Appendix B

Radiological Operations and Cleanup at the De Soto Facility

Radiological Operations and Cleanup at the De Soto Facility

During the period 1959 through the mid-1990s, radiological operations were conducted at the De Soto Facility, utilizing nuclear fuel material and other radioactive materials. This work was conducted by Atomics International (AI) in Buildings 101 and 104 from 1959 through 1983. A much-reduced level of work was continued by Rocketdyne in Building 104 into the mid 1990s. The following represents a brief summary of these operations, and of the radiological remediation of these buildings.

Prior to 1984, Buildings 101 and 104 were designated 001 and 004. Much of the historical documentation refers to these building numbers.

L-77 Reactor (NRC Licensed)

A small research reactor (L-77) operated in Room 416-61 of Building 104 from 1960 to 1976. The L-77 was a low power (10 watts) reactor utilizing enriched uranyl sulphate solution. The L-77 was a prototype-teaching reactor that was sold to many universities and around the world.

The laboratory housing L-77 was decommissioned and decontaminated in the late 1970s. Following radiological surveys by Atomics International and the Nuclear Regulatory Commission (NRC), the NRC released the facility for unrestricted use and terminated the reactor's R-40 license in February 1982 (NRC 1982a, 1982b and 1982c).

ATR Fuel Fabrication and Supporting Activities (NRC Licensed)

Nuclear fuel fabrication operations were conducted in the northern section of the 1st floor of Building 101, with radiochemistry support operations conducted on the 1st and 2nd floors of Building 104. These support activities included hot chemistry laboratories (east section of 2nd floor), an emission spectroscopy laboratory (Room 411-72, 1st floor), and an X-ray diffraction laboratory (Room 411-58, 1st floor).

Many fuel manufacturing programs were conducted during the 1960s and 1970s, utilizing 2% to 93% enriched uranium metal and composites. One of the larger programs was fuel manufacture for the Advanced Test Reactor (ATR) utilizing uranium-aluminum plates. Fuel manufacturing was terminated in 1983. Buildings 101 and 104 were subsequently decommissioned and decontaminated (D&D). D&D included removal of all fuel and radioactive materials and waste; removal of contaminated equipment, drain lines, tanks, and ventilation ducts; and cleaning of all surfaces including floors walls and ceilings.

All fuel-manufacturing activities were conducted under the Nuclear Regulatory Commission license SNM-21. As required by the license, Atomics International conducted surveys and

sampling of 101 and 104 to ensure that the facility met federal cleanup limits specified in USNRC Regulatory Guide 1.86 (Rockwell International 1983a, 1983b, 1984a and 1984b). The NRC then contracted with an independent third party organization call Oak Ridge Associated Universities (ORAU) to perform verification surveys of 101 and 104 (ORAU 1984 and 1985). ORAU confirmed AI's surveys and the NRC subsequently released 101 and 104 for unrestricted use and amended the SNM-21 license to remove 101 and 104 as locations of authorized use (NRC 1983a, 1983b and 1985).

In 1985-88 and prior to remodeling and refurbishment of Building 104, Rocketdyne performed additional surveys of remaining areas on both the 1st and 2nd floors. This was done, as best management practice, to verify that prior licensed activities had not left residual contamination. None was found (Rockwell International 1985 and 1988).

Following termination of all NRC-licensed fuel manufacturing operations, all that remained at De Soto were two State-licensed activities utilizing by-product radioactive materials. These are described below.

Gamma Irradiation Facility (GIF) (State Licensed)

An above ground vault in Building 104 had utilized sealed cesium-137 and cobalt-60 sources for radiation hardening tests of electronic components and food irradiation research. These activities ceased in the late 1980s, and the sources were shipped off-site for recycling in the early 1990s. Bi-annual leak checks of these sources had determined that none of these sealed sources ever leaked. In 1995, a Rocketdyne survey of the GIF, verified that it was not contaminated.

The Gamma Irradiation Facility comprised of rooms 41M-11 and 41M-11A attached to the north-east corner of Building 104.

In August 1998, following removal of all ventilation, the GIF, roof, and connecting areas were again surveyed by Rocketdyne (Boeing 1998a). In October 1998, the State Radiological Health Branch of the Department of Health Services (DHS/RHB) performed a verification survey of the GIF, roof and connecting areas. Both surveys verified that the facility was clean and suitable for release for unrestricted use. Subsequently, in July 1999, the California DHS released the GIF for unrestricted use and removed it from the State Radioactive Materials License 0015-19 (California DHS 1999a and 1999b).

Mass Spectroscopy Lab (a.k.a. Helium Lab) (State Licensed)

Up until 1995, Rocketdyne used the Mass Spectroscopy Laboratory to analyze neutron-irradiated radioactive samples for helium content. These samples were shipped from other US and international research organizations, for helium analysis. In 1995, the equipment was shipped to Pacific Northwest Labs in Richland, Washington where it continues to be used.

The Mass Spectroscopy laboratory comprised rooms 414-69, 416-72, 414-75, 416-76, 416-76A, 414-77, 416-80, 416-80A and 414-81 in the north-east section of the 1st floor of Building 104.

