

May 3, 2016

Mr. Scott P. Murray, Manager
Facility Licensing
GE Hitachi Nuclear Energy
3901 Castle Hayne Road
P.O. Box 780
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SUBJECT: RELEASE OF NON-IMPACTED NORTH SECTION OF VALLECITOS NUCLEAR CENTER SITE FROM U.S. NUCLEAR REGULATORY COMMISSION LICENSES DPR-1 AND DR-10 (DOCKET NOS. 50-18 AND 50-183) (CAC NO. L53056)

Dear Mr. Murray:

By letter dated April 24, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML15114A437 and ML15114A438), GE Hitachi Nuclear Energy Americas, LLC. (GEH) requested to release, for unrestricted use, the unused northern section (approximately 610 acres) of the Vallecitos Nuclear Center (VNC) site (approximately 1,600 acres) in Sunol, CA. This request was made under the provisions of section 50.83 of Title 10 of the *Code of Federal Regulations* (10 CFR) for approval of the release of non-impacted areas of power reactor sites. This request was made relative to the two shutdown power reactors at the VNC site, the Vallecitos Boiling Water Reactor (VBWR), Nuclear Regulatory Commission (NRC) License No. DPR-1, and the Empire State Atomic Development Agency Vallecitos Experimental Superheat Reactor (EVESR), License No. DR-10. In addition, the NRC licenses for both the VBWR and the EVESR contain a condition that states:

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 [or EVESR] facility in accordance with the provisions of 10 CFR Part 20.

Under the provisions of 10 CFR 50.83, and the respective license conditions for the VBWR and EVESR facilities, the NRC is approving the request. For the release of non-impacted areas under the provisions of 10 CFR 50.83, a license amendment is not required.

The NRC staff reviewed GEH's request documentation to determine if all of the requirements of 10 CFR 50.83 were addressed. The staff's analysis appears below.

§ 50.83(a) *Prior written NRC approval is required to release part of a facility or site for unrestricted use at any time before receiving approval of a license termination plan. Section 50.75 specifies recordkeeping requirements associated with partial release. Nuclear power reactor licensees seeking NRC approval shall--*

(1) *Evaluate the effect of releasing the property to ensure that--*

(i) The dose to individual members of the public does not exceed the limits and standards of 10 CFR Part 20, Subpart D;

The power reactors in question have permanently ceased operations and are being maintained in a possession-only SAFSTOR status. The licensee measured direct dose in and around the area to be released and found that all measurements were consistent with a background direct dose measurement of approximately 70 mRem/yr (GEH Annual Report for 2014, ADAMS Accession No. ML15069A472). This figure is within the NRC public dose limit from all sources of radiation of 100 mRem/yr above background found in 10 CFR 20.1301. The NRC verified that the area to be released was not radiologically impacted by licensed site activities, as described in NRC inspection report 050-00018/15-001 (ADAMS Accession No. ML15303A361) dated October 30, 2015.

(ii) There is no reduction in the effectiveness of emergency planning or physical security;

The licensee states that the area being released is not part of emergency planning and is not specifically referenced in the emergency plan. The staff confirmed that the operations boundary (essentially the reactor buildings) for each of the 10 CFR Part 50 licensed facilities is the respective emergency planning zone. Therefore, the emergency planning zone for each of the shutdown reactors is within the area to be retained.

Where the current security plan lists the total site area as 1,600 acres, it will be administratively revised to remove the number of acres of the site that will be released. This change will not reduce the effectiveness of the plan as the staff has confirmed that the current security areas for each shutdown reactor are within the area of the site that will be retained.

Based on these findings, the NRC staff concurs with the findings of the licensee that there will be no reduction in the effectiveness of the emergency plan or physical security plan from the removal of the proposed area of the site.

