

October 22, 2007

Mr. David W. Turner, Manager  
Vallecitos Nuclear Center  
General Electric Company  
6705 Vallecitos Road  
Sunol, CA 94586

Mr. Harold Neems  
General Counsel and Secretary  
GE-Hitachi Nuclear Energy Americas LLC  
P. O. Box 780 M/C A-11  
Wilmington, NC 28401

SUBJECT: THE VALLECITOS BOILING WATER REACTOR, THE GENERAL ELECTRIC TEST REACTOR, THE NUCLEAR TEST REACTOR, AND THE ESADA VALLECITOS EXPERIMENTAL SUPERHEAT REACTOR — ISSUANCE OF CONFORMING AMENDMENTS REGARDING THE TRANSFER OF OWNERSHIP TO GE-HITACHI NUCLEAR ENERGY AMERICAS LLC (TAC NO. MD4115)

Dear Messrs. Turner and Neems:

By letter dated January 19, 2007, and supplements dated January 25, 2007, February 23, 2007, March 2, 2007, March 26, 2007, May 16, 2007, May 18, 2007, June 4, 2007, July 6, 2007, and August 9, 2007, the General Electric Company (GE) submitted an application requesting that the NRC approve, pursuant to 10 CFR 50.80, the direct transfer of GE's 100 percent interest in (1) License No. DPR-1 for the Vallecitos Boiling Water Reactor, (2) License No. TR-1 for the General Electric Test Reactor, (3) License No. R-33 for the Nuclear Test Reactor, and (4) License No. DR-10 for the ESADA Vallecitos Experimental Superheat Reactor (all hereinafter referred to as "the licenses") to GE-Hitachi Nuclear Energy Americas LLC (GE-Hitachi). The application also requested approval of the conforming amendments to the licenses pursuant to 10 CFR 50.90, "Application for Amendment of License or Construction Permit." On September 6, 2007, the NRC issued the Order approving the direct transfers of the licenses. The Order specified that the conforming amendments will be issued and become effective at the time the direct transfers are consummated. The Order also specified various license conditions.

By letter dated October 12, 2007, GE informed the NRC that the direct transfers will occur on October 22, 2007. Also, by the letter dated October 12, and a letter dated October 17, 2007, GE-Hitachi referenced acceptable documentary evidence for decommissioning funding and insurance, previously provided by GE.

Accordingly, the Commission has issued the enclosed License amendments: (1) Amendment No. 21 to Facility License No. DPR-1 for the Vallecitos Boiling Water Reactor, (2) Amendment No. 17 to Facility License No. TR-1 for the General Electric Test Reactor, (3) Amendment No. 23 to Facility Operating License No. R-33 for the Nuclear Test Reactor, and (4) Amendment No. 6 to Facility License No. DR-10 for the ESADA Vallecitos Experimental Superheat Reactor. The non-proprietary and proprietary safety evaluations supporting the conforming amendments were enclosed with the letter transmitting the Order.

Also, enclosed are originals of the necessary change to Indemnity Agreement for the licenses. The change is to replace the name General Electric with GE-Hitachi Nuclear Energy Americas LLC. Please obtain signatures on each of the copies and return one to me.

If you have any further questions, please contact me at 301-415-1128 or by e-mail at [mmm@nrc.gov](mailto:mmm@nrc.gov).

Sincerely,

**/RA/**

Marvin M. Mendonca, Senior Project Manager  
Research and Test Reactors Branch B  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

Docket Nos.: 50-18  
50-70  
50-73  
50-183

Enclosures: 1. Amendment No. 21 to Facility License No. DPR-1  
2. Amendment No. 17 to Facility License No. TR-1  
3. Amendment No. 23 to Facility Operating License No. R-33  
4. Amendment No. 6 to Facility License No. DR-10  
5. Indemnity Agreement

cc w/encls: See next page

General Electric Company

Docket No. 50-18, 50-70, 50-73 and 50-183

cc w/enclosure:

Ms. Latonya Mahlahla, Manager  
Regulatory Compliance and EHS  
Vallecitos Nuclear Center  
General Electric Company  
6705 Vallecitos Road  
Sunol, CA 94586

Mr. Dan Thomas  
Manager NTR  
Vallecitos Nuclear Center  
General Electric Company  
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Sunol, CA 94586

Commissioner  
California Energy Commission  
1516 Ninth Street, MS-34  
Sacramento, CA 95814

California Department of Health  
ATTN: Chief  
Radiologic Health Branch  
P.O. Box 997414, MS 7610  
Sacramento, CA 95899-7414

Keith S. Sherin, Senior Vice President - Finance  
General Electric Company  
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Fairfield, CT 06828

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M/C K84  
Wilmington, NC 28402

Donald J. Silverman  
Morgan Lewis & Bockius, LLP  
1111 Pennsylvania Avenue, NW.  
Washington, DC 20004

Accordingly, the Commission has issued the enclosed License amendments: (1) Amendment No. 21 to Facility License No. DPR-1 for the Vallecitos Boiling Water Reactor, (2) Amendment No. 17 to Facility License No. TR-1 for the General Electric Test Reactor, (3) Amendment No. 23 to Facility Operating License No. R-33 for the Nuclear Test Reactor, and (4) Amendment No. 6 to Facility License No. DR-10 for the ESADA Vallecitos Experimental Superheat Reactor. The non-proprietary and proprietary safety evaluations supporting the conforming amendments were enclosed with the letter transmitting the Order.

Also, enclosed are originals of the necessary change to Indemnity Agreement for the licenses. The change is to replace the name General Electric with GE-Hitachi Nuclear Energy Americas LLC. Please obtain signatures on each of the copies and return one to me.

