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Docket No. 70-754 ...27 84
License No. SNM-960, as renewed ...070

General Electric Company
ATTN: G. E. Cunningham
Senior Licensing Engineer
Vallecitos Nuclear Center
P. O. Box 460
Pleasanton, California 94566

OFFICIAL RECORD COPY

Gentlemen:

Enclosed is Special Nuclear Material License No. SNM-960, as renewed. The license contains certain specific conditions (as stated in Items 8 through 14 of the License) which address the following areas:

1. Implementation, maintenance, and execution of the response measures of the VNC Radiological Contingency Plan submitted to the Commission on October 29, 1982,

2 Yearly submittal to NRC of GE's annual report summarizing the effluent monitoring and environmental surveillance programs at VNC,

3. Notification of NRC of any planned activities using unencapsulated plutonium in Building 102-Core Materials Engineering Laboratory,

4. Requirements concerning leak testing of sealed plutonium sources,

5. Requirements for decontamination of facilities and equipment prior to release for unrestricted use, and

6. Requirements for decommissioning (should GE decide to terminate this license), in addition to the requirements of 10 CFR 70.38, with reference to your general decommissioning plan as submitted by letter dated February 17, 1983, and related financial commitment presented by letter dated May 14, 1979.

The conditions of the renewed license were discussed and agreed upon between R. T. Kratzke (NRC) and G. E. Cunningham (General Electric-Vallecitos) during Mr. Kratzke's site visit, April 16-18, 1984.

You are hereby advised that any request for amendments to the license should be submitted in the form of replacement or new pages for the conditions section, Appendix A of the license renewal application, and if necessary, for the demonstration sections, Sections 1 through 13 of the license renewal application. The changed or new items should be clearly identified in the replacement or new pages as submitted for the amendment request.

The Materials and Plant Protection Amendment issued pursuant to Parts 70 and 73 and the Certificates of Compliance issued pursuant to 10 CFR 71 are not affected by this licensing action and remain in effect.

Based on our review of your application, we have concluded that the activities authorized by this license can be performed without undue risk to the health and safety of the public and that the application fulfills the requirements of 10 CFR 70.23(a), "Requirements for the Approval of Applications." Based on an environmental assessment of your past and current activities as authorized under this license, we have also concluded that the issuance of this renewed license is not a major federal action significantly affecting the quality of the human environment and that pursuant to 10 CFR 51.5(d)(4), no environmental impact statement, negative declaration or environmental appraisal need be prepared. Copies of our safety evaluation report prepared in support of this licensing action and our environmental assessment will be sent for your information under separate cover.

FOR THE NUCLEAR REGULATOPY COMMISSION

Original signed by
Leland C. Rouse

Leland C. Rouse, Chief
Advanced Fuel and Spent Fuel
Licensing Branch
Division of Fuel Cycle and
Material SAfety

Enclosure:
License No. SNM-960, as renewed

A20-30

OFFICE	FCAF RVK	FCAF LCR					
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DATE	74205 5/3/84	5/10/84					

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 31, 32, 33, 34, 35, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s); and to import such byproduct and source material. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. General Electric Company Vallecitos Nuclear Center	3. License number SNM-960 as renewed
2. P. O. Box 460 Pleasanton, California 94566	4. Expiration date May 31, 1989
	5. Docket or Reference No. 70-754

6. Special Nuclear Material Possession Limits and Authorized Place of Use

The following quantities of special nuclear material are the maximum amount that the licensee may possess at any one time under this license. The authorized places of use are specified as they relate to their respective possession limits.

6.1 VALLECITOS NUCLEAR CENTER

6.1.1 U-235. 50 kg enriched to less than or equal to 10 percent for authorized activities. The material may be in the form of irradiated special nuclear material with its attendant by-product and reactor-produced transuranics.

6.1.2 U-235. 4 kg enriched to more than 10 percent for authorized activities. The material may be in the form of irradiated special nuclear material with its attendant by-product and reactor-produced transuranics.

6.1.3 Plutonium. 500 grams in any form in addition to the irradiated quantities as referenced to in Sections 6.1.1 and 6.1.2 above.

6.1.4 U-233. 200 grams in any form.

6.2 LOCATIONS OTHER THAN VALLECITOS NUCLEAR CENTER

Up to 15 grams of U-235 and plutonium and up to 170 grams of plutonium as encapsulated plutonium-beryllium sources may be used at other sites within the limits of the United States except where the material is subject to licensing by an Agreement State as defined in 10 CFR 150.

