

**SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION FOR THE  
JOINT-VENTURE OF GENERAL ELECTRIC COMPANY AND  
HITACHI LIMITED**

**DIRECT TRANSFER OF THE FOLLOWING LICENSES:**

**DPR-1 VALLECITOS BOILING WATER TEST REACTOR: DOCKET NO. 50-18**

**DR-10 ESADA VALLECITOS EXPERIMENTAL SUPERHEAT REACTOR:  
DOCKET NO. 50-183**

**TR-1 GENERAL ELECTRIC TEST REACTOR GETR - MEDICAL & INDUSTRIAL ISOTOPE  
PRODUCTION REACTOR: DOCKET NO. 50-70**

**R-33 NUCLEAR TEST REACTOR NTR 100 KW RADIOGRAPHY REACTOR:  
DOCKET NO. 50-73**

1.0 **INTRODUCTION**

By application dated January 19, 2007, and supplemented on January 25, 2007, February 23, 2007, March 2, 2007, and March 26, 2007, General Electric Company (GE) requested consent by the United States Nuclear Regulatory Commission (NRC), pursuant to Section 184 of the Atomic Energy Act of 1954, as amended, and 10 CFR 50.80, to the proposed direct transfer of the operating license for Nuclear Test Reactor NTR 100 Kw Radiography Reactor. In addition, GE requests the transfer of three possession-only licenses, Vallecitos Boiling Water Test Reactor, ESADA Vailecitos Experimental Superheat Reactor, and the General Electric Test Reactor GETR - Medical & Industrial Isotope Production Reactor. (All four licenses shall be referenced as "licenses.") The supplements to the initial application did not expand the application beyond its initial intent.

2.0 **BACKGROUND**

GE proposes to transfer certain of its nuclear businesses and operations in the United States to GE-Hitachi Nuclear Energy Americas, LLC, a newly formed entity resulting from a joint venture between General Electric Company and Hitachi Ltd. GE, through various subsidiaries, will retain a 60 percent ownership of GE-Hitachi Nuclear Energy Americas, LLC, while Hitachi Ltd., a Japanese company, will retain the remaining 40 percent through various United States subsidiaries. There will be a direct transfer of control of GE's existing licenses to GE-Hitachi Nuclear Energy Americas, LLC, when GE transfers assets and the GE licenses to this entity

**CONTAINS NON-PROPRIETARY INFORMATION**

and indirect transfer of control through the creation of its parent company, GE-Hitachi Nuclear Energy Holdings, LLC.

Under the proposed transaction, GE will contribute certain parts of its nuclear businesses and operations in the United States to a newly formed Delaware limited liability company, GE-Hitachi Nuclear Energy Americas, LLC. In addition, various other United States GE subsidiaries will also contribute businesses to GE-Hitachi Nuclear Energy Americas, LLC. These include GE Infrastructure Technologies, LLC; GE Ionics, Inc.; and GE Infrastructure International. GE and its various United States subsidiaries will form and contribute their membership interests in GE-Hitachi Nuclear Energy Americas, LLC, to a separate Delaware limited liability company, GE-Hitachi Nuclear Energy Holdings, LLC, which will be the parent company of GE-Hitachi Nuclear Energy Americas, LLC. GE and its various United States subsidiaries will then form and contribute their membership interests in GE-Hitachi Nuclear Energy Holdings, LLC, to GENE Holding, LLC, a Delaware limited liability company, that at that time will be a wholly-owned subsidiary of GE. Finally, GENE Holding, LLC, will sell a 40% equity interest in GE-Hitachi Nuclear Energy Holdings, LLC, to a United States subsidiary owned by Hitachi Ltd.

### 3.0 REGULATORY EVALUATION

The applicants' request for the approval of the direct transfer of the licenses for Vallecitos Boiling Water Test Reactor, ESADA Vailecitos Experimental Superheat Reactor, and the General Electric Test Reactor GETR - Medical & Industrial Isotope Production Reactor, and Nuclear Test Reactor NTR 100 Kw Radiography Reactor discussed in this Safety Evaluation, is made pursuant to 10 CFR 50.80. Section 50.80(a) of 10 CFR states "No license for a production utilization facility, or any right thereunder, shall be transferred, assigned, or in any manner disposed of, either voluntarily or involuntarily, directly or indirectly, through transfer of control of the license to any person, unless the Commission shall give its consent in writing."