If you have any further questions, please contact me at 301-415-1128 or by e-mail at mmm@nrc.gov.

Sincerely,  
**/RA/**  
 Marvin M. Mendonca, Senior Project Manager  
 Research and Test Reactors Branch B  
 Division of Policy and Rulemaking  
 Office of Nuclear Reactor Regulation

Docket Nos.: 50-18  
 50-70  
 50-73  
 50-183

- Enclosures: 1. Amendment No. 21 to Facility License No. DPR-1  
 2. Amendment No. 17 to Facility License No. TR-1  
 3. Amendment No. 23 to Facility Operating License No. R-33  
 4. Amendment No. 6 to Facility License No. DR-10  
 5. Indemnity Agreement

cc w/encls: See next page

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OFFICE	RTRB:PM	RTRA:LA	RTRA:BC	PFP
NAME	MMendonca mmm	EHylton egh	DCollins dsc	IDinitz id
DATE	9/14/2007	9/14/2007	9/11/2007	9/11/2007
OFFICE	DPR:DD	OGC NLO	NRR:OD	RTRB:PM
NAME	HNieh hn	SUttal su	JDyer jd	MMendonca mmm
DATE	9/13/2007	9/17/07	9/27/07	10/22/2007

Enclosure 1. Amendment No. 21 to Facility License No. DPR-1



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555 - 0001

GENERAL ELECTRIC COMPANY

DOCKET NO. 50-18

THE VALLECITOS BOILING WATER REACTOR

AMENDMENT TO FACILITY LICENSE

Amendment No. 21  
License No. DPR-1

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by General Electric Company dated January 19, 2007, and supplemented on January 25, 2007, February 23, 2007, March 2, 2007, March 26, 2007, May 16, 2007, May 18, 2007, June 4, 2007, July 6, 2007, and August 9, 2007, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended as indicated in the attachment to this license amendment.
3. This license amendment is effective as of the date of issuance and shall be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

**R/A**

J. E. Dyer, Director  
Office of Nuclear Reactor Regulation

Attachment: License Amendment No. 21, Facility License No. DPR-1, Docket No. 50-18

Date of issuance: October 22, 2007

LICENSE AMENDMENT NO. 21

FACILITY LICENSE NO. DPR-1

DOCKET NO. 50-18

Replace the following pages of the Facility License No. DPR-1 with the attached revised pages.  
The changed areas are identified by a marginal line.

Remove

License Page 1  
License Page 2

Insert

License Page 1  
License Page 2  
License Page 3





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555 - 0001

DOCKET

NO. 50-18

GE-HITACHI NUCLEAR ENERGY AMERICAS LLC

FACILITY LICENSE FOR THE VALLECITOS BOILING WATER REACTOR

License No. DPR-1  
Amendment No. 21

This License is amended to read as follows:

1. This License applies to the nuclear reactor designated by GE-Hitachi Nuclear Energy Americas LLC, (GE-Hitachi) as the "Vallecitos Boiling Water Reactor" (hereinafter referred to as "the facility") which is owned by GE-Hitachi and located in its Vallecitos Atomic Laboratory at Alameda County, California, and for which Construction Permit No. CPPR-3 was issued by the Commission on May 14, 1956.
2. The Commission has found that:
  - a. The application for amendment complies with the requirements of the Atomic Energy Act of 1954, as amended, and the Commission's regulations set forth in Title 10, Chapter 1, CFR;
  - b. The issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public;
  - c. Prior public notice of proposed issuance of this amendment is not required since the amendment does not involve significant hazards considerations different from those previously evaluated; and
  - d. There is reasonable assurance that the reactor can be possessed at the designated location without endangering the health and safety of the public.
3. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses GE-Hitachi:
  - a. Pursuant to Section 104b of the Act and Title 10, CFR, Chapter 1, Part 50, "Licensing of Production and Utilization Facilities," to possess, but not to operate, the facility in the condition described in the Final Report on Deactivation of Vallecitos Boiling Water Reactor dated February 5, 1965.
  - b. Pursuant to the Act and Title 10, CFR, Chapter 1, Part 30, "Licensing of Byproduct Material," to possess, but not to separate, such byproduct material as may be contained in the structural parts of the facility.
4. Pursuant to the Act and Title 10, CFR, Chapter 1, Part 20, "Standards for Protection Against Radiation," GE-Hitachi is exempted from the requirements of Section 20.203 (C) (2) for a visible or audible control device in high radiation areas of the VBWR provided that an audible control device is maintained on the doors to the containment building.

5. This License shall be deemed to contain and be subject to all applicable provisions of the Act and rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

- a. GE-Hitachi shall not reactivate the facility without prior approval of the Commission.
- b. GE-Hitachi shall not dispose of the facility or the property occupied by the facility without prior approval of the Commission, except that GE-Hitachi may dispose of any component parts or devices from the VBWR facility in accordance with the provisions of 10 CFR Part 20.

c. Records

In addition to those required by applicable AEC regulations, including section 20.401 of 10 CFR 20, GE-Hitachi shall keep the following records:

- (1) Records of annual inspections of the deactivated facility, including the results of surveys of radioactivity levels.
- (2) Records showing radioactivity released or discharged into the air or water beyond the effective control of GE-Hitachi as measured at the point of such release or discharge.

d. Reports

In addition to those required by applicable AEC regulations, GE-Hitachi shall submit the following reports:

- (1) A report of any indication or occurrence of a possible unsafe condition relating to the facility or to the public. For each occurrence, GE-Hitachi shall promptly notify by telephone or telegraph the Director of the appropriate AEC Regional Compliance Office listed in appendix D of 10 CFR 20 and shall submit within 10 days a report in writing to the Director, Division of Reactor Licensing, with a copy to the Regional Compliance Office.
- (2) A report of the status of the deactivated facility, including the results of the surveys of radioactivity levels shall be submitted annually. The report shall be submitted no later than 180 days after each annual inspection is completed.