In mid 1998, all remaining equipment was removed, interior walls removed, drain lines removed and the facility was decontaminated. Residual contamination was low level and localized within the confines of the laboratory. No elevated radiation levels or contamination outside the confines of the laboratory were ever detected either prior to, or during decommissioning. D&D was funded by the Department of Energy (DOE), as the work of the laboratory had been principally funded by DOE.

Following decontamination, Rocketdyne performed a final survey of the laboratory and surrounding corridors and offices in July 1998 (Boeing 1998b). An independent organization, the Oak Ridge Institute of Science and Education (ORISE) performed a verification survey of the laboratory in September 1998 (ORISE 1999). The State RHB/DHS also performed a verification survey in October 1998. All three surveys verified that the facility was clean and suitable for release for unrestricted use. Subsequently, in July 1999, the California DHS released the Mass Spectroscopy Laboratory for unrestricted use and removed it from the State Radioactive Materials License 0015-19 (California DHS 1999a and 1999b).

Summary

Limited soil and groundwater radiological sampling performed in 1989 and 1990 did not detect any contamination from De Soto's nuclear operations. These results are reported elsewhere in the Phase I Environmental Site Assessment. Environmental airborne sampling and radiation exposure measurements taken on the De Soto campus from 1959 through 1998 were reported in bi-annual and annual environmental monitoring reports on file with the Radiation Safety Department of Rocketdyne. No regulatory limits were exceeded and the surrounding community was not impacted by the De Soto's radiological operations.

The thirteen separate radiation surveys performed in Buildings 101 and 104, described above, demonstrate that no residual contamination remains that would be a hazard to any site occupants or the neighboring community. No licensed radioactive material is used at the site today.

Copies of NRC and California DHS release documentation are included in this Appendix. Copies of survey reports are on file in the Radiation Safety Department of Rocketdyne and are available on request.

References

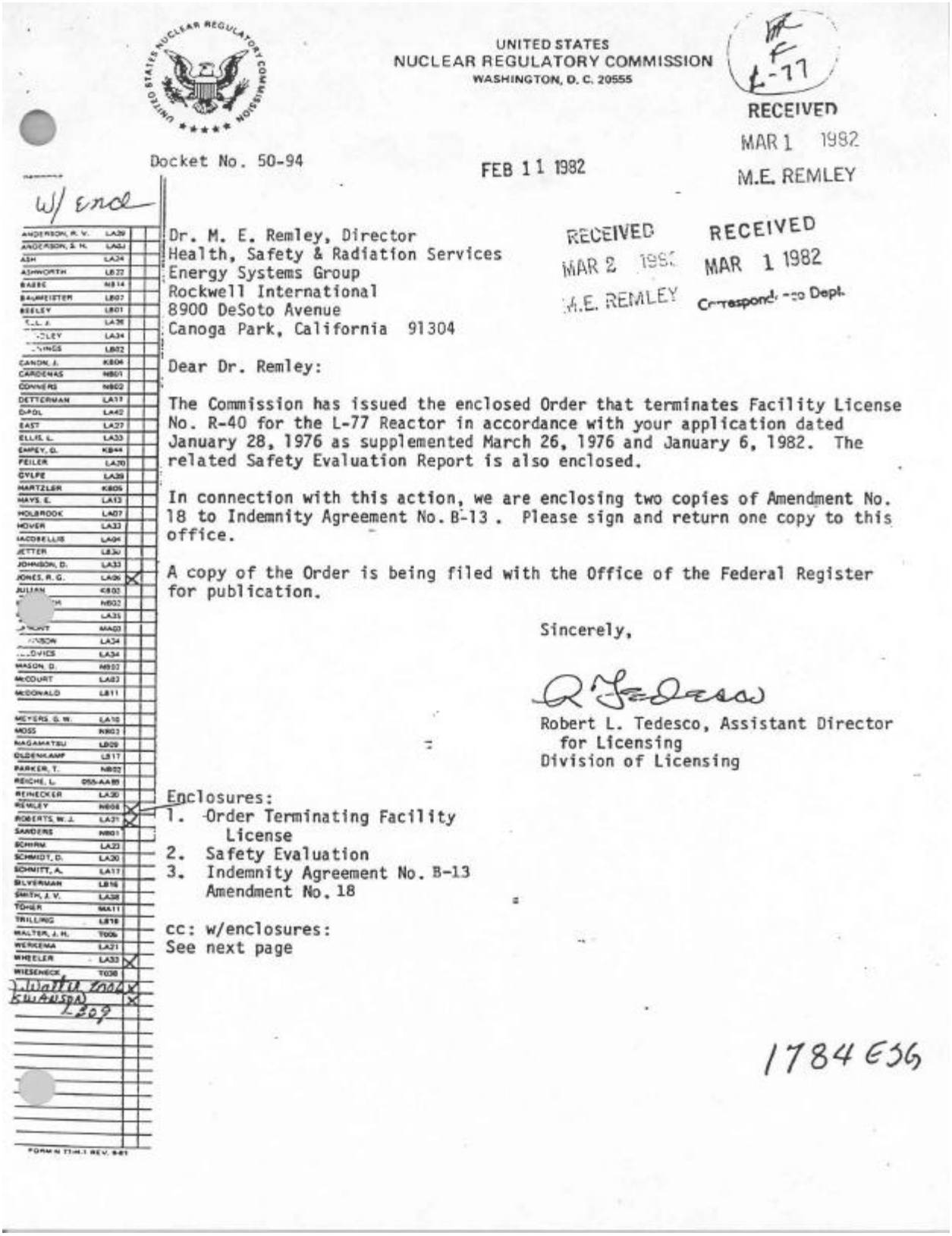
1. Boeing 1998a. Final Radiological Survey Data Package. Gamma Irradiation Facility, De Soto, Building 104. November 6, 1998.
2. Boeing 1998b. De Soto 104 Mass Spectroscopy Laboratory Final Status Survey Report. N001SRR140130. December 16, 1998.
3. California Department of Health Services, 1999a. Letter from J. M. Rexroth to J. G. Barnes. Untitled (Release of the Gamma Irradiation Facility and Mass Spectroscopy Laboratory for Unrestricted Use). July 30, 1999.
4. California Department of Health Services, 1999b. Amendment 103 to Radioactive Material License No. 0015-19. Release of the Gamma Irradiation Facility and Mass Spectroscopy Laboratory for Unrestricted Use. August 2, 1999.
5. Nuclear Regulatory Commission, 1982a. Letter from R. L. Tedesco to M.E. Remley. Untitled (Termination of License for R-40 for the L-77 Reactor). February 11, 1982.
6. Nuclear Regulatory Commission, 1982b. Docket No. 50-94. Order Terminating Facility License. February 11, 1982.
7. Nuclear Regulatory Commission, 1982c. Safety Evaluation by the Office of Nuclear Reactor Regulation Supporting Order Termination Facility License No. R-40, Rockwell international, L-77 Research Reactor. Docket No. 50-94. February 11, 1982.
8. Nuclear Regulatory Commission, 1983a. Letter from W. T. Crow to M.E. Remley. Untitled (Interim Confirmatory Survey and Release of Phase I of Building 001." July 28, 1983.
9. Nuclear Regulatory Commission, 1983b. Letter from W. T. Crow to M.E. Remley. Untitled (Interim Confirmatory Survey and Release of Phase II of Building 001." October 20, 1983.
10. Nuclear Regulatory Commission, 1985. Letter from W. T. Crow to M.E. Remley. Untitled (Confirmatory survey and release for unrestricted use of all licensed operations at De Soto Buildings 001 and 004." March 28, 1985.
11. Oak Ridge Associated Universities, 1984. Radiological Survey of Building 001, Energy Systems Group Headquarters, Rockwell International, Canoga Park, California." June 1984.
12. Oak Ridge Associated Universities, 1985. Radiological Survey of Building 004, Energy Systems Group Headquarters, Rockwell International, Canoga Park, California." January 1985.
13. Oak Ridge Institute of Science and Education, 1999. Verification Survey of the De Soto Mass Spectroscopy Laboratory (Building 104), Boeing North American Inc., Canoga Park, California. ORISE 99-0983. June 1999.
14. Rockwell International, 1983a. Radiation Survey for Phase I Release for Unrestricted Use of ESG Headquarters, Building 001. N001SRR130011. May 19, 1983.
15. Rockwell International, 1983b. Radiation Survey for Phase II Release for Unrestricted Use of ESG Headquarters, Building 001. N001SRR130012. August 12, 1983.