SNM fully packaged as for transport in containers meeting all of the general license requirements of 10 CFR 71 or in containers owned by the General Electric Company and certified for transport under the provisions of 10 CFR 71 in accordance with the conditions of a certificate of compliance authorizing delivery of such containers to a carrier for Fissile Class I transport may be stored at locations within the United States which minimize the possibility of mechanical damage and flooding providing such locations are controlled by the General Electric Company including provisions of adequate safeguards against theft or loss. Storage at nuclear reactor sites subject to the financial protection and indemnity provisions of 10 CFR 140 shall be limited to possession for purposes of delivery to a carrier for transport. The requirements of 10 CFR 70.24 are waived insofar as this Section applies to the materials contained in the above containers.

7. Authorized Use

For use in accordance with statements, representations and conditions contained in Appendix A, "License Conditions for the Vallecitos Nuclear Center," of the licensee's submittal dated April 20 1984, except as modified by the conditions of this license. A list of effective pages for Appendix A of the licensee's application is given in Annex A to this license. The following types of activities are authorized.

7.1 PRODUCT PROCESSING OPERATIONS

Development Shop. Fabrication, assembly, modification, cleaning, and repair of unirradiated encapsulated (including encapsulation) experimental assemblies. Assembly modification, cleaning, and repair (but not fabrication) of fuel elements for use in licensed facilities.

7.2 LABORATORY OPERATIONS

7.2.1 Chemical. Analysis of the chemical and isotopic composition, concentration, and behavior of special nuclear materials by wet chemistry and physical measurement techniques.

7.2.2 Metallurgical. Physical analyses and testing of physical and metallurgical properties of special nuclear materials.

7.2.3 Physics and Health Physics. Measurements of radiation and its effects on instruments and on the structure and composition of materials.

7.2.4 Hot Laboratories. Post-irradiation examination, testing and analysis of fuel elements and materials in shielded enclosures by remote manipulative techniques; research and development and/or pilot plant activities involving recovery and recycling of waste or nonspecification material.

7.2.5 Research and Development. Including but not limited to the above.

7.3 GENERAL SERVICES OPERATIONS

7.3.1 Equipment Maintenance and Engineering. Design, fabrication, and testing of equipment containing special nuclear materials and maintenance of such equipment.

7.3.2 Storage. Storage of special nuclear materials other than wastes in shielded containers and/or at locations as applicable and in designated general purpose storage areas.

7.3.3 Transportation and Transfer. Inspection of packaging and preparation for shipment and/or transfer of special nuclear materials.

7.3.4 Decontamination. Decontamination of equipment and facilities.

7.4 WASTE TREATMENT

7.4.1 Liquid. Concentration of the radioactive constituents of liquid wastes by evaporation, chemical treatment, sedimentation, filtration, and ion exchange; agglomeration and packaging of concentrates and discharge of processed effluents.

7.4.2 Solids. Packaging and storage of wastes contaminated with or containing nonreclaimable special nuclear materials, excluding direct burial in soil.

7.5 OFF-SITE ACTIVITIES

Nonnuclear, nondestructive modification, demonstration and testing of materials and devices containing unirradiated uranium and plutonium provided that:

- Such materials and devices shall be under the supervision of General Electric at all times, and
- Plutonium shall be fully enclosed at all times in containment devices of adequate integrity to reduce to an acceptably low level the possibility of release and/or mitigate the consequences of containment failure.

8. The licensee shall comply with the provisions of the attached Annex B, "License Condition for Leak Testing Sealed Byproduct Material Sources and Sealed Plutonium Sources," for all sealed plutonium sources as authorized under this license and in the licensee's possession and/or supervision.

9. As part of the conditions presented in Section 8.12, "Contamination-Free Articles" of Appendix A, "License Conditions for the Vallecitos Nuclear Center," of the application, the licensee shall observe the "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Uses," dated July, 1982, that are found in the attached Annex C.

10. Should the licensee decide to terminate this license and in addition to the requirements of 10 CFR 70.38, "Expiration and Termination of Licenses," (invoked as a result of said decision), the licensee shall decommission the facilities operated under this license in accordance with the general decommissioning plan for License No. SNM-960 as submitted by letter dated February 17, 1982. The financial commitment to assure that such decommissioning is accomplished is presented in the licensee's letter of May 14, 1979 and is hereby incorporated as a provision of this license, as renewed.

