parameters</u> have been met and that mission requirements have been achieved. The FPD will verify and document the scope accomplished, TPC, KPPs met, and the completion date as it relates to the original CD-2/3 performance baseline and the latest approved baseline change. Regulatory approval of project completion documentation may serve as documentation of successful achievement of KPPs for CD-4.	FPD
Perform a verification activity to ensure that all contractual, regulatory and permit requirements have been met, completed, and documented, and that no further RCRA/CERCLA response is needed to protect human health and the environment.	Field Organization
Update and approve, or cancel if appropriate, the <u>Documented Safety Analysis</u> for nuclear facilities or <u>Hazard Analysis Report</u> for facilities that are below the Hazard Category 3 nuclear facility threshold as defined in 10 CFR Part 830, Subpart B, based on new hazards and design information.	Field Organization and Delegated Authority
Issue <u>Safety Evaluation Report</u> , as necessary.	Field Organization and Delegated Authority
Approve final as-built engineering drawings, as necessary.	FPD and Field Organization
If applicable, complete and submit <u>Contractor Evaluation Documents</u> to the PME, the appropriate PSO, and the Office of Acquisition Management in accordance with FAR 42.15.	Field Organization
Post CD-4	Approval Authority
Submit all CD documents to PMSO with a copy to DOE PM for maintenance of independent project management success metrics.	Field Organization
Completion of minor punch list items such as regulatory reports and minor field work.	Field Organization verifies completion
Finalize PARS reporting (including earned value data).	
Within 90 days, submit Lessons Learned regarding project execution to PSO and DOE PM.	FPD
Within 90 days, submit an Initial Project Closeout Report to the PMSO unless otherwise specified by the PME.	Field Organization
<p>1. Documents and reports are not intended to be stand-alone and may be combined.</p> <p>2. Where no approval authorities are noted, authorities are established through other directives or the Program Offices (e.g., Functions and Requirements Assignment Matrix).</p>	

D. Project Closeout

After the project is complete, the next step is project closeout. Project Closeout provides a determination of the overall closure status of the project, contracts, regulatory drivers, and fiscal condition. After CD-4 approval, the project shall complete the activities listed in Table 6 for the project to be considered “closed.”

Table 6. Project Closeout Requirements¹ for All Demolition Projects

Prior to Project Closeout	Approval Authority ²
Perform final administrative and financial closeout. Prepare the final <u>Project Closeout Report</u> once all project costs are incurred and invoiced and all contracts are closed. The report includes final cost details as required to include claims and claims settlement strategy where appropriate. (Refer to DOE G 413.3-16A, or current revision.)	Field Organization
Establish and/or update the property record in the <u>Facilities Information Management System (FIMS)</u> for all modifications to real property. Update the real property planning and budgeting documentation as required.” (Refer to DOE O 430.1C, or current revision.)	
<ol style="list-style-type: none"> 1. Documents and reports are not intended to stand-alone and may be combined. 2. Where no approval authorities are noted, authorities are established through other directives or the Program Offices (e.g., Functions and Requirements Assignment Matrix). 	

VIII. PROJECTS REQUIRING LONG-LEAD PROCUREMENTS

It may be necessary to obtain CD-3 approval early, namely CD-3A, for long-lead item procurement. When exercising long-lead procurement, the FPD must consider project plan maturity and the associated project risk. When applicable, a Net Present Value justification for early approval of CD-3A (Long Lead Procurement) scope should be included with the CD-3A proposal data. If the long-lead item is nuclear safety-related or nuclear safety-related equipment, nuclear safety document maturity must be considered. This is the only instance when a CD action may be taken out of sequence (i.e., CD-3A in advance of CD-2/3). Activities such as site preparation work; site characterization; limited access, safety and security issues (i.e., fences) are often necessary prior to CD-2/3. Approval of the CD-3A package for long-lead items technically represents the start of the demolition project execution. However, the remaining demolition project scope must still be approved in a CD-2/3 package at a later date. The approval authority for CD-3A packages shall reside with the PME applicable to the associated TPC value as stipulated in this protocol. The TPC value, not the CD-3A value, is the basis for determining the applicable PME. Projects with an approved CD-3A will begin reporting in PARS after CD-3A approval.