- e. GE-Hitachi Nuclear Energy Americas LLC, as stated in the General Electric Company's (GE's) application dated January 19, 2007, and supplemented on January 25, 2007, February 23, 2007, March 2, 2007, March 26, 2007, May 16, 2007, May 18, 2007, June 4, 2007, July 6, 2007, and August 9, 2007, will abide by all commitments and representations previously made by GE with respect to the license. These include, but are not limited to, maintaining decommissioning records, implementing decontamination activities, and eventually decommissioning the facility.

- f. The Manager of the Vallecitos Nuclear Center, the Vice-President, Reactor Facility Safety and Security of GE-Hitachi Nuclear Energy Americas LLC, and the Manager of GE-Hitachi Nuclear Energy Americas LLC, shall be US citizens. These individuals shall have the responsibility and exclusive authority to ensure and shall ensure, that the business and activities of GE-Hitachi Nuclear Energy Americas LLC, with respect to this License, are at all times conducted in a manner consistent with the protection of the public health and safety and the common defense and security.
- g. The commitments/representations made in the General Electric Company's (GE's) application dated January 19, 2007, and supplemented on January 25, 2007, February 23, 2007, March 2, 2007, March 26, 2007, May 16, 2007, May 18, 2007, June 4, 2007, July 6, 2007, and August 9, 2007, regarding reporting relationships and authority over safety and security issues and compliance with NRC requirements shall be adhered to and not be modified without the prior written consent from the Director, Office of Federal and State Materials and Environmental Management Programs, or designee.
- h. GE-Hitachi Nuclear Energy Americas LLC, shall cause to be transmitted to the Director, Office of Federal and State Materials and Environmental Management Programs within 30 days of filing with the U.S. Securities Exchange Commission (SEC), any schedule 13D or 13G filed pursuant to the Securities Exchange Act of 1934 that discloses beneficial ownership of a registered class of General Electric stock.
- i. Prior to completion of transfer of the license, GE-Hitachi Nuclear Energy Americas LLC, shall provide the Nuclear Regulatory Commission staff satisfactory documentary evidence of a parent company guarantee or another method authorized by and meeting the requirements of 10 CFR 50.75 for decommissioning funding assurance in an amount no less than \$8,016,000 for the VBWR.

6. This License is effective as of its date of issuance and shall expire on May 14, 1996.<sup>1</sup>

<sup>1</sup> In a letter from Michael T. Masnik (NRC) to G. L. Stimmel (GE VNC Site Manager) dated November 3, 1997, the NRC quoted 10 CFR 50.51(b), stating that "Each License for a facility that has permanently ceased operations, continues in effect beyond the expiration date to authorize ownership and possession of the production or utilization facility, until the Commission notifies the licensee in writing that the License is terminated." They further stated that "your decommissioning schedule will determine the expiration date for your [possess only reactor] Licenses."

Enclosure 2. Amendment No. 17 to Facility License No. TR-1



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555 - 0001

GENERAL ELECTRIC COMPANY

DOCKET NO. 50-70

THE GENERAL ELECTRIC TEST REACTOR

AMENDMENT TO FACILITY LICENSE

Amendment No. 17  
License No. TR-1

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by General Electric Company dated January 19, 2007, and supplemented on January 25, 2007, February 23, 2007, March 2, 2007, March 26, 2007, May 16, 2007, May 18, 2007, June 4, 2007, July 6, 2007, and August 9, 2007, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended as indicated in the attachment to this license amendment.
3. This license amendment is effective as of the date of issuance and shall be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

**R/A**

J. E. Dyer, Director  
Office of Nuclear Reactor Regulation

Attachment: Amendment No. 17, Facility License No. TR-1, Docket No. 50-70

Date of issuance: October 22, 2007

AMENDMENT NO. 17

FACILITY LICENSE NO. TR-1

DOCKET NO. 50-70

Replace the following pages of the Facility License No. TR-1 with the attached revised pages.  
The changed areas are identified by a marginal line.

Remove

License Page 1  
License Page 2  
License Page 3

Insert

License Page 1  
License Page 2  
License Page 3



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555 - 0001

DOCKET NO. 50-70

GE-HITACHI NUCLEAR ENERGY AMERICAS LLC

FACILITY LICENSE FOR GENERAL ELECTRIC TEST REACTOR

License No. TR-1  
Amendment No. 17

This License is amended as follows:

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for renewal of facility License No. TR-1 filed by the General Electric Company\* dated July 9, 1990, as supplemented on December 17, 1990, and August 7, 1992, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations as set forth in 10 CFR Chapter I;
  - B. Construction of the facility was completed in substantial conformity with Construction Permit No. CPTR TR-2 dated January 7, 1959, the provisions of the Act, and the regulations of the Commission;
  - C. The facility will be maintained in conformity with the application, the provisions of the Act, and the regulations of the Commission;
  - D. There is reasonable assurance; (i) that the activities authorized by this License can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - E. The licensee is technically and financially qualified to engage in the activities authorized by this License in accordance with the regulations of the Commission;
  - F. The licensee has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
  - G. The issuance of this License will not be inimical to the common defense and security or to the health and safety of the public;
  - H. The issuance of this License is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
  - I. The possession of the byproduct materials as authorized by this License will be in accordance with the Commission's regulations in 10 CFR Part 30, including Section 30.33.

\*This License was transferred from the General Electric Company to GE-Hitachi Nuclear Energy Americas LLC, in accordance with the Order for this Amendment.