(iii) Effluent releases remain within license conditions;

Effluent releases at the site are monitored for the one operational test reactor at the site, the Nuclear Test Reactor (NTR). The shutdown power reactors at the site are maintained in a possession-only SAFSTOR status with limited air emissions. The area requested to be released is topographically uphill from the shutdown reactors so any liquid effluents from the site could not impact those areas. As documented in an associated License Amendment Request to reduce the site area for the NTR in the letter from Mr. T. Caine, GEH to the NRC dated February 16, 2015 (ADAMS Accession No. ML15048A006), the licensee does not need to rely on the land proposed to be released to meet NRC effluent release requirements. Therefore, the NRC finds that release of this property will not cause the effluent releases limits for the shutdown power reactors to be exceeded.

(iv) The environmental monitoring program and offsite dose calculation manual are revised to account for the changes;

The licensee states that the site environmental monitoring program has been updated to move sample locations in the area to be released to areas of the site that will be retained. The GEH Annual Report for 2014 indicates that all of the current environmental monitoring locations are

within the area of the site to be retained. This was confirmed at the NRC inspection of the site documented in the October 30, 2015 NRC inspection report.

Offsite doses calculations for the all of the licensed facilities at the site are evaluated through a requirement in 10 CFR 20.2107 for the licensee to maintain records of radioactivity released from the respective facilities. The environmental monitoring program requirements are provided in the licensee's Environmental Monitoring Manual. The environmental monitoring program consists of gaseous effluent, liquid effluent, groundwater, stream bottom (sediment), and vegetation sampling, and provides additional requirements for measurement of ambient gamma radiation levels and collection of ambient air particulate and pond water samples. The licensee submits the results of effluent and environmental monitoring to the NRC in annual reports to demonstrate compliance with 10 CFR 20.1101(d) and 20.1301. The 2014 annual report, submitted by letter dated February 25, 2015 (ML15069A472), contains the license and regulatory limits as well as the action levels. The action levels, while less than the license and regulatory limits, were established to help prevent the regulatory dose limits from being exceeded.

The data collected for the 2014 annual report represents the modified environmental sampling program based on the proposed reduction in the site area. This data was reviewed in the July 2015 NRC site inspection and documented in the October 30, 2015 NRC inspection report. In summary, the NRC found that the licensee collected all required samples and no sample result exceeded the release limits.

The licensee used the COMPLY computer code to analyze the doses for members of the public for compliance with the dose requirements of 10 CFR 20.1101(d). For 2014, the licensee calculated an effective dose equivalent of 1 millirem per year to the nearest resident. The licensee also calculated the projected dose at the industrial fence line. This calculated dose was less than the constraint limit of 10 millirem per year as specified in the NRC's regulations. The licensee measured ambient gamma radiation levels at 20 environmental sample stations. The results for 2014 remained below the public dose limit of 100 millirem specified in 10 CFR 20.1301.

In summary, the environmental monitoring program has been revised to account for the reduced site area and offsite dose calculations performed on the data from the new monitoring program indicate that offsite doses still meet the NRC's regulatory requirements.

(v) The siting criteria of 10 CFR Part 100 continue to be met;

The purpose of 10 CFR Part 100 is to establish approval requirements for proposed sites for stationary power and testing reactors subject to 10 CFR Part 50. Section 50.83(a)(1)(v) requires licensees to evaluate the effect of releasing property to ensure continued compliance with the Part 100 siting criteria that were used to license the plant. As described in 10 CFR 100.1(c), the primary siting factors that determine public health and safety are those that consider the reactor design, construction and operation. Siting factors and criteria are important in assuring that radiological doses from normal operation and postulated accidents will be acceptably low, that natural phenomena and potential man-made hazards will be appropriately accounted for in the design of the plant, that site characteristics are such that adequate security measures to protect the plant can be developed, and that physical characteristics unique to the

proposed site that could pose a significant impediment to the development of emergency plans are identified.

The Commission explains in 10 CFR 100.10 that the factors considered in the evaluation of sites include those relating both to the proposed reactor design and the characteristics peculiar to the site such that their design, construction and operation provide an extremely low probability for accidents that could result in release of significant quantities of radioactive fission products. In addition, the site location and the engineered features included as safeguards against the hazardous consequences of an accident, should one occur, should insure a low risk of public exposure. The siting factors in § 100.10, "Factors to be considered when evaluating sites," and § 100.11, "Determination of exclusion area, low population zone, and population center distance," are considered in determining the acceptability of a site for a power or test reactor.