In addition, the requirements of 10 CFR 50.80(b) & (c) apply. Section 50.80(b) states that an applicant for a license transfer shall include as much information described in 10 CFR 50.33 and 10 CFR 50.34 of this part "with respect to the identity and technical and financial qualifications of the proposed transferee as would be required by those sections if the applicant were for an initial license. . ." Section 50.80(c) states that "the Commission will approve the application for the transfer of a license, if the Commission determines: (1) That the proposed transferee is qualified to be the holder of the license; and (2) That transfer of the license is otherwise consistent with applicable provisions of law, regulations, and orders issued by the Commission pursuant thereto."

### 4.0 EVALUATIONS

Section 50.33(f) of 10 CFR states "Except for an electric utility applicant for a license to operate a utilization facility of the type described in 10 CFR 50.21(b) or 10 CFR 50.22, information sufficient to demonstrate to the Commission the financial qualifications of the applicant to carry

**CONTAINS NON-PROPRIETARY INFORMATION**

out, in accordance with the regulations of this chapter, the activities for which the permit or license is sought.”

Section 50.2 of 10 CFR states that an electric utility is “any entity that generates or distributes electricity and which recovers the cost of this electricity, either directly or indirectly, through rates established by the entity itself or by a separate regulatory authority.”

The NRC staff finds that GE-Hitachi Nuclear Energy Americas, LLC does not qualify as an “electric utility” as defined in 10 CFR 50.2 because its revenue is not derived from electric sales, that will be used to recover costs, and that none of its revenues will be set by a separate regulatory authority or by the entity itself. Thus the staff has determined that GE-Hitachi Nuclear Energy Americas, LLC must meet the financial qualifications requirements for a non-electric utility pursuant to 10 CFR 50.33(f). GE-Hitachi Nuclear Energy Americas, LLC, a non-electric utility, contingent to a transfer due to a proposed sale, described earlier, is subject to a full financial qualification review by the NRC. Because GE-Hitachi Nuclear Energy Americas, LLC is not an electric utility and therefore is subject to a full review, it must provide the following information:

- 1.) Information that demonstrates GE-Hitachi Nuclear Energy Americas, LLC possesses or has reasonable assurance of obtaining the necessary funds to cover estimated operating costs for the first five years of facility operations and indicate the source(s) of funds to cover these costs.
- 2.) Information that shows: a) the legal and financial relationship GE-Hitachi Nuclear Energy Americas, LLC has or proposes to have with its stockholders or owners; b) its financial ability to meet any contractual obligations to any entity which they have incurred or propose to incur; and c) any other information considered necessary by the NRC staff to enable it to determine the applicant’s financial qualification.

This information will demonstrate how GE-Hitachi Nuclear Energy Americas, LLC, meets the requirements of 10 CFR 50.33(f). Also, 10 CFR 50.33(k)(1) requires that GE-Hitachi Nuclear Energy Americas, LLC, provide information described in 10 CFR 50.75 indicating reasonable assurance that funds will be available to decommission the facility.

In accordance with 10 CFR 50.33(f), GE-Hitachi Nuclear Energy Americas, LLC, provided in their January 2007 application the projected income statements for the five year period from 2007 to 2011.