2. Accordingly, Facility License No. TR-1 is hereby amended to read as follows:

A. This amended License applies to the nuclear test reactor (hereinafter the reactor) which is owned by the GE-Hitachi Nuclear Energy Americas LLC, and located at the Vallecitos Nuclear Center in Alameda County, California, as described in the application for License renewal dated July 9, 1990, as supplemented on December 17, 1990, and August 7, 1992.

B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses the GE-Hitachi Nuclear Energy Americas LLC:

(1) Pursuant to Section 104c of the Act and 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," to possess, but not operate, the reactor at the designated location at the Vallecitos Nuclear Center, in accordance with the procedures and limitations described in the application and in this License.

(2) Pursuant to the Act and 10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material," to possess, but not to separate, such byproduct material as may have been produced by operation of the reactor.

C. This License shall be deemed to contain and is subject to the conditions specified in Parts 20, 30, 50 and 51 of 10 CFR Chapter 1, to all applicable provisions of the Act, and to the rules, regulations and orders of the Commission now or hereafter in effect and to the additional conditions specified below:

(1) Operation

The licensee shall not operate the reactor nor install fuel or fueled experiments within the reactor core or core area.

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 17, are hereby incorporated in the License. The licensee shall possess and maintain the facility in accordance with the Technical Specifications.

(3) GE-Hitachi Nuclear Energy Americas LLC, as stated in the General Electric Company's (GE's) application dated January 19, 2007, and supplemented on January 25, 2007, February 23, 2007, March 2, 2007, March 26, 2007, May 16, 2007, May 18, 2007, June 4, 2007, July 6, 2007, and August 9, 2007, will abide by all commitments and representations previously made by GE with respect to the license. These include, but are not limited to, maintaining decommissioning records, implementing decontamination activities, and eventually decommissioning the facility.

(4) The Manager of the Vallecitos Nuclear Center, the Vice-President, Reactor Facility Safety and Security of GE-Hitachi Nuclear Energy Americas LLC, and the Manager of GE-Hitachi Nuclear Energy Americas LLC, shall be US citizens. These individuals

shall have the responsibility and exclusive authority to ensure and shall ensure, that the business and activities of GE-Hitachi Nuclear Energy Americas LLC, with respect to this License, are at all times conducted in a manner consistent with the protection of the public health and safety and the common defense and security.

(5) The commitments/representations made in the General Electric Company's (GE's) application dated January 19, 2007, and supplemented on January 25, 2007, February 23, 2007, March 2, 2007, March 26, 2007, May 16, 2007, May 18, 2007, June 4, 2007, July 6, 2007, and August 9, 2007, regarding reporting relationships and authority over safety and security issues and compliance with NRC requirements shall be adhered to and not be modified without the prior written consent from the Director, Office of Federal and State Materials and Environmental Management Programs, or designee.

(6) GE-Hitachi Nuclear Energy Americas LLC, shall cause to be transmitted to the Director, Office of Federal and State Materials and Environmental Management Programs within 30 days of filing with the U.S. Securities Exchange Commission (SEC), any schedule 13D or 13G filed pursuant to the Securities Exchange Act of 1934 that discloses beneficial ownership of a registered class of General Electric stock.

(7) Prior to completion of transfer of the license, GE-Hitachi Nuclear Energy Americas LLC, shall provide the Nuclear Regulatory Commission staff satisfactory documentary evidence of a parent company guarantee or another method authorized by and meeting the requirements of 10 CFR 50.75 for decommissioning funding assurance in an amount no less than \$14,077,000 for the GETR.

3. This License amendment is effective as of its date of issuance and shall expire at midnight, January 26, 2016.

FOR THE NUCLEAR REGULATORY COMMISSION

**R/A**

Bruce A. Boger, Director  
Division of Reactor Projects - III/IV/V  
Office of Nuclear Reactor Regulation

Date of Issuance: September 30, 1992

Enclosure 3. Amendment No. 23 to Facility Operating License No. R-33



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555 - 0001

GENERAL ELECTRIC COMPANY

DOCKET NO. 50-73

THE NUCLEAR TEST REACTOR

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 23  
License No. R-33

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by General Electric Company dated January 19, 2007, and supplemented on January 25, 2007, February 23, 2007, March 2, 2007, March 26, 2007, May 16, 2007, May 18, 2007, June 4, 2007, July 6, 2007, and August 9, 2007, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended as indicated in the attachment to this license amendment.
3. This license amendment is effective as of the date of issuance and shall be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

**R/A**

J. E. Dyer, Director  
Office of Nuclear Reactor Regulation

Attachment: License Amendment No. 23, Facility Operating License No. R-33,  
Docket No. 50-73

Date of issuance: October 22, 2007

LICENSE AMENDMENT NO. 23

FACILITY OPERATING LICENSE NO. R-33

DOCKET NO. 50-73

Replace the following pages of the Facility Operating License No. R-33 and Technical Specifications with the attached revised pages. The changed areas are identified by a marginal line.