16. Rockwell International, 1984a. Radiation Survey for Phase III Release for Unrestricted Use of ESG Headquarters, Building 001. N065SRR205006. January 17, 1984.

17. Rockwell International, 1984b. Radiation Survey for Release for Unrestricted Use of Hot Chemistry Laboratory Area, ESG Headquarters, Building 004. 130SRR000001. June 12, 1984.

18. Rockwell International, 1985. Radiation Survey for Release for Unrestricted Use of De Soto Facility, 2nd Floor, Building 104. N001SRR140085. October 23, 1985.

19. Rockwell International, 1988. Radiation Survey for Release for Unrestricted Use of De Soto Facility, 1st Floor, Building 104. N001SRR140103. August 17, 1988.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

L-77

RECEIVED
MAR 1 1982
M.E. REMLEY

Docket No. 50-94

FEB 11 1982

w/ encl

Dr. M. E. Remley, Director
Health, Safety & Radiation Services
Energy Systems Group
Rockwell International
8900 DeSoto Avenue
Canoga Park, California 91304

RECEIVED
MAR 2 1982
M.E. REMLEY

RECEIVED
MAR 1 1982
Correspond. -co Dept.

Dear Dr. Remley:

The Commission has issued the enclosed Order that terminates Facility License No. R-40 for the L-77 Reactor in accordance with your application dated January 28, 1976 as supplemented March 26, 1976 and January 6, 1982. The related Safety Evaluation Report is also enclosed.

In connection with this action, we are enclosing two copies of Amendment No. 18 to Indemnity Agreement No. B-13 . Please sign and return one copy to this office.

A copy of the Order is being filed with the Office of the Federal Register for publication.