**CONTAINS NON-PROPRIETARY INFORMATION**

**GE-Hitachi Nuclear Energy Americas, LLC**  
**Summary of**  
**PROJECTED INCOME STATEMENT**  
*(In \$ millions)*

	<u>FY2007</u>	<u>FY2008</u>	<u>FY2009</u>	<u>FY2010</u>	<u>FY2011</u>
TOTAL REVENUE:	\$ XXX.X				
Total Operating Expense:	\$ XXX.X				
Operating Income:	\$ XXX.X				
Other Income/Expense Tax	(\$ XXX.X)				
NET INCOME AFTER TAX	\$ XXX.X				

As stated before, 10 CFR 50.33(f)(2) requires a submittal of estimated annual operating costs for the first five years of operation for a reactor licensee, along with a description of the sources of funds to cover those costs. Similarly, 10 CFR 72.22(e) requires an Independent Spent Fuel Storage Installation (ISFSI) license applicant to submit sufficient information to demonstrate adequate financial qualifications to conduct the required ISFSI activities. That information must show either that the applicant possesses the necessary funds or has reasonable assurance of obtaining the necessary funds to cover estimated operating costs over the planned life of the ISFSI, and the costs of decommissioning after removal of the spent fuel from storage. The above stated Projection Income Statement contains those costs.

The staff finds that GE-Hitachi Nuclear Energy Americas, LLC's Projected Income Statement shows that the anticipated revenues Nuclear Test Reactor NTR 100 Kw Radiography Reactor provides reasonable assurance of an adequate source of funds to meet the licenses' anticipated expenses during the five year period covered by the projections. The NRC staff finds that no further financial qualifications analysis or review is necessary.

Thus, the NRC staff has determined that GE-Hitachi Nuclear Energy Americas, LLC, has met the financial qualifications requirements under 10 CFR 50.33(f).

**5.0 DECOMMISSIONING**

The NRC has determined that the requirements to provide reasonable assurance of decommissioning funding are necessary to ensure the adequate protection of public health and safety. The regulation at 10 CFR 50.33(k) requires that an applicant for an operating license for a utilization facility contain information to demonstrate how reasonable assurance will be provided and that funds will be available to decommission the facility.

**CONTAINS NON-PROPRIETARY INFORMATION**

All of the facility licenses that are described in the application are active with the exception of three test reactors, Vallecitos Boiling Water Test Reactor, ESADA Vailecitos Experimental Superheat Reactor, and the General Electric Test Reactor GETR - Medical & Industrial Isotope Production Reactor, whose licenses have been modified to possession-only status. Those three reactors are presently in SAFSTOR and will be decommissioned when all other active licensed operations at the Nuclear Test Reactor NTR 100 Kw Radiography Reactor cease. No further decontamination of any facility will occur prior to the transfer of control.

At this time, GE has not submitted any formal decommissioning plans to the NRC, with the exception of the Morris ISFSI decommissioning plan submitted to the NRC pursuant to 10 CFR 72.30(a). Therefore, no other decommissioning plans are currently required.

Decommissioning financial assurance for all of the licenses will be provided by a GE parent company guarantee in accordance with 10 CFR Part 30, Appendix A. GE had previously provided a self-guarantee in accordance with 10 CFR Part 30, Appendix C for all four of the licenses. GE plans to conduct an annual update of its decommissioning cost estimate of 2006, and the guarantees to be executed upon transfer of the licenses will reflect both these updated estimates and will demonstrate GE's financial qualifications pursuant to the financial tests.

GE-Hitachi Nuclear Energy Americas, LLC, as stated in the submittal, will abide by all commitments and representations previously made by GE. These include, but are not limited to, maintaining decommissioning records, implementing decontamination activities, and eventual decommissioning of the sites.

## 6.0 ANTITRUST REVIEW

The Atomic Energy Act of 1954 as amended (AEA) does not require or authorize antitrust reviews of post-operating license transfer applications. *Kansas Gas and Electric Co., et al.* (Wolf Creek Generating Station, Unit 1), CLI-99-19, 49 NRC 441 (1999). The application here postdates the issuance of the operating licenses for units under consideration, and therefore no antitrust review is required or authorized. Moreover, some of the licenses at issue were issued under Section 104 of the AEA, and thus were outside the scope of the AEA's antitrust review requirements. Consistent with this, the staff notes that there are no existing antitrust license conditions in the subject licenses. Accordingly, there are no antitrust-related issues to resolve with respect to proposed conforming license amendments.