Remove

License Page 1

License Page 2

License Page 3

Title Page

Technical Specification Page 1-6

Technical Specification Page 5-1

Technical Specification Page 6-1

Technical Specification Page 6-3

Insert

License Page 1

License Page 2

License Page 3

License Page 4

Title Page

Technical Specification Page 1-6

Technical Specification Page 5-1

Technical Specification Page 6-1

Technical Specification Page 6-3



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555 - 0001

DOCKET NO. 50-73

GE-HITACHI NUCLEAR ENERGY AMERICAS LLC  
FACILITY LICENSE FOR THE NUCLEAR TEST REACTOR

License No. R-33  
Amendment No. 23

This License is amended as follows:

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment filed by the General Electric Company\* dated September 30, 1997, as supplemented on June 18, 1999, August 23, 1999, June 1, 2000, and October 5, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I.
  - B. Construction of the Nuclear Test Reactor (the facility) was completed in substantial conformity with Construction Permit No. CPRR-19 dated October 24, 1957, the provision of the Act, and the rules and regulations of the Commission;
  - C. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - D. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - E. The licensee is technically and financially qualified to engage in the activities authorized by this operating License in accordance with the rules and regulations of the Commission;
  - F. The licensee has satisfied the applicable provisions of 10 CFR Part 140, "Financial Protection Requirements and Indemnity Agreements," of the Commission's regulations;
  - G. The issuance of this License will not be inimical to the common defense and security or to the health and safety of the public;
  - H. The issuance of this License is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and

\*This License was transferred from the General Electric Company to GE-Hitachi Nuclear Energy Americas LLC, in accordance with the Order for this Amendment.

- I. The receipt, possession and use of the byproduct, source, and special nuclear materials as authorized by this License will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40, and 70, including Sections 30.33, 70.23 and 70.31.
2. Facility Operating License No. R-33 is hereby amended in its entirety to read as follows:
  - A. This License applies to the nuclear reactor designated by GE-Hitachi Nuclear Energy Americas LLC, as the Nuclear Test Reactor (hereinafter the reactor or the NTR) which is owned by the GE-Hitachi Nuclear Energy Americas LLC, and located at its Vallecitos Nuclear Center in Alameda County, California, and described in the application for License renewal dated September 30, 1997, as supplemented.
  - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses the GE-Hitachi Nuclear Energy Americas LLC:
    - (1) Pursuant to Section 104c of the Atomic Energy Act of 1954, as amended (hereinafter the Act), and 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," to possess, use and operate the reactor as a utilization facility at the designated location in Alameda County, California, in accordance with the procedures and limitations described in the application and in this License, as amended.
    - (2) Pursuant to the Act and 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material," to receive, possess and use in connection with the operation of the reactor:
      - a. 4 kilograms of contained U-235 as in-core reactor fuel;
      - b. 100 grams of plutonium for use in [including but not limited to] experimental devices, instrument check sources, and encapsulated fission foils;
      - c. 100 grams of uranium-233 for use in [including but not limited to] ionization chambers and experimental devices;
      - d. 700 grams of contained uranium-235 or 1500 grams of contained U-235 in uranium enriched to less than 4% U-235. This is not to be used as in-core fuel.
      - e. The limits in b.-d. above may include the types of materials authorized by Special Nuclear Material License SNM-960, as amended, Docket No. 70-754, and Reactor License TR-1, as amended, Docket No. 50-70, to be used in the reactor cell, south cell, north room, and control room, but not in experimental facilities of the NTR.
      - f. Such special nuclear material as may be produced by the operation of the reactor. The licensee is not authorized to separate this special nuclear material.
    - (3) Pursuant to the Act and Title 10, Chapter I Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material," (a) to receive,



possess and use 2,000 curies of either activated solids as contained in but not limited to such items as encapsulating materials, structural material and irradiated components or as contained materials; (b) any byproduct materials necessary for purposes of instrument calibration and startup sources; (c) 10 curies of tritium for pulsed neutron sources; and (d) to possess, but not to separate (except for byproduct material produced as allowed for experiments), such byproduct material as may be produced by the operation of the reactor.

- (4) Pursuant to the Act and Title 10 CFR Part 40, "Domestic Licensing of Source Material," to receive, possess and use 9.1 kg. of uranium and thorium as source material for experimental devices.

C. This License shall be deemed to contain and is subject to the conditions specified in Parts 20, 30, 40, 50, 51, 55, 70, and 73 of 10 CFR Chapter I, to all applicable provisions of the Act, and to the rules, regulations and orders of the Commission now, or hereafter in effect, and to the additional conditions specified below:

(1) Maximum Power Level

The licensee may operate the reactor at power levels not in excess of 100 kilowatts (thermal).

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 23, are hereby incorporated in the License. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) Physical Security Plan

The licensee shall maintain and fully implement all provisions of the Commission's approved physical security plan, including changes made pursuant to the authority of 10 CFR 50.54(p). The approved security plan consists of the General Electric document, withheld from public disclosure pursuant to 10 CFR 2.790(d), entitled, "Security Plan for the Protection of Reactor Facilities," submitted by letters dated October 13, 1992, as amended by letter dated September 28, 1994, April 25, and June 26, 1996, and April 16, 1998, under License R-33.

- (4) GE-Hitachi Nuclear Energy Americas LLC, as stated in the General Electric Company's (GE's) application dated January 19, 2007, and supplemented on January 25, 2007, February 23, 2007, March 2, 2007, March 26, 2007, May 16, 2007, May 18, 2007, June 4, 2007, July 6, 2007, and August 9, 2007, will abide by all commitments and representations previously made by GE with respect to the license. These include, but are not limited to, maintaining decommissioning records, implementing decontamination activities, and eventually decommissioning the facility.