Sincerely,

Robert L. Tedesco, Assistant Director
for Licensing
Division of Licensing

Enclosures:
1. Order Terminating Facility License
2. Safety Evaluation
3. Indemnity Agreement No. B-13 Amendment No. 18

cc: w/enclosures:
See next page

1784 E56

NRC 1982a

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

ROCKWELL INTERNATIONAL

DOCKET NO. 50-94

ORDER TERMINATING FACILITY LICENSE

By application dated January 28, 1976, as supplemented March 26, 1976 and January 6, 1982, Rockwell International (the licensee) requested authorization to dismantle the L-77 Reactor (the facility), a research reactor located in Canoga Park, California, to dispose of the component parts in accordance with the plan submitted as part of the application, and to terminate Facility License No. R-40. A "Notice of Proposed Issuance of Orders Authorizing Dismantling of Facility, Disposition of Component Parts, and Termination of Facility License" was published in the Federal Register on April 8, 1976 (41 F.R. 14955). No request for a hearing or petition for leave to intervene was filed following notice of the proposed action.

The Commission has found that the facility has been dismantled and decontaminated, and that satisfactory disposition has been made of the component parts and fuel in accordance with the Commission's regulations in 10 CFR Chapter I, and in a manner not inimical to the common defense and security or to the health and safety of the public. The facility was dismantled pursuant to the Commission's Order dated September 29, 1976.

The facility area has been inspected by the Commission's Office of Inspection and Enforcement and radiation surveys confirm that radiation levels meet the values defined in the dismantling plan, and the area is available for unrestricted access.

NRC 1982b Page 1

Therefore, pursuant to the application by the Rockwell International Facility License No. R-40 is hereby terminated as of the date of this Order.

For further details with respect to this action, see (1) application for authorization to dismantle facility and dispose of component parts and for termination of facility license dated January 28, 1976, as supplemented March 26, 1976 and January 6, 1982, (2) the Commission's Order Authorizing Dismantling of Facility and Disposition of Component Parts dated September 29, 1976, and (3) the Commission's related Safety Evaluation. Each of these items is available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. A copy of items (2) and (3) may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C., 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland this 11TH day February 1982

FOR THE NUCLEAR REGULATORY COMMISSION

Darrell G. Eisenhut, Director
Division of Licensing

NRC 1982b Page 2

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING ORDER TERMINATING FACILITY LICENSE NO. R-40

ROCKWELL INTERNATIONAL

L-77 RESEARCH REACTOR

DOCKET NO. 50-94

By application dated January 28, 1976 as supplemented March 26, 1976 and January 6, 1982, Rockwell International (the licensee) requested that Facility License No. R-40 be terminated following completion of dismantling the L-77 Reactor.

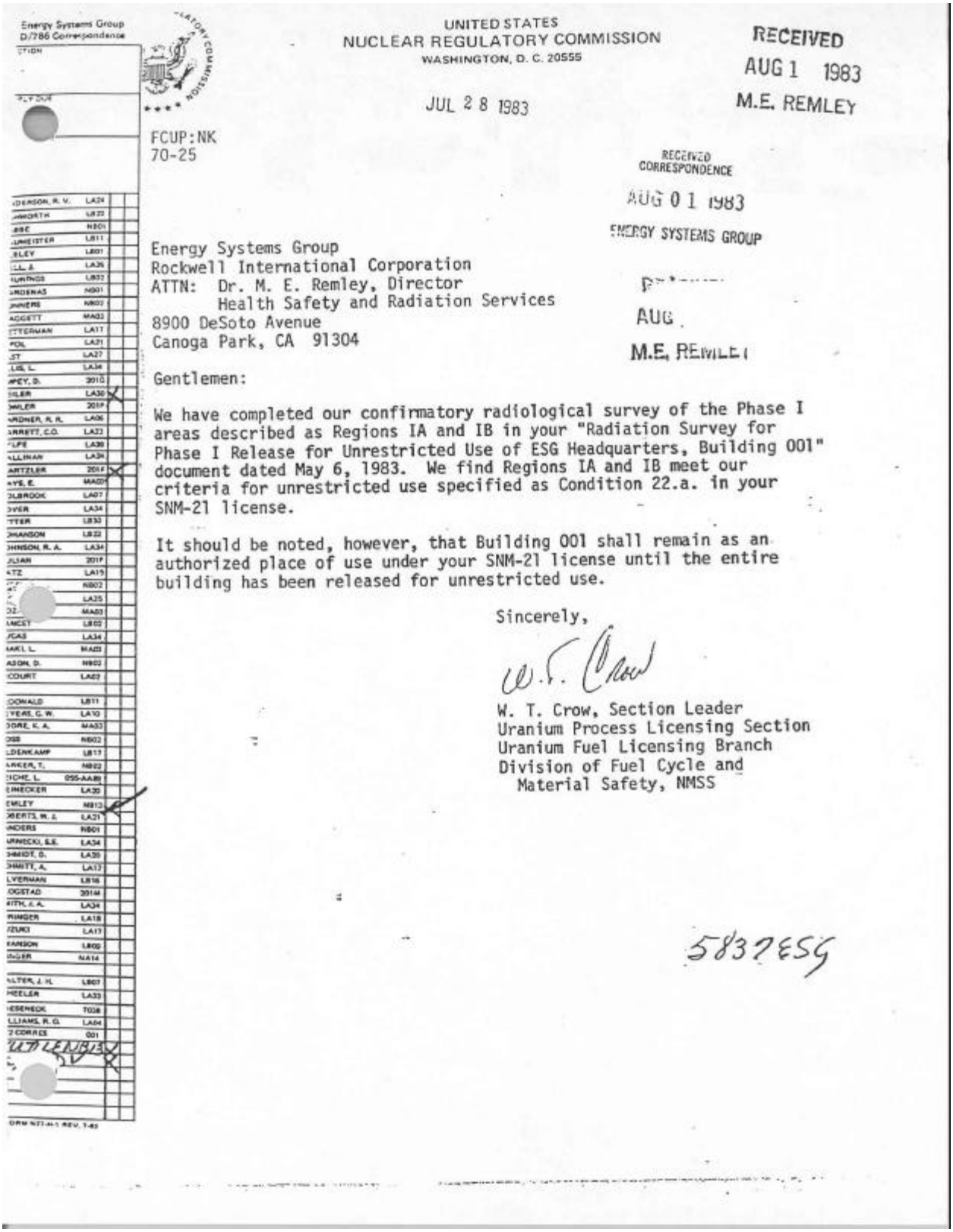
The reactor has been dismantled and disposed of in accordance with the licensee's dismantling plan dated January 28, 1976 and our dismantling order dated September 29, 1976. The Nuclear Regulatory Commission's Office of Inspection and Enforcement inspected the facility on January 22, 1982, and verified that dismantling had been accomplished in accordance with the dismantling order. Also, our inspector conducted a radiation survey of the reactor facility and determined that the facility met the contamination limits stated in the Dismantling Plan and in Regulatory Guide 1.86. In addition, our inspector determined that gamma radiation was at background levels in the facility. The L-77 fuel has been sold and shipped to an authorized receiver in West Germany in accordance with NRC export license conditions.