## 7.0 FOREIGN OWNERSHIP, CONTROL, or DOMINATION

Sections 103d and 104d of the AEA prohibit the NRC from issuing a license for a nuclear power plant to "any corporation or other entity if the Commission knows or has reason to believe it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government." The NRC's regulation, 10 CFR 50.38, contains language to implement this prohibition.

**CONTAINS NON-PROPRIETARY INFORMATION**

Upon completion of the transaction, GE (through its subsidiaries) will hold a majority 60 percent indirect ownership interest in GE-Hitachi Nuclear Energy Americas, LLC. Through one or more United States subsidiary, Hitachi Ltd. will hold a 40 percent indirect ownership interest in GE-Hitachi Nuclear Energy Americas, LLC. According to the applicants, Hitachi's minority ownership share in GE-Hitachi Nuclear Energy Americas, LLC, will not allow Hitachi's minority ownership share to exercise control or domination over the licensed activities of its subsidiary, in general, or over the maintenance, possession or use of the reactor licenses, in particular.

As originally stated in the January 19, 2007 submittal, Hitachi's minority interest in GE-Hitachi Nuclear Energy Americas, LLC's Board of Managers will not allow for control or domination. GE-Hitachi Nuclear Energy Holdings, LLC's Board of Managers will be comprised of seven representatives, five of whom will have voting rights. Three voting members will be appointed by GE and will be United States citizens, while two voting members will be appointed by Hitachi Ltd. The other two Board of Managers members will have no voting rights. Most decisions of the Board of Managers will be made on the basis of a majority vote. While certain decisions of the Board of Managers may not be made without the prior approval of the Board of Managers designated by Hitachi Ltd., none of those decisions relate to the safety of operations or safe shutdown of the licensed facilities. Potential influence over NRC-licensed activities will be further mitigated by delegating decision making authority to a subcommittee of the Board of Managers controlled by United States citizens.

Therefore, in order to mitigate any potential influence that might be exercised over the licensed activities of its subsidiary, GE-Hitachi Nuclear Energy America, LLC's Board of Managers intends to establish a Nuclear Oversight Committee made up solely of United States citizens. If any member of the Nuclear Oversight Committee is appointed by entities owned or controlled by Hitachi Ltd., such a member will be a United States citizen.

However, in a February 23, 2007, supplemental, matters associated with potential foreign ownership, control, or domination of the reactor licenses to be held by GE-Hitachi Nuclear Energy Americas, LLC, including clarification on the position of its president and CEO, along with additional information about the Nuclear Oversight Committee of the GE-Hitachi Nuclear Energy America, LLC's Board of Managers, were updated and revised from the January 19, 2007 submittal.

First, the Manager of the Vallecitos Nuclear Center will report directly to the Vice-President, Reactor Facility Safety and Security of GE-Hitachi Nuclear Energy Americas, LLC, with respect to any matters involving nuclear safety or NRC compliance associated with the reactors at Vallecitos. (At this time, the Manager of the Vallecitos Nuclear Center is a vacant position, and Mr. Christopher Monetta is the Vice-President, Reactor Facility Safety and Security of GE-Hitachi Nuclear Energy Americas, LLC. Mr. Monetta is a United States citizen.) The Vice-President, Reactor Facility Safety and Security of GE-Hitachi Nuclear Energy Americas, LLC, will report to the Manager of GE-Hitachi Nuclear Energy Americas, LLC. (The Manager of GE-Hitachi Nuclear Energy Americas, LLC, is Mr. Thomas Saddlemire, a United States citizen.) The CEO of GE-Hitachi Nuclear Energy Americas, LLC, will have no authority over the Vice-President, Reactor Facility Safety and Security of GE-Hitachi Nuclear Energy Americas, LLC, in matters dealing with safety and security of the Vallecitos reactors. (Mr. Andy White, a United States citizen, is the designated CEO of GE-Hitachi Nuclear Energy Americas, LLC.)

**CONTAINS NON-PROPRIETARY INFORMATION**

Second, GE is now withdrawing the proposal to form a Nuclear Oversight Committee of the GE-Hitachi Nuclear Energy Holdings, LLC's Board of Managers. GE-Hitachi Nuclear Energy Americas, LLC, will exercise full control over all nuclear safety and NRC compliance matters. In addition, the GE-Hitachi Nuclear Energy Holdings, LLC's Board of Managers' rules of governance will preclude Hitachi Ltd. from exercising any control over such matters.