- (5) The Manager of the Vallecitos Nuclear Center, the Vice-President, Reactor Facility Safety and Security of GE-Hitachi Nuclear Energy Americas LLC, and the Manager of GE-Hitachi Nuclear Energy Americas LLC, shall be US citizens. These individuals shall have the responsibility and exclusive authority to ensure and shall ensure, that the business and activities of GE-Hitachi Nuclear Energy Americas LLC, with respect to this License, are at all times conducted in a manner consistent with the protection of the public health and safety and the common defense and security.
  - (6) The commitments/representations made in the General Electric Company's (GE's) application dated January 19, 2007, and supplemented on January 25, 2007, February 23, 2007, March 2, 2007, March 26, 2007, May 16, 2007, May 18, 2007, June 4, 2007, July 6, 2007, and August 9, 2007, regarding reporting relationships and authority over safety and security issues and compliance with NRC requirements shall be adhered to and not be modified without the prior written consent from the Director, Office of Nuclear Reactor Regulation, or designee.
  - (7) GE-Hitachi Nuclear Energy Americas LLC, shall cause to be transmitted to the Director, Office of Nuclear Reactor Regulation within 30 days of filing with the U.S. Securities Exchange Commission (SEC), any schedule 13D or 13G filed pursuant to the Securities Exchange Act of 1934 that discloses beneficial ownership of a registered class of General Electric stock.
  - (8) Prior to completion of transfer of the license, GE-Hitachi Nuclear Energy Americas LLC, shall provide the Nuclear Regulatory Commission staff satisfactory documentary evidence of a parent company guarantee or another method authorized by and meeting the requirements of 10 CFR 50.75 for decommissioning funding assurance in an amount no less than \$3,411,000 for the NTR.
- D. This License is effective as of the date of its issuance and shall expire 20 years from its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*/RA/*

Ledyard B. Marsh, Chief  
Events Assessment, Generic Communications and  
Non-Power Reactors Branch  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Enclosure:  
Appendix A, Technical  
Specifications  
Date of Issuance: April 20, 2001

NEDO-32765 Class 1  
Original, August 1997  
Revision 1, May 15, 2007

TECHNICAL SPECIFICATIONS  
FOR THE  
NUCLEAR TEST REACTOR  
FACILITY LICENSE R-33

**1.2.26 Site**

The area (approximately 1600 acres) within the confines of the Vallecitos Nuclear Center (VNC) owned and operated by the licensee. |

**1.2.27 True Value**

The true value for a parameter is its actual value at any instant.

**1.2.28 Unscheduled Shutdown**

Any unplanned shutdown of the reactor caused by actuation of the scram channels, operator error, equipment malfunction, or a manual shutdown in response to conditions which could adversely affect safe operation excluding shutdowns which occur during planned equipment testing or check-out operations.

## **5.0 DESIGN FEATURES**

### **5.1 SITE AND FACILITY DESCRIPTION**

#### 5.1.1

The Nuclear Test Reactor (NTR) facility shall be located on the site of the Vallecitos Nuclear Center (VNC) which is owned and controlled by the licensee. |

#### 5.1.2

The minimum distance from the reactor to the posted site boundary shall be approximately 488 meters (1600 feet). The restricted area, as defined in 10 CFR Part 20 of the Commission's regulations, shall be the Vallecitos Nuclear Center.

#### 5.1.3

The fuel assemblies shall be positioned in a reel assembly inside the core tank. The core reel assembly shall be rotated only when the reactor is shut down and by manual operation of a crank inside the NTR cell.

#### 5.1.4

The control system shall consist of four scrammable, spring-actuated safety rods, three nonscrammable control rods, and a number of manual poison sheets. When the poison rods and sheets are inserted, they shall be located in the graphite reflector at the outer periphery of the core tank. The safety and control rods shall be boron carbide clad in stainless steel. The manual poison sheets shall contain metallic cadmium.

#### 5.1.5

The discharge of the gaseous effluent stack shall be approximately 14 meters (45 feet) above grade level of Building 105.

## **6.0 ADMINISTRATIVE CONTROLS**

### **6.1 ORGANIZATION AND STAFFING**

#### **6.1.1 Structure**

The NTR shall be owned and operated by the licensee with management and operations organization as shown in Figure 6-1 or equivalent.

#### **6.1.2 Responsibilities**

##### **6.1.2.1**

The Level 3 manager shall be responsible for the NTR facility License.

##### **6.1.2.2**

The Level 2 manager (Operations) is designated the facility manager and shall be responsible for the overall safe operation and maintenance of the facility.

##### **6.1.2.3**

The Level I manager (if utilized) is responsible for the routine safe operation and maintenance of the facility in accordance with the License, regulations and established written procedures. In the absence of this position, the Level I Reactor Supervisor or the Facility Manager shall assume the Level I manager responsibilities.

6.1.2.4

The Level I Reactor Supervisor (if utilized) is the individual responsible for supervising the daily operations. In the absence of this position, the Level I manager or the Facility Manager is responsible for supervising the daily operations.