We have concluded that the termination of this license involves an action which is insignificant from the standpoint of environmental impact, and pursuant to 10 CFR §51.5(d)(4), that an environmental impact statement or negative and environmental impact appraisal need not be prepared in connection with the issuance of this termination order.

Based on the reasons discussed above, we have concluded that this license termination is in compliance with the Commission's regulations, that there is reasonable assurance that this license can be terminated without endangering the health and safety of the public and that its termination will not be inimical to the common defense and security or to the health and safety of the public.

Dated: FEB 11 1982

NRC 1982c



Energy Systems Group
D/786 Correspondence

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

RECEIVED
AUG 1 1983
M.E. REMLEY

JUL 28 1983

FCUP:NK
70-25

RECEIVED
CORRESPONDENCE
AUG 01 1983
ENERGY SYSTEMS GROUP

AUG
M.E. REMLEY

Energy Systems Group
Rockwell International Corporation
ATTN: Dr. M. E. Remley, Director
Health Safety and Radiation Services
8900 DeSoto Avenue
Canoga Park, CA 91304

Gentlemen:

We have completed our confirmatory radiological survey of the Phase I areas described as Regions IA and IB in your "Radiation Survey for Phase I Release for Unrestricted Use of ESG Headquarters, Building 001" document dated May 6, 1983. We find Regions IA and IB meet our criteria for unrestricted use specified as Condition 22.a. in your SNM-21 license.

It should be noted, however, that Building 001 shall remain as an authorized place of use under your SNM-21 license until the entire building has been released for unrestricted use.

