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Director, Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001
Attn: Document Control Desk

Subject: Revised Chapter 10, SNM-960 License Renewal Application

References: 1) NRC License SNM-960, Docket 70-754, TAC # L33042
2) SNM-960 License Renewal Application – D. W. Turner, 4/08/2011

GE - Hitachi Nuclear Energy Americas LLC (GEH) hereby submits a revision to Chapter 10, "Decommissioning" of the Vallecitos Nuclear Center SNM-960 License Renewal Application dated April 4, 2011 and submitted on April 8, 2011 (Reference 2). The reason for the change is to remove the specific amount of contingency for the costs of decommissioning. This change deletes the previous section 10.1.3 on page 10.2 and revises the third paragraph in section 10.2 on page 10.3. As a result of these two changes, Chapter 10 is provided as revision 2 and re-dated October 10, 2011. The changes to Chapter 10 are shown with a change bar in the right hand margin of each changed page.

If you have any questions concerning this letter, please call me at (910) 819-5950.

Sincerely,

Scott P. Murray, Manager
Licensing & Liabilities

Attachment: 1) SNM-960 License Renewal Application Chapter 10, Revision 2

cc: R. Johnson, NRC NMSS, Washington, DC
C. Ryder, NRC NMSS, Washington, DC

CHAPTER 10.0 DECOMMISSIONING

10.1 DECOMMISSIONING FUNDING PLAN/COST ESTIMATE

A Decommissioning Funding Plan (DFP) and cost estimate has been prepared and submitted pursuant to 10 CFR 70.25 to demonstrate financial capability to support decommissioning and closure activities. In accordance with 70.25(f)(2), financial assurance is provided by GE as a parent company of GE-Hitachi Nuclear Energy Americas, LLC in the form of a parent guarantee.

The DFP establishes decommissioning criteria, describes key assumptions, outlines major technical approaches, and provides both a detailed site specific cost estimate and a certification of financial assurance for the decommissioning of facilities and equipment containing licensed radioactive material within the scope of SNM-960. The current DFP is dated April 4, 2011.

The GEH Vallecitos Nuclear Center has been in operations since 1957. The DFP was created in the 1970's and has been periodically revised in accordance with regulations and NRC guidance since that time. This Chapter and the DFP cost estimate provide information that is consistent with many aspects of NUREG/CR-1757 and is also consistent with the previously accepted requirements for providing this information. Also, the current process of determining decommissioning costs has been reviewed to ensure that the applicable evaluation criteria for unrestricted release listed in guidance from NUREG/CR-1757 have been incorporated. In addition, the DFP addresses the key elements of NUREG/CR-1757 including (1) Decommissioning Process (2) Characterization, Survey, and Free Release Criteria; and (3) Financial Assurance, Recordkeeping, and Timeliness. In 2003 as a publicly traded company, GE adopted the use of Financial Accounting Standard Board (FASB) guide 143 to account for decommissioning liability.

- 10.1.1 The cost estimate is reviewed and adjusted annually. The cost estimate is updated to reflect completed decommissioning activities, current contamination levels, inflation, changes in waste disposal costs, prices of goods and services, changes in decommissioning techniques, and any other relevant changes in facility conditions. Checklists are used to validate the cost estimate taking into consideration up to twelve key factors of interest to determine if changes are warranted. For example, one checklist includes questions as to whether waste volumes should be adjusted due to

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current contamination levels or facility modifications. Another checklist accounts for any remediation activities that may have occurred that impacted waste volumes or labor. In addition, several other categories are reviewed including labor rates, disposal rates, transportation costs, inflation rates, and shared services (insurance, fees, utilities) and are adjusted as necessary. Every three years a more detailed review is performed that includes review and validation of assumptions. These reviews meet the applicable requirements of 10 CFR 70.25(e).