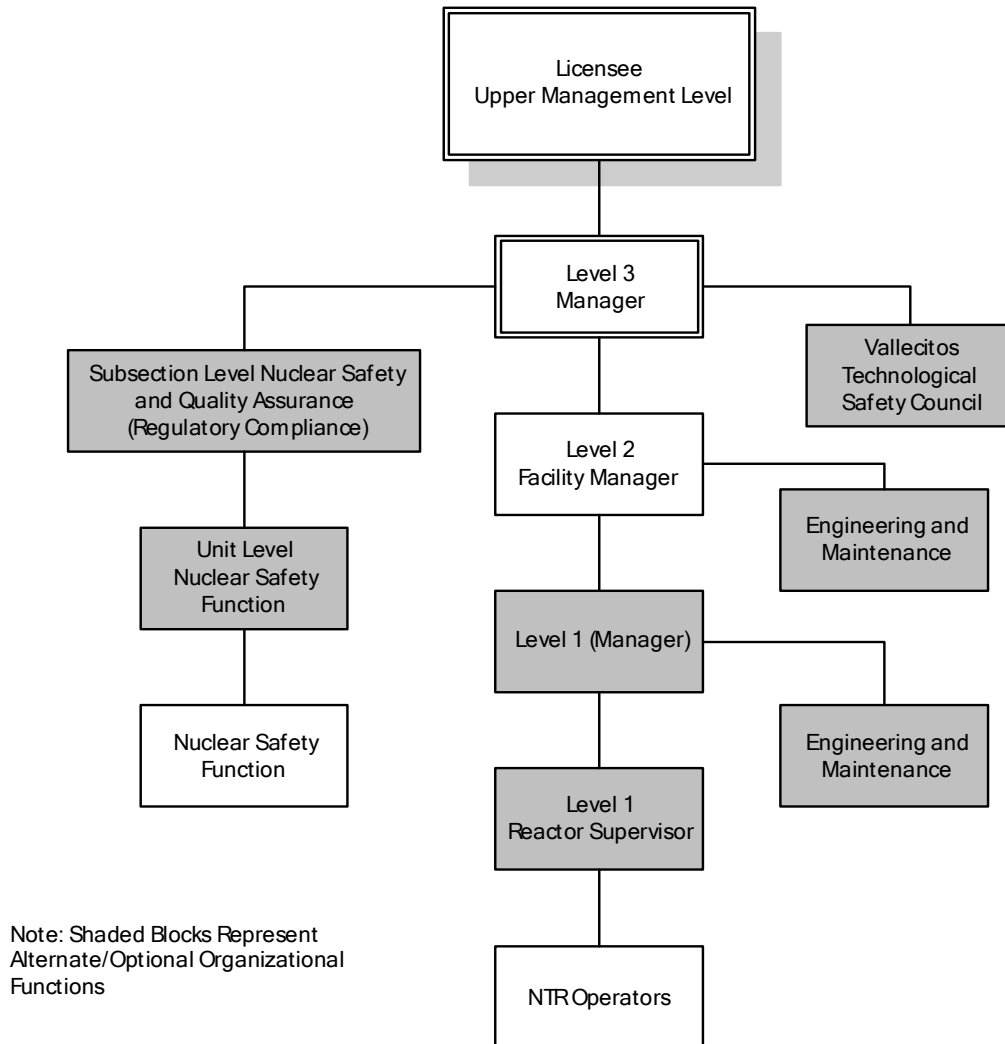


Figure 6-1. Facility Organization

Enclosure 4. Amendment No. 6 to Facility License No. DR-10





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555 - 0001

GENER

AL ELECTRIC COMPANY

DOCKET NO. 50-183

THE ESDA EXPERIMENTAL VALLECITOS SUPERHEAT REACTOR

AMENDMENT TO FACILITY LICENSE

Amendment No. 6  
License No. DR-10

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by General Electric Company dated January 19, 2007, and supplemented on January 25, 2007, February 23, 2007, March 2, 2007, March 26, 2007, May 16, 2007, May 18, 2007, June 4, 2007, July 6, 2007, and August 9, 2007, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended as indicated in the attachment to this license amendment.
3. This license amendment is effective as of the date of issuance and shall be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

**R/A**

J. E. Dyer, Director  
Office of Nuclear Reactor Regulation

Attachment: License Amendment No. 6, Facility License No. DR-10, Docket No. 50-183

Date of issuance: October 22, 2007

LICENSE AMENDMENT NO. 6

FACILITY LICENSE NO. DR-10

DOCKET NO. 50-183

Replace the following pages of the Facility License No. DR-10 and Technical Specifications with the attached revised pages. The changed areas are identified by a marginal line.

Remove

License Page 1

License Page 2

License Page 3

Technical Specifications Page 2

Insert

License Page 1

License Page 2

License Page 3

Technical Specifications Page 2



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555 - 0001

DOCKET NO. 50-183  
GE-HITACHI NUCLEAR ENERGY AMERICAS LLC  
FACILITY LICENSE FOR ESDA EXPERIMENTAL VALLECITOS SUPERHEAT REACTOR

License DR-10  
Amendment No. 6

This License is amended as follows:

1. This License applies to the heterogeneous, light water moderated, steam cooled, superheat reactor owned by GE-Hitachi Nuclear Energy Americas LLC, hereinafter "GE-Hitachi," and designed as the ESDA Experimental Vallecitos Superheat Reactor (hereinafter "EVESR"). The facility is located at GE-Hitachi's Vallecitos Nuclear Center, Alameda County, California, and is described in the application dated October 5, 1962, and amendments thereto including Amendment No. 14 dated October 12, 1967, Amendment No. 15 dated December 20, 1967, Modification No. 1 to Amendment No. 15 dated March 20, 1968, Amendment No. 16 dated October 16, 1969, and Modification No. 1 to Amendment No. 16 dated March 9, 1970 (hereinafter "the application").
2. Subject to the conditions and requirements incorporated herein, The Commission hereby licenses GE-Hitachi:
  - A. Pursuant to section 104b of the Act and 10 CFR Part 50, to possess, but not to operate, the reactor as a utilization facility, as described in the application.
  - B. Pursuant to the Act and 10 CFR Part 30, to possess, but not to separate, such byproduct material as may be contained in the component parts of the facility.
3. This License shall be deemed to contain and be subject to the conditions specified in Part 20, Section 30.34 of Part 30, and Sections 50.54 and 50.59 of Part 50, Title 10, Chapter 1, CFR, and to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect, and to the additional conditions specified below:
  - A. GE-Hitachi shall not reactivate the facility nor use the reactor pressure vessel or any system which is open to the reactor pressure vessel without prior approval of the Commission.
  - B. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 4, are hereby incorporated in the License. The licensee shall operate the facility in accordance with the Technical Specifications. No changes shall be made in the Technical Specifications, except as otherwise permitted by this License, the Act, and the Commission's rules and regulations.
  - C. GE-Hitachi shall not dispose of the facility or the property occupied by the facility without prior approval of the Commission, except that GE-Hitachi may dispose of component parts or devices from the EVESR facility in accordance with the provisions of 10 CFR Part 20

#### D. Records

In addition to the records heretofore required under this License and by applicable AEC regulations, including section 20.401 of 10 CFR Part 20, GE-Hitachi shall keep the following:

1. Records of inspections of the deactivated facility, including the results of surveys of radioactivity levels.
2. Records showing radioactivity released or discharged into the air or water beyond the effective control of GE-Hitachi as measured at the point of such release or discharge.