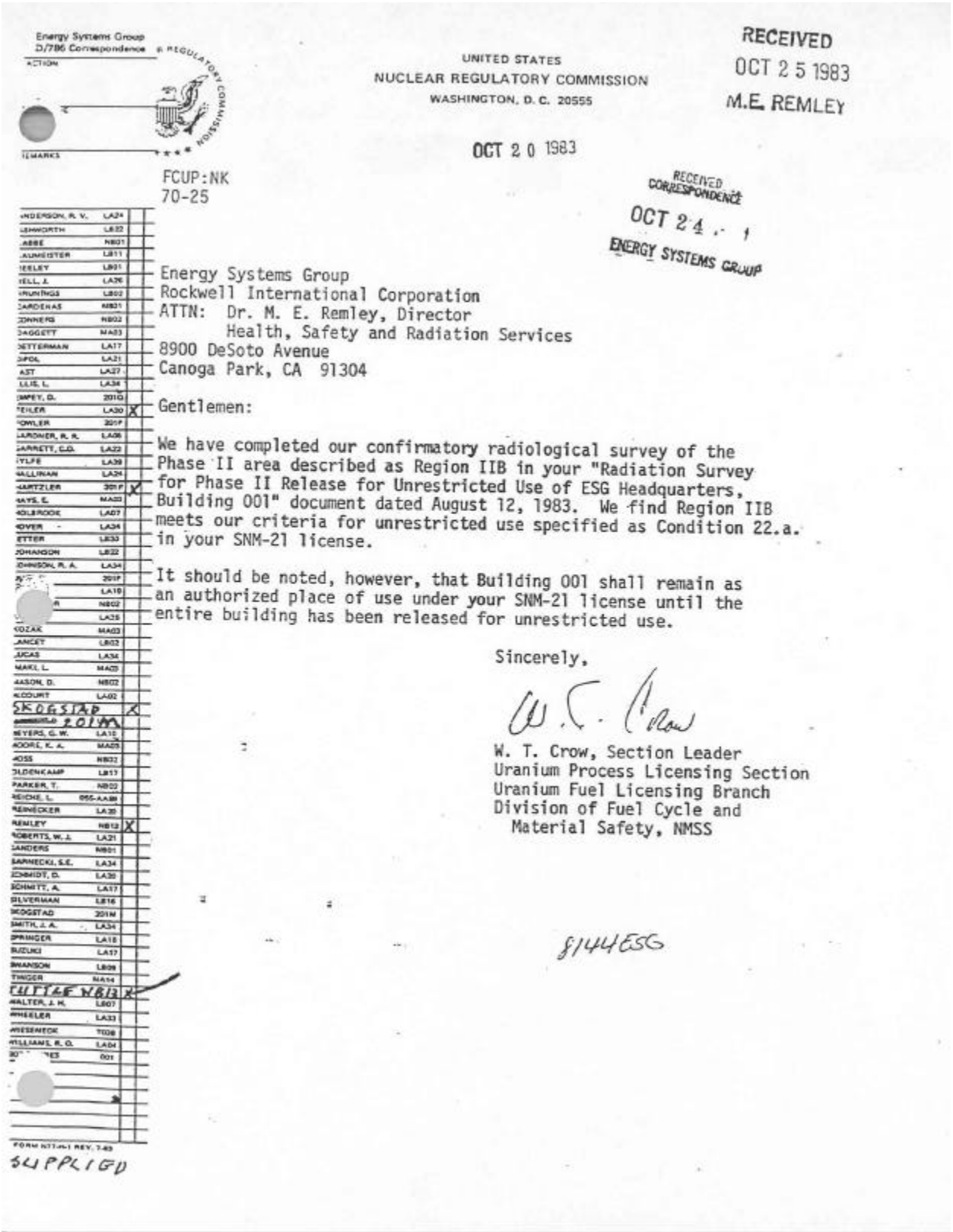
Sincerely,

W. T. Crow

W. T. Crow, Section Leader
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

5837ESG

NRC 1983a



Energy Systems Group
D/786 Correspondence
ACTION
REMARKS

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

RECEIVED
OCT 25 1983
M.E. REMLEY

OCT 20 1983

FCUP:NK
70-25

RECEIVED CORRESPONDENCE
OCT 24 ..
ENERGY SYSTEMS GROUP

Energy Systems Group
Rockwell International Corporation
ATTN: Dr. M. E. Remley, Director
Health, Safety and Radiation Services
8900 DeSoto Avenue
Canoga Park, CA 91304

Gentlemen:

We have completed our confirmatory radiological survey of the Phase II area described as Region IIB in your "Radiation Survey for Phase II Release for Unrestricted Use of ESG Headquarters, Building 001" document dated August 12, 1983. We find Region IIB meets our criteria for unrestricted use specified as Condition 22.a. in your SNM-21 license.

It should be noted, however, that Building 001 shall remain as an authorized place of use under your SNM-21 license until the entire building has been released for unrestricted use.

Sincerely,

W. T. Crow, Section Leader
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

8144ESG

SUPPLIED

NRC 1983b

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAR 28 1985

APR 5 '85 PM

ROCKETDYNE
CORRESPONDENCE

FCUP:NK
70-25

Energy Systems Group
Rockwell International Corporation
ATTN: Dr. M. E. Remley, Director
Health, Safety and Radiation Services
8900 DeSoto Avenue
Canoga Park, CA 91304

Gentlemen:

On June 28, 1984, your Special Nuclear Material License No. SNM-21 was renewed for a 5-year period until June 30, 1989. In the renewed license your DeSoto facilities (including Building 004) were removed as authorized places of use. We had made a confirmatory survey of your DeSoto licensed facilities and determined that these facilities meet our criteria for release for unrestricted use.

Per telephone conversation with Mr. Norman Ketzlach of my staff, we are sending you a copy (see enclosure) of our report, dated January 1985, which contains the results of this confirmatory survey.

Sincerely,

W. T. Crow

W. T. Crow, Acting Chief
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety, NMSS

Enclosure:
ORAU Confirmatory Survey Report

02983RC

NRC 1985

08/03/99 TUE 14:46 FAX 916 323 6491 RADIOLOGIC HEALTH BRANCH 002

STATE OF CALIFORNIA—HEALTH AND HUMAN SERVICES AGENCY GRAY DAVIS, Governor

DEPARTMENT OF HEALTH SERVICES
714/744 P STREET
P.O. BOX 942732
SACRAMENTO, CA 94234-7320

July 30, 1999

James G. Barnes
Radiation Safety Officer
Boeing North American/Rocketdyne Division
P. O. Box 7922, MS-T100
Canoga Park, CA 91309-7922

Dear Mr. Barnes:

Enclosed is Amendment No. 103 to your License 0015-19. Amenment No. 103 releases for unrestricted use The Gamma Irradiation Facility and the Mass Spectroscopy Laboratory located in Building 104 of the DeSoto Facility.

Should you have any questions or comments please call me directly at (916) 445-7125.