The applicant further states that the Formation Agreement between GE and Hitachi, Ltd. will contain provisions ensuring that Hitachi members of the GE-Hitachi Nuclear Energy Holdings, LLC's Board of Managers cannot exercise control over GE-Hitachi Nuclear Energy Holdings, LLC's actions related to NRC licensed activities. In particular: (1) the presence of GE-Hitachi Nuclear Energy Holdings, LLC's Board of Managers members representing greater than 50 percent of the total ownership interests will be required to constitute a quorum; and (2) for most decisions, the affirmative vote of the (GE-Hitachi Nuclear Energy Holdings, LLC's Board of Managers) members representing greater than 50percent of the total ownership interests is required for the Board to act. In addition, a single member present at a Board meeting may control all of the voting power of that entity. Since Hitachi Ltd. will hold only a 40 percent interest in GE-Hitachi Nuclear Energy Holdings, Hitachi Ltd. cannot exercise control.

Subsequently, because of the changes to the Formation Agreement between GE and Hitachi, Ltd. mentioned above, GE is withdrawing Attachment F to the January 19, 2007, application, "Charter of the Nuclear Oversight Committee of the Board of Managers of GE-Hitachi Nuclear Energy America, LLC."

In light of the above, the NRC staff does not know or have reason to believe that GE-Hitachi Nuclear Energy Americas, LLC will be owned, controlled or dominated by an alien, a foreign corporation, or a foreign government.

## 8.0 NUCLEAR INSURANCE and INDEMNITY

The provisions of the Price-Anderson Act (Section 170 of the AEA) and the Commission's regulations at 10 CFR Part 140 require that the current indemnity agreement be modified to reflect Entergy as a new parent company licensee of Palisades.

In accordance with the Price-Anderson Act, GE-Hitachi Nuclear Energy Americas, LLC will be required to provide primary insurance and participate in the secondary retrospective insurance pool. It will also be required to maintain property insurance as specified in 10 CFR 50.54(w). Information provided in the application demonstrates that GE-Hitachi Nuclear Energy Americas, LLC will be able to satisfy applicable insurance requirements of the NRC and the Price-Anderson Act.

Consistent with NRC practice, the NRC staff will require GE-Hitachi Nuclear Energy Americas, LLC to provide satisfactory documentary evidence that it has obtained the appropriate amount of insurance required of a licensee under 10 CFR Part 140 of the Commission's regulations, prior to the issuance of the amended license. Because the issuance of the amended licenses are directly tied to completion of the proposed direct license transfer, the order approving the transfer will be conditioned as follows:

**CONTAINS NON-PROPRIETARY INFORMATION**

Prior to completion of the transfer of the license, GE-Hitachi Nuclear Energy Americas, LLC shall provide the Director of the Office of Nuclear Reactor Regulation satisfactory documentary evidence that it has obtained the appropriate amount of insurance required of a licensee under 10 CFR Part 140 of the Commission's regulations.

## 9.0 CONCLUSION

In view of the foregoing, the NRC staff finds that, subject to the conditions discussed herein, GE-Hitachi Nuclear Energy Americas, LLC is qualified to be the holder and operator of Nuclear Test Reactor NTR 100 Kw Radiography Reactor. Further, the NRC staff finds that GE-Hitachi Nuclear Energy Americas, LLC is qualified to be the holder of the three possession-only licenses, Vallecitos Boiling Water Test Reactor, ESADA Vallecitos Experimental Superheat Reactor, and the General Electric Test Reactor GETR - Medical & Industrial Isotope Production Reactor, to the extent proposed in the application, and that the direct transfer of the licenses is otherwise consistent with applicable provisions of law, regulations, and orders issued by the Commission pursuant thereto.

Principal Contributor: MADusaniwskyj, NRR/DPR/PFPB

Date: May 9, 2007

**CONTAINS NON-PROPRIETARY INFORMATION**