#### E. Reports

In addition to those reports required by applicable AEC regulations, GE-Hitachi shall submit the following:

1. A report of any indication or occurrence of a possible unsafe condition relating to the facility or to the public. For each occurrence, GE-Hitachi shall promptly notify by telephone or telegraph the Director of the appropriate AEC Regional Compliance Office listed in Appendix D of 10 CFR Part 20. And shall submit within 10 days a report in writing to the Director, Division of Reactor Licensing, with a copy to the Regional Compliance Office.
2. An annual report of the status of the deactivated facility including the results of the surveys of radioactivity levels shall be submitted to the Commission. The average interval between annual reports shall be one year and may extend, on occasion, up to 15 months for a valid reason.

F. GE-Hitachi Nuclear Energy Americas LLC, as stated in the General Electric Company's (GE's) application dated January 19, 2007, and supplemented on January 25, 2007, February 23, 2007, March 2, 2007, March 26, 2007, May 16, 2007, May 18, 2007, June 4, 2007, July 6, 2007, and August 9, 2007, will abide by all commitments and representations previously made by GE with respect to the license. These include, but are not limited to, maintaining decommissioning records, implementing decontamination activities, and eventually decommissioning the facility.

G. The Manager of the Vallecitos Nuclear Center, the Vice-President, Reactor Facility Safety and Security of GE-Hitachi Nuclear Energy Americas LLC, and the Manager of GE-Hitachi Nuclear Energy Americas LLC, shall be US citizens. These individuals shall have the responsibility and exclusive authority to ensure and shall ensure, that the business and activities of GE-Hitachi Nuclear Energy Americas LLC, with respect to this License, are at all times conducted in a manner consistent with the protection of the public health and safety and the common defense and security.

- H. The commitments/representations made in the General Electric Company's (GE's) application dated January 19, 2007, and supplemented on January 25, 2007, February 23, 2007, March 2, 2007, March 26, 2007, May 16, 2007, May 18, 2007, June 4, 2007, July 6, 2007, and August 9, 2007, regarding reporting relationships and authority over safety and security issues and compliance with NRC requirements shall be adhered to and not be modified without the prior written consent from the Director, Office of Federal and State Materials and Environmental Management Programs, or designee.
- I. GE-Hitachi Nuclear Energy Americas LLC, shall cause to be transmitted to the Director, Office of Federal and State Materials and Environmental Management Programs within 30 days of filing with the U.S. Securities Exchange Commission (SEC), any schedule 13D or 13G filed pursuant to the Securities Exchange Act of 1934 that discloses beneficial ownership of a registered class of General Electric stock.
- J. Prior to completion of transfer of the license, GE-Hitachi Nuclear Energy Americas LLC, shall provide the Nuclear Regulatory Commission staff satisfactory documentary evidence of a parent company guarantee or another method authorized by and meeting the requirements of 10 CFR 50.75 for decommissioning funding assurance in an amount no less than \$10,516,000 for the EVESR .

This License, as amended, is effective as of the date of issuance and shall expire at midnight, January 26, 2016.

FOR THE ATOMIC ENERGY COMMISSION

**R/A**

Peter A. Morris, Director  
Division of Reactor Licensing

Date of Issuance: June 17, 1968

authority to maintain the facility in a safe and secure condition at all times. The facility manager shall have extensive reactor knowledge and shall utilize the resources of other licensee personnel as necessary to provide an effective safety program.

## 2, Review and Audit

(a) Written procedures for control of access to the plant area, use of the plant area facilities and equipment and for periodic inspection of the facility shall be established and approved by the manager to whom the facility supervisor reports.

(b) Written procedures specified in 2.(a) above shall be reviewed by technically qualified personnel responsible to a management position other than the facility supervisor (the Nuclear Safety group) in accordance with a written charter for that function.

(c) The Nuclear Safety group shall periodically audit activities conducted in the plant area to verify that effective radiological control practices are maintained.

## C. HEALTH AND SAFETY

### A. Radiation Monitoring

Radiation monitoring instruments shall be available as appropriate to prevent exposure of personnel to radiation in accordance with the standards

Enclosure 5: Indemnity Agreement





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555 - 0001

Docket Nos. 50-18, 50-183  
50-70, 50-73

AMENDMENT TO INDEMNITY AGREEMENT NO. B-11

AMENDMENT NO. 23

Effective October 22, 2007, Indemnity Agreement No. B-11, between General Electric Company and the Atomic Energy Commission, dated August 21, 1962, as amended, is hereby further amended as follows:

Delete the name "General Electric Company" and substitute the name 'GE-Hitachi Nuclear Energy Americas LLC'

FOR THE UNITED STATES NUCLEAR REGULATORY COMMISSION

**/RA/**

Robert Carlson, Chief  
Financial, Policy, and Rulemaking Branch  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

\_\_\_\_\_, 2007  
Accepted

\_\_\_\_\_, 2007  
Accepted

\_\_\_\_\_  
By: General Electric Company

\_\_\_\_\_  
By: GE- Hitachi Nuclear Energy  
Americas LLC