IX. BASELINE MANAGEMENT

A. Performance Baseline Deviation

A performance baseline deviation occurs when the approved TPC, CD-4 completion date, or performance and scope parameters cannot be met. This includes any disaggregation of demolition project scope in an effort to establish a smaller project in the immediate term or at a later date. The FPD must promptly notify management whenever project performance indicates the likelihood of a PB deviation. When a deviation occurs, the approving authority must make a specific determination whether to terminate the project or establish a new PB by requesting the FPD to submit a Baseline Change Proposal (BCP).

New PB values established due to a deviation must be validated by the PMSO and approved by the PME. In circumstances where a PB deviation is beneficial to the project—such as a lower TPC, earlier completion date, or significant scope enhancements—a validation of the PB deviation or approval by the PME is not required.

B. Performance Baseline Changes

A performance baseline change represents an irregular event which should be avoided to the maximum extent. The PME is the final approval authority for PB changes for which the resulting TPC falls within their delegated authority, subject to the limitations listed in Section IV. This approval authority may not be delegated for changes that increase the TPC or schedule. If the resulting TPC breaches the PME's authority, approval reverts to the next higher approval authority. New PB or PMB approval thresholds and authorities should be documented in the PEP for project changes below the thresholds identified. These approval levels must be incorporated into the change control process for each project. Table 7 identifies when a deviation must be approved by the Under Secretary for Science. The approval by the PME or Under Secretary for Science does not constitute approval of individual contract changes and modifications. If a contract change is necessary, the CO has exclusive authority to issue changes and modify contracts, but only if the changes or modifications comply with regulatory and statutory requirements. It is critical that the FPD and the CO ensure that changes to the contract are identified, issued, administered, and managed in a timely manner over the life of the project and contract. The PB change process should not be used to circumvent proper change control management and contract management. The project shall utilize the baseline validation process established in Table 3. Confidence levels used in estimating costs associated with these changes should be at or above the agreed upon percentiles originally used to establish the PB. The document signed by the PME or Under Secretary for Science approving the BCP must clearly specify the project's revised PB, which includes the TPC, CD-4 date (month and year), scope and minimum KPPs that must be achieved at CD-4.

Table 7. Performance Baseline Change Authority

Type of Performance Baseline Change	Changes Requiring Undersecretary for Science Approval
Technical	Any change in scope and/or performance that affects the ability to satisfy the mission need or is not in conformance with the current approved PEP.
Cost	Increase in excess of the lesser of \$100M or 50% (cumulative) of the original CD-2 cost baseline.

Pursuant to 50 U.S.C. 2753(b)(1) and 50 U.S.C. 2753(c) appropriate Congressional notification should be made for baseline changes exceeding the amount that is equal to 125 percent of the established baseline⁴ and for any subsequent changes pursuant to 50 U.S.C. 2753(d)⁵.

In addition, the Under Secretary for Science must endorse any reduction in funding that adversely affects the project's approved funding profile. The DOE Office of Project Management Oversight and Assessment (DOE PM) shall be notified of these funding decrements. The Under Secretary for Science, PMSO, and DOE PM shall be notified of all:

1. Schedule delays that breach the original PB by greater than 12 months;
2. Post-CD-2 projects that get terminated; or

⁴ 50 U.S.C. 2753(b): “NOTIFICATION OF COSTS EXCEEDING BASELINE The Administrator or the Secretary, as applicable, shall notify the congressional defense committees not later than 30 days after determining that—

- (1) the total cost for a project referred to in paragraph (1), (2), (3), or (4) of subsection (a) will exceed an amount that is equal to 125 percent of the cost baseline established under subsection (a) for that project; and
- (2) in the case of a stockpile life extension project referred to in subsection (a)(1) or a major alteration project referred to in subsection (a)(2), the cost for any warhead in the project will exceed an amount that is equal to 150 percent of the cost baseline established under subsection (a)(1)(B) or (a)(2)(B), as applicable, for each warhead in that project.”

50 U.S.C. 2753(c): “NOTIFICATION OF DETERMINATION WITH RESPECT TO TERMINATION OR CONTINUATION OF PROJECTS AND ROOT CAUSE ANALYSES Not later than 90 days after submitting a notification under subsection (b) with respect to a project, the Administrator or the Secretary, as applicable, shall—

- (1) notify the congressional defense committees with respect to whether the project will be terminated or continued;
- (2) if the project will be continued, certify to the congressional defense committees that—
 - (A) a revised cost and schedule baseline has been established for the project and, in the case of a stockpile life extension project referred to in subparagraph (A) or (B) of subsection (a)(1) or a major alteration project referred to in subsection (a)(2), a revised estimate of the cost for each warhead in the project has been made;
 - (B) the continuation of the project is necessary to the mission of the Department of Energy and there is no alternative to the project that would meet the requirements of that mission; and
 - (C) a management structure is in place adequate to manage and control the cost and schedule of the project; and”

⁵ 50 U.S.C. 2753(d): “APPLICABILITY OF REQUIREMENTS TO REVISED COST AND SCHEDULE BASELINES A revised cost and schedule baseline established under subsection (c) shall—

- (1) be submitted to the congressional defense committees with the certification submitted under subsection (c)(2); and
- (2) be subject to the notification requirements of subsections (b) and (c) in the same manner and to the same extent as a cost and schedule baseline established under subsection (a).”