11. At such time that facilities covered by this license are decontaminated for proposed unrestricted release (in accordance with Annex C), the licensee shall submit a report that identifies the facilities where radioactive materials were used and stored, or disposed on the site. The report shall briefly describe operations conducted and radioactive materials used in the facilities and shall assess the results of the decontamination activities. The report shall provide the basis for unrestricted release of the facilities and the site, including a description of sampling and survey methods and instrumentation used, and shall include final contamination survey data for the facilities and grounds. The licensee may segment the report to obtain release of certain areas of facilities or individual structures if it is demonstrated that ongoing activities in other areas will not lead to recontamination of the area or structure proposed for release.

12. The licensee shall implement, maintain, and execute the response measures of his Radiological Contingency Plan submitted to the Commission on October 29, 1982. The licensee shall also prepare and maintain implementing procedures for his Radiological Contingency Plan as necessary to implement the Plan. (This Radiological Contingency Plan and associated implementing procedures incorporate the emergency planning requirements of 10 CFR 70.22(i) as they refer to onsite planning and notification.) The licensee shall make no change in his Radiological Contingency Plan that would decrease the response effectiveness of the Plan without prior Commission approval as evidenced by a license amendment. The licensee may make changes to his Radiological Contingency Plan without prior Commission approval if the changes do not decrease the response effectiveness of the Plan. The licensee shall maintain records of changes that are made to the Plan without prior approval for a period of two years from the date of the change and shall furnish the Chief, Advanced Fuel and Spent Fuel Licensing Branch, Division of Fuel Cycle and Material Safety, NMSS, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and the NRC Regional Office-Region V at the address specified in Appendix D of 10 CFR Part 20, a report containing a description of each change within six months after the change is made.

3. The licensee shall inform NRC of any planned activities using unencapsulated plutonium in Building 102-Core Materials Engineering Laboratory (formally the Advanced Fuel Laboratory).

4. The licensee shall provide to the NRC copies of its annual report summarizing the effluent monitoring and environmental surveillance programs at the Vallecitos Nuclear Center. This report shall be sent to the Chief, Advanced Fuel and Spent Fuel Licensing Branch, Division of Fuel Cycle and Material Safety, NMSS, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, and the NRC Regional Office-Region V at the address specified in Appendix D of 10 CFR Part 20.

EXEMPTIONS AND SPECIAL AUTHORIZATIONS

he following exemptions and special authorizations are hereby granted:

. The licensee is hereby exempted from the requirements of 10 CFR 20.203(c)(2) provided that the safety conditions described in Section 8.14, "High Radiation Alarm Exemption," of Appendix A of the application are satisfied.

. Exemptions to the requirements of 10 CFR 70.24, "Criticality Accident Requirements," are hereby granted pursuant to 10 CFR 70.24(d). The exemptions are granted in accordance with Section 2.2, "Locations other than Vallecitos Nuclear Center," and Section 5.9, "Monitor Alarm System," of Appendix A of the application as follows:

1. The following areas are exempted from monitor alarm requirements:

   a. Areas where SNM is stored in locations within the United States provided that the SNM is fully packaged as for transport in containers meeting all of the general license requirements of 10 CFR 71 or in containers owned by the General Electric Company and certified for transport under the provisions of 10 CFR 71 in accordance with the conditions of a certificate of compliance authorizing delivery of such containers to a carrier for Fissile Class I transport,

   b. The Radioactive Product and Services Laboratory pool and hot cells,

   c. For each area in which is stored one (1) shipment of packages containing special nuclear material licensed pursuant to 10 CFR 71 for transport outside the confines of the Vallecitos Nuclear Center insofar as the requirements of Section 70.24 pertain to the material contained in such shipments,

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License number
SNM-960 as renewed

Docket or Reference number
70-754

d. For each area where there is not more than one "safe batch" (as defined in Section 3.11 of Appendix A of the application) of finished reactor fuel rods or assemblies, under conditions which protect against rearrangement of fuelbearing portions into more reactive configurations,

e. For each area which meets the requirement of a "subcritical area" as defined in Section 3.14 of Appendix A of the application.

2. Exception to the maximum preset alarm point of 20 millirems per hour specified in 70.24 is granted for areas described in Section 5.9.3 of Appendix A of the application provided that the maximum preset alarm point does not exceed 500 millirems per hour.

C. Pursuant to 10 CFR 20.106(b), the licensee is hereby authorized to release radioactive materials in accordance with Section 8.11, "Airborne Effluent Control," of Appendix A of the application.

For the U.S. Nuclear Regulatory Commission

Date May 10, 1984

By Leland C. Rouse
Division of Fuel Cycle and
Material Safety
Washington, D.C. 20555

ANNEX A

LIST OF EFFECTIVE PAGES

FOR GE VALLECITOS NUCLEAR CENTER LICENSE APPLICATION

LICENSE NO. SNM-960, DOCKET NO. 70-754

The pages listed for Appendix A, "License Conditions for the Vallecitos Nuclear Center," are the effective pages which describe the license requirements.