John M. Rexroth
Health Physicist
Licensing Projects Unit

Enclosure

DHS 1999a

08/03/99 TUE 14:46 FAX 916 323 6491 RADIOLOGIC HEALTH BRANCH 003

State of California-Health and Welfare Agency

Department of Health Services

Page 1 of 5 pages

RADIOACTIVE MATERIAL LICENSE

Pursuant to the California Code of Regulations, Division 1, Title 17, Chapter 5, Subchapter 4, Group 2, Licensing of Radioactive Material, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, use, possess, transfer, or dispose of radioactive material listed below; and to use such radioactive material for the purpose(s) and at the places(s) designated below. This license is subject to all applicable rules, regulations, and orders of the Department of Health Services now or hereafter in effect and to any standard or specific condition specified in this license.

1. Licensee	Boeing North American/Rocketdyne Division	3. License Number 0015-19	Amendment Number: 103
2. Address	P.O. Box 7922, MS-T100 6633 Canoga Avenue Canoga Park, CA 91309-7922	4. Expiration date September 11, 2002	(1)
Attention:	James G. Barnes Radiation Safety Officer	5. Inspection agency	Radiologic Health Branch Los Angeles

License Number 0015-19 is hereby amended as follows:

6. Nuclide	7. Form	8. Possession Limit
A. Hydrogen-3	A. Any	A. Not to exceed 100 curies.
B. Any radionuclide with atomic number 3-83.	B. Any	B. Not to exceed 25 curies for any one radionuclide. Total not to exceed 100 curies.
C. Any radionuclide with atomic number 3-83.	C. Sealed sources in metal capsules sealed by welding or brazing.	C. Not to exceed 75 curies for any one radionuclide. Total not to exceed 250 curies.
D. Any radionuclide with atomic number 84 and above except: special nuclear material and source material.	D. Any	D. Not to exceed 100 millicuries for any one radionuclide. Total not to exceed 1 curie.
E. Any radionuclide with atomic number 84 and above except: special nuclear material and source material.	E. Sealed sources in metal capsules sealed by welding or brazing.	E. Not to exceed 5 curies for any one radionuclide. Total not to exceed 25 curies.
F. Source material	F. Any	F. Not to exceed 1000 pounds.
G. Any radionuclide	G. Any as radioactive contamination.	G. See Condition 16 for decontamination levels.
H. Special nuclear material	H. Sealed sources	H. Not to exceed 1 millicurie per source. Total not to exceed 1 curie.
I. Cobalt-60	I. Sealed source (Technical Operations, Inc. Model A424-14)	I. 1 source not to exceed 50 curies.
J. Iridium-192	J. Sealed sources (Technical Operations, Inc. Model 866)	J. 4 sources not to exceed 100 curies each.

DHS 1999b Page1

08/03/99 TUE 14:47 FAX 916 323 6491 RADIOLOGIC HEALTH BRANCH 004

State of California-Health and Welfare Agency

Department of Health Services

Page 2 of 5 pages

RADIOACTIVE MATERIAL LICENSE

License Number: 0015-19

Amendment Number: 103

9. Authorized Use

A.-F. and H. To be used for calibration of instruments, and research and development as defined in Title 10, California Code of Regulations, Section 30100.

G. To be used incidental to customer decontamination services. (see Condition 16)

I. To be used in a Technical Operations, Inc. projector Model 680 for industrial radiography and in a Technical Operations, Inc. source changer Model 488 for source exchange. (Storage only)

J. To be used in a Technical Operations, Inc. projector Model 520 for industrial radiography and in a Technical Operations, Inc. source changer Model 650 for source exchange. (Storage only)

LICENSE CONDITIONS

10. Radioactive material shall be used only at the following locations:

(a) 8900 DeSoto Avenue, Canoga Park, California. (DeSoto Facility)
(b) 6633 Canoga Avenue, Canoga Park, California. (Canoga Facility)
(c) Santa Susana Field Laboratories, Top of Woolsey Canyon Road, Simi Hills, California. ("SSFL")

11. This license is subject to an annual fee for sources of radioactive material authorized to be possessed at any one time as specified in Items 6, 7, 8 and 9 of this license. The annual fee for this license is required by and computed in accordance with Title 17, California Code of Regulations, Sections 30230-30232 and is also subject to an annual cost-of-living adjustment pursuant to Section 100425 of the California Health and Safety Code.

12. Radioactive material may be used only by, or under the supervision of, individuals designated by the Radiation Safety Committee.

13. Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive material described in Items 6, 7, 8 and 9 of this license in accordance with the statements, representations, and procedures contained in the documents listed below. The Department's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

(a) The renewal application with attachments dated August 4, 1993 signed by P. D. Rutherford as modified by the letters with attachments dated August 10, 1995, November 27, 1995 and January 15, 1996 all signed by James Gary Barnes.

(b) The letter with attachments dated June 5, 1996, signed by James Gary Barnes, CHP, relative to procedures and documentation for release of construction debris for disposal.

(c) The letter dated October 30, 1996, signed by James Gary Barnes, regarding change in ownership and corporate name change.

(d) The letter dated October 26, 1996, signed by James Gary Barnes regarding procedures to analyze leak test wipes.

DHS 1999b Page 2

08/03/99 TUE 14:48 FAX 916 323 6491 RADIOLOGIC HEALTH BRANCH 005

State of California-Health and Welfare Agency

Department of Health Services

Page 3 of 5 pages

RADIOACTIVE MATERIAL LICENSE

License Number: 0015-19

Amendment Number: 103

(e) The letter dated June 28, 1996, signed by Majelle Lee, with attachments; as modified by the letter dated August 21, 1996, signed by Phil Rutherford, with attached Specification of sitewide Release Limits.