3. Demolition projects no longer able to meet the Department's objective (see DOE O 413.3B, Appendix A, Paragraph 1).

A root cause analysis and corrective action plan should be completed when a PB change occurs, consistent with the DOE O 413.3B thresholds. This applies to a demolition project, and to significant changes at the programmatic level. For changes requiring Congressional notification, this analysis must be provided consistent with 50 U.S.C. 2753(c)(3)⁶

Decrements to approved PB funding profiles must be endorsed by the PME. In circumstances where a PB change is beneficial to the project, PB changes can be approved at lower levels as designated in the PEP.

C. Directed Changes

Directed changes are caused by DOE policy directives (such as those that have the force and effect of law and regulation), regulatory, or statutory actions and are initiated by entities external to the Department, to include external funding reductions. Directed change decisions are reviewed and verified by DOE PM and the Office of Management and Budget (OMB) and follow the appropriate baseline management process as denoted in Section VII.B above, with the exception of the root cause analysis.

D. Change Control

Change control, as defined in the PEP, ensures that project changes are identified, evaluated, coordinated, controlled, reviewed, approved/disapproved, and documented in a manner that best serves the project. One key goal of change control is to ensure that PB thresholds are not exceeded. Approval authority for changes depends upon the estimated impact(s) of the change and can range from the contractor to the Under Secretary for Science, usually with the involvement and support of a Change Control Board (CCB). The CCB membership, authorities, thresholds, and procedures should be detailed or referenced within the PEP.

⁶ 50 U.S.C. 2753(c)(3): "submit to the congressional defense committees an assessment of the root cause or causes of the growth in the total cost of the project, including the contribution of any shortcomings in cost, schedule, or performance of the program, including the role, if any, of—
(A)unrealistic performance expectations;
(B)unrealistic baseline estimates for cost or schedule;
(C)immature technologies or excessive manufacturing or integration risk;
(D)unanticipated design, engineering, manufacturing, or technology integration issues arising during program performance;
(E)changes in procurement quantities;
(F)inadequate program funding or funding instability;
(G)poor performance by personnel of the Federal Government or contractor personnel responsible for program management; or
(H)any other matters."

E. Contract Modifications for New Performance Baseline, if Applicable

Prior to approval of a baseline change by the PME, the FPD shall coordinate with the CO to identify the specific contract changes that may be required, develop an IGCE (refer to Federal Acquisition Regulation (FAR) 36.203 and FAR 15.406-1), establish a schedule for receipt of a contractor's proposal(s), obtain audit support, and ensure the timely analysis, negotiation, and execution of contract modification(s) that comply with regulatory and statutory requirements.

F. Cancellations of Projects

If a demolition project is to be cancelled at any point after CD-0, the respective PME shall approve a cancellation decision and PARS will be updated, as necessary, to reflect the cancellation of the project. For all post CD-2 cancellations, a formal written notification shall be issued to the Under Secretary for Science and the Office of the Chief Financial Officer via PMSO. The formal written notification shall outline the reasons for the cancellation, how the mission need will be impacted, and a disclosure of all funds expended prior to the cancellation and the costs associated with the cancellation.

References

DOE G 430.1-2. *Implementation Guide for Surveillance and Maintenance During Facility Transition and Disposition.*

DOE G 430.1-3. *Deactivation Implementation Guide.*

DOE G 430.1-4. *Decommissioning Implementation Guide.*

DOE G 430.1-5. *Transition Implmentation Guide.*

PMI. (2017). *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)- Sixth Edition.* Newtown Square, PA: Project Management Institute (PMI).

Schiffer, L. J. (1995, January 23). Memorandum to S. Herman, R. Nordhaus, K. McGinty, S Wasserman Goodman, et al. *Agreed to Report of March 31, 1994 Meeting Regarding the Application of NEPA to CERCLA.* 1995: U.S. Department of Justice.