Page No.	Date	Page No.	Date
i	04/18/84	A-6-1	04/18/84
ii	04/18/84	A-6-2	04/18/84
iii	04/18/84	A-6-3	04/18/84
A-1-1	04/18/84	A-6-4	04/18/84
A-1-2	04/18/84	A-6-5	04/18/84
A-1-3	04/18/84	A-6-6	04/18/84
A-2-1	04/18/84	A-7-1	04/18/84
A-2-2	04/18/84	A-8-1	04/18/84
A-3-1	04/18/84	A-8-2	04/18/84
A-3-2	04/18/84	A-8-3	04/18/84
A-4-1	04/18/84	A-8-4	04/18/84
A-4-2	04/18/84	A-8-5	04/18/84
A-4-3	04/18/84	A-8-6	04/18/84
A-4-4	04/18/84	A-8-7	04/18/84
A-4-5	04/18/84	A-9-1	04/18/84
A-5-1	04/18/84		
A-5-2	04/18/84		
A-5-3	04/18/84		
A-5-4	04/18/84		

These pages in Sections 1 through 13 demonstrate the application of the license requirements. These pages listed are not license requirements.

Page No.	Date	Page No.	Date
Title	March 1984	2-1A	03/28/84
		2-2A	03/28/84
1	04/18/84	2-3A	03/28/84
ii	04/18/84	2-4A	03/28/84
iii	03/28/84	2-5A	03/28/84
iv	03/28/84	2-6A	03/28/84
1-1	03/28/84	2-7A	03/28/84
1-2	03/28/84	3-1	03/28/84
1-3	03/28/84	3-2	03/28/84
1-4	03/28/84	3-3	03/28/84
1-5	03/28/84	3-4	03/28/84
1-6	03/28/84	3-5	03/28/84
1-7	03/28/84	3-6	03/28/84
1-8	03/28/84	3-7	03/28/84
1-9	03/28/84	3-8	04/18/84
2-1	03/28/84	4-1	04/18/84
2-2	03/28/84	4-2	03/28/84
2-3	04/18/84	4-3	03/28/84
2-4	03/28/84	4-4	03/28/84
2-5	03/28/84	4-5	03/28/84
2-6	04/18/84	4-6	03/28/84
2-7	04/18/84	4-7	03/28/84
2-8	04/18/84	4-8	03/28/84
2-9	04/18/84	4-9	03/28/84
2-10	04/18/84	4-10	03/28/84
2-11	04/18/84	4-11	03/28/84
2-12	04/18/84	4-12	03/28/84
2-13	04/18/84	4-13	03/28/84
2-14	04/18/84	5-1	03/28/84
2-15	04/18/84	5-2	04/18/84
2-16	03/28/84	5-3	03/28/84
2-17	04/18/84	5-4	03/28/84
2-18	03/28/84	5-5	03/28/84
2-19	03/28/84		

These pages in Sections 1 through 13 demonstrate the application of the license requirements. These pages listed are not license requirements.

Page No.	Date
5-6	03/28/84
5-7	03/28/84
5-8	03/28/84
5-9	03/28/84
5-10	03/28/84
5-11	03/28/84
5-12	03/28/84
5-13	03/28/84
5-14	04/18/84
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13-7	03/28/84

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ANNEX B

LICENSE CONDITION FOR

LEAK TESTING SEALED BYPRODUCT MATERIAL SOURCES

AND SEALED PLUTONIUM SOURCES

A. Each source shall be tested for leakage at intervals not to exceed six (6) months. In the absence of a certificate from a transferor indicating that a test has been made within six (6) months prior to the transfer, the sealed source shall not be put into use until tested.

B. The test shall be capable of detecting the presence of 0.005 microcurie of contamination on the test sample. The test sample shall be taken from the source or from appropriate accessible surfaces of the device in which the sealed source is permanently or semipermanently mounted or stored. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.

C. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired by a person appropriately licensed to make such repairs or to be disposed of in accordance with the Commission regulations. Within five (5) days after determining that any source has leaked, the licensee shall file a report with the Director, Division of Fuel Cycle and Material Safety, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, describing the source, the test results, the extent of contamination, the apparent or suspected cause of source failure, and the corrective action taken. A copy of the report shall be sent to the Director of the nearest NRC Inspection and Enforcement Office listed in Appendix D of Title 10, Code of Federal Regulations, Part 20.