(f) The letter dated May 6, 1996 signed by B. M. Oliver with attachments thereto relative to release of Former Sodium Disposal Facility for unrestricted use.

(g) The letters dated March 26, 1997 and January 7, 1998, signed by P. D. Rutherford with attached information relative to release of Building 363 at the Santa Susana Field Laboratory.

(h) The letter dated February 6, 1998, signed by James G. Barnes regarding instrument calibration procedures.

(i) The letter dated June 15, 1998, signed by James G. Barnes, CHP, regarding instrument calibration procedures.

(j) The letter dated August 3, 1998, signed by Gary Barnes regarding disposal of Building 11 debris and the letter with attachments dated November 4, 1998, signed by Phil Rutherford relative to release of Building 11 in Area IV, Santa Susana Field Laboratories (SSFL) for unrestricted use.

(k) The letters dated February 17, 1998 and August 19, 1998 with attachments thereto, both signed by Phil Rutherford, regarding the release of Building 009 for unrestricted use.

(l) The letter dated September 3, 1998 with attachments thereto, signed by Phil Rutherford, regarding the release of Building 020 (Hot Lab) from the license.

(m) The letter with attachments dated November 9, 1998, signed by Phil Rutherford, regarding the release of the Gamma Irradiation Facility (GIF) located in Building 104 at the DeSoto Facility. For unrestricted use.

(n) The letter with attachments dated December 16, 1998, signed by Phil Rutherford, regarding the release for unrestricted use of the Mass Spectroscopy Laboratory, located in Building 104 at the DeSota Facility.

14. (a) The Radiation Safety Officer in this program shall be James G. Barnes.
    (b) The Chairperson of the Radiation Safety Committee shall be P. D. Rutherford.
    (c) The Alternate Radiation Safety Officer in this program shall be P. D. Rutherford.

15. All uses of radioactive material under this license shall be conducted in accordance with the user's application to and modifying requirements of the Radiation Safety Committee. The review of intramural applications shall include findings with respect to matters specified in Title 17, California Code of Regulations, Section 30194. Documentation of these findings shall be maintained for Department inspection.

16. The licensee is authorized to provide radioactive decontamination as a customer service pursuant to subitem G of this license provided that:

    (a) The total quantity of radioactive material handled at any one customer's site and the level of radioactive contamination does not exceed the limits specified in the table below:

DHS 1999b Page 3

State of California-Health and Welfare Agency

Department of Health Services

Page 4 of 5 pages

RADIOACTIVE MATERIAL LICENSE

License Number: 0015-19

Amendment Number: 103

Radionuclide	Total Activity	Contamination Levels ($\mu Ci/100cm^2$)	
		Alpha	Beta/Gamma
Any source material and beta/gamma emitter, except Sr-90 and Pb-210	10 mCi	10E-1	10E-1
Sr-90 and Pb-210 and any alpha emitter, except source and special nuclear material	1 mCi	10E-2	10E-2
Any special nuclear material	0.1 grams	10E-2	10E-2

(b) A report is rendered to the customer with a copy to the Department within 30 days of the initiation of decontamination. This report shall include:

(1) A complete description of the facility or object contaminated.

(2) A specification of the nature of the radioactive contamination by nuclide or emission and levels initially observed.

(3) Final levels observed on completion of decontamination.

(4) If decontamination is not complete, a statement of progress to date of report.

(c) Decontamination shall be under the supervision of a health physicist who is eligible for certification by the American Board of Health Physics and who shall sign the decontamination reports.

17. The licensee is authorized to calibrate radiation detection instruments for his own use or for other subsidiaries of the Boeing Company. Each calibration of a radiation detection instrument shall include not less than 2 points other than zero (separated by at least 50 percent of full scale) for each scale of the instrument certified by the licensee.

18. Sealed sources possessed under this license shall be tested for leakage and/or contamination as required by Title 17, California Code of Regulations, Section 30275 (c).

19. The licensee is authorized to perform tests for leakage and/or contamination of sealed sources. The following tests may be performed for sources possessed under this license and as a customer service:

(a) Collection of wipe test samples from sealed sources and devices containing sealed sources.

(b) Analysis of materials collected by the licensee as stated in (a) above for the amount of radioactivity.

20. The following individuals are authorized to collect wipe test samples of sealed sources possessed under this license using leak test kits acceptable to the California Department of Health Services:

(a) The Radiation Safety Officer
(b) Qualified individuals designated in writing by the Radiation Safety Officer

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RADIOACTIVE MATERIAL LICENSE

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21. Records of leak test results shall be kept in units of microcuries and maintained for inspection. Records may be disposed of following Department inspection. Any leak test revealing the presence of 0.005 microcuries or more of removable radioactive material shall be reported to the Department of Health Services, Radiologic Health Branch, 601 N. 7th Street, P.O. Box 942732 – MS 178, Sacramento, CA 94234-7320, within five days of the test. This report shall include a description of the defective source or device, the results of the test, and the corrective action taken.

For the State Department of Health Services

Date: August 2, 1999 By: David Wesley

Radiologic Health Branch
P.O. Box 942732-MS 178, Sacramento, CA 94234-7320

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