- 10.1.2 Cost estimates used in this DFP are based on documented and reasonable assumptions including actual costs that have been incurred performing liability reduction activities. Cost estimates are sufficient to allow an independent third party to assume responsibility for decommissioning the facility including labor, equipment, sampling, laboratory and miscellaneous expenses such as overhead and contractor profit.
- 10.1.3 The cost estimate does not take credit for: 1) any salvage value that might be realized from the sale of potential assets during or after decommissioning, or 2) reduced taxes that might result from payment of decommissioning costs or site control and maintenance costs.
- 10.1.4 The cost is based on a license termination without the need for continued surveillance. The cost is accreted on an annual basis to account for inflation.
- 10.1.5 The cost is based on the conditions expected to be present at the end of plant life. However, adjustments are made on an annual basis as described above.
- 10.1.6 All the major decommissioning tasks or activities outlined in NUREG/CR-1757 are in the cost estimate and include the planning and preparation, decontamination and/or dismantling of radioactive facility components, final radiation survey, packing materials, shipping, waste disposal, equipment/supply, laboratory and miscellaneous costs. The key assumptions are discussed in Chapter 4 and Chapter 12 of the DFP.
- 10.1.7 The plan is for unrestricted release and does not anticipate removal of large amounts of soil. Therefore, no cost for restoration, stabilization or long-term surveillance is included.

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10.2 COST ESTIMATE ASSUMPTIONS

The original estimates were made for all GE radioactive material licensed facilities at the Vallecitos site which included 4 reactors, the SNM-960 facilities and the State of California byproduct material license.

All irradiated spent fuel in storage will have been removed from the site prior to initiation of decommissioning and closure activities. The US Department of Energy has contractual responsibility to dispose of this fuel and the cost of such disposal is separately covered under Standard Contracts entered into under the Nuclear Waste Policy Act. If, at the time of desired decommissioning continued storage is required, GEH, as necessary, will make appropriate arrangements to remove the fuel to an authorized recipient.

The estimated total cost for the decommissioning and closure of the SNM-960 facilities is 37.4 million dollars (2010). The estimated total cost assumes an efficient decommissioning and closure activity but a contingency is added to allow for unforeseen problems that might arise during the activity. The facility will be decommissioned such that the facilities can be released for unrestricted use.

The decommissioning cost estimate was prepared using the governing NRC requirements at the time, including NUREG/CR-1756 (Technology, Safety and Costs of Decommissioning Reference Nuclear Research and Test Reactors, February, 1982) and NUREG/CR-1754 (Technology, Safety and Costs of Decommissioning Reference Non-Fuel-Cycle Nuclear Facilities, October 1989). Reports such as these contain the results of studies sponsored by the NRC to conceptually decommission selected NRC licensed facilities.

NUREG/CR-1756 focused on the National Aeronautics and Space Administration's (NASA) Plum Brook test reactor facilities used in testing materials for space flight applications. NUREG/CR-1756 provides estimates for manpower requirements, major resource and equipment needs, volumes of contaminated material packaged for disposal and costs to accomplish the work. NUREG/CR-1754 focused on representative facilities for the manufacture of radiochemicals and sealed sources and institutional laboratories where radioisotopes are used. NUREG/CR-1754 provides manpower requirements, schedules, material and equipment needs, and waste management requirements for the decommissioning of components such as fume hoods, glove boxes, building surfaces and exhaust system ductwork that are common to many nuclear facilities.

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The manpower requirements, timeframes and estimating equations discussed in both NUREGs were used to develop the detailed cost estimate. These estimates were based on interviews with site personnel, scaling factors from building volumes and foot prints, and comparisons to previous other decommissioning projects.

Since 2003 GEH has engaged in liability reduction activities across its facilities. These efforts have further validated that the prepared estimates are conservative and reasonable. In these activities the projected actual costs have consistently been in line with the estimated cost. These include the removal of over 10,000 cubic feet of debris from the former vaporization area of the Wilmington facility, the removal of more than 1,000,000 cubic feet of soil like material from the Wilmington facility, the removal of over 13,000 cubic feet of material from the VBWR in Vallecitos, CA and the removal of over 26,000 cubic feet of material from the process canyons in Morris, IL. All of these projects were accomplished by contract labor and the costs were comparable to the expected cost for labor, packaging, shipment and burial of the materials. The planning and professional cost associated with the future decommissioning of the sites was unaffected and continued to accrete due to inflation over the period of material removal.

10.3 FINANCIAL SURETY

Appropriate financial assurance instruments are provided to demonstrate that sufficient funds will be available when needed for required decommissioning activities. GEH uses a General Electric Company parent- guarantee of funds for decommissioning costs. The most recent financial instruments and supporting documentation are shown in Chapter 13 of the DFP. This information is updated and submitted to NRC annually.

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