D. The periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another person unless they have been leak tested within six (6) months prior to the date of use or transfer.

ANNEX C

GUIDELINES FOR DECONTAMINATION OF FACILITIES AND EQUIPMENT PRIOR TO RELEASE FOR UNRESTRICTED USE OR TERMINATION OF LICENSES FOR BYPRODUCT, SOURCE, OR SPECIAL NUCLEAR MATERIAL

U. S. Nuclear Regulatory Commission
Division of Fuel Cycle and Material Safety
Washington, D.C. 20555

July 1982

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The instructions in this guide, in conjunction with Table 1, specify the radionuclides and radiation exposure rate limits which should be used in decontamination and survey of surfaces or premises and equipment prior to abandonment or release for unrestricted use. The limits in Table 1 do not apply to premises, equipment, or scrap containing induced radioactivity for which the radiological considerations pertinent to their use may be different. The release of such facilities or items from regulatory control is considered on a case-by-case basis.

1. The licensee shall make a reasonable effort to eliminate residual contamination.

2. Radioactivity on equipment or surfaces shall not be covered by paint, plating, or other covering material unless contamination levels, as determined by a survey and documented, are below the limits specified in Table 1 prior to the application of the covering. A reasonable effort must be made to minimize the contamination prior to use of any covering.

3. The radioactivity on the interior surfaces of pipes, drain lines, or ductwork shall be determined by making measurements at all traps, and other appropriate access points, provided that contamination at these locations is likely to be representative of contamination on the interior of the pipes, drain lines, or ductwork. Surfaces of premises, equipment, or scrap which are likely to be contaminated but are of such size, construction, or location as to make the surface inaccessible for purposes of measurement shall be presumed to be contaminated in excess of the limits.

4. Upon request, the Commission may authorize a licensee to relinquish possession or control of premises, equipment, or scrap having surfaces contaminated with materials in excess of the limits specified. This may include, but would not be limited to, special circumstances such as razing of buildings, transfer of premises to another organization continuing work with radioactive materials, or conversion of facilities to a long-term storage or standby status. Such requests must:

   a. Provide detailed, specific information describing the premises, equipment or scrap, radioactive contaminants, and the nature, extent, and degree of residual surface contamination.

   b. Provide a detailed health and safety analysis which reflects that the residual amounts of materials on surface areas, together with other considerations such as prospective use of the premises, equipment or scrap, are unlikely to result in an unreasonable risk to the health and safety of the public.

5. Prior to release of premises for unrestricted use, the licensee shall make a comprehensive radiation survey which establishes that contamination is within the limits specified in Table 1. A copy of the survey report shall be filed with the Division of Fuel Cycle and Material Safety, USNRC, Washington, D.C. 20555, and also the Administrator of the NRC Regional Office having jurisdiction. The report should be filed at least 30 days prior to the planned date of abandonment. The survey report shall:

   a. Identify the premises.

   b. Show that reasonable effort has been made to eliminate residual contamination.

   c. Describe the scope of the survey and general procedures followed.

   d. State the findings of the survey in units specified in the instruction.

   Following review of the report, the NRC will consider visiting the facilities to confirm the survey.

TABLE 1

ACCEPTABLE SURFACE CONTAMINATION LEVELS

NUCLIDES[a]	AVERAGE[b c f]	MAXIMUM[b d f]	REMOVABLE[b e f]
U-nat, U-235, U-238, and associated decay products	5,000 dpm α/100 cm^2	15,000 dpm α/100 cm^2	1,000 dpm α/100 cm^2
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100 dpm/100 cm^2	300 dpm/100 cm^2	20 dpm/100 cm^2
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1000 dpm/100 cm^2	3000 dpm/100 cm^2	200 dpm/100 cm^2
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above.	5000 dpm $\beta\gamma$/100 cm^2	15,000 dpm $\beta\gamma$/100 cm^2	1000 dpm $\beta\gamma$/100 cm^2

[a] Where surface contamination by both alpha- and beta-gamma-emitting nuclides exists, the limits established for alpha- and beta-gamma-emitting nuclides should apply independently.

[b] As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.

[c] Measurements of average contaminant should not be averaged over more than 1 square meter. For objects of less surface area, the average should be derived for each such object.

[d] The maximum contamination level applies to an area of not more than 100 cm^2.

[e] The amount of removable radioactive material per 100 cm^2 of surface area should be determined by wiping that area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of known efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally and the entire surface should be wiped.

[f] The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/hr at 1 cm and 1.0 mrad/hr at 1 cm, respectively, measured through not more than 7 milligrams per square centimeter of total absorber.