The factors in § 100.10 include: the characteristics of reactor design and proposed operation related to operational power levels and nature of contained radioactive materials; the use of engineering standards in the reactor design; features having significant bearing on the probability or consequences of accidental release of radioactive materials; and the safety features and barriers that must be breached as a result of an accident before a release of radioactive material to the environment can occur.

The shutdown reactors at the VNC site are no longer operational and their reactor fuel has been removed from the reactors and from the site. Therefore, the characteristics of the reactor design and operations are no longer relevant to the evaluation of the site for the release of significant quantities of radioactive fission products.

Other factors related to the evaluation of sites are: population density and use characteristics of the site environs, including the exclusion area, low population zone, and population center distance; and physical characteristics of the site, including seismology, meteorology, geology, and hydrology.

These siting factors are only important relative to postulated accidents that could happen at an operational reactor. Because the shutdown reactors at VNC are no longer operational and their fuel has been removed from the site, radioactive materials from those reactors cannot be released into the environment from the postulated accidents. Thus, these siting factors are no longer relevant and will not be affected by releasing a remote part of the site. The physical characteristic siting factors will not change with a release of part of the site and in any case are only relevant to the health and safety consequences of an escape of radioactive material from an operational reactor.

The impact from a normal or postulated accident release from the remaining operational reactor on the site (the NTR) to the boundary of the reduced site area is evaluated in the separate license amendment request (ADAMS No. ML15048A008) to reduce the licensed site area for the NTR.

The evaluation of the factors in § 100.11 first assume a fission product release from the core of the reactor. This cannot happen at the shutdown reactors at the VNC for the reasons described above.

(vi) All other applicable statutory and regulatory requirements continue to be met.

The staff reviewed the requirements of the conditions, technical specifications and commitments in the licenses (DPR-1 and DR-10) and the applicable regulations in 10 CFR Parts 20, 30, and 50 for any potential change in the ability of the licensee to meet all the other applicable statutory and regulatory requirements upon release of the requested part of the site from the licenses. The staff's review determined that those requirements will continue to be met because the licensee's ability to meet those requirements is unchanged by the approval of the release of this non-impacted area.

(2) Perform a historical site assessment of the part of the facility or site to be released;

The licensee stated that consistent with the MARSSIM approach (NUREG-1575, ADAMS Accession No. ML082310759), the site to be released has been determined to be non-impacted based on four sources of information: visual inspection; historical records review; process knowledge; and the results of sentinel measurements.

The licensee conducted an environmental assessment of the area proposed to be released. The results of the assessment were that no adverse or recognized environmental conditions were identified on the site other than the recognized environmental condition of the VNC operational area being within one-half mile of the site to be released.

No historical recognized environmental conditions were found on the site based on the review of aerial photographs, site records and interviews with site personnel.

The NRC verified this information during the site inspection of July 20-23, 2015 (ADAMS Accession No. ML15303A361).

(3) Perform surveys adequate to demonstrate compliance with the radiological criteria for unrestricted use specified in 10 CFR 20.1402 for impacted areas.

This requirement is not applicable because the area is being released as a non-impacted area.

§ 50.83(b) For release of non-impacted areas, the licensee may submit a written request for NRC approval of the release if a license amendment is not otherwise required. The request submittal must include--

(1) The results of the evaluations performed in accordance with paragraphs (a)(1) and (a)(2) of this section;

The results of the evaluations performed by the licensee are described above.

(2) A description of the part of the facility or site to be released;

A description of the part of the site to be released was provided in the licensee submittal of April 24, 2015. In general, the area to be released is approximately 610 acres in the unused northern portion of the site. This area consists generally of undeveloped land and is currently used for cattle grazing. The land has not been used for processing or storage of radioactive material.

The properties surrounding the site are primarily used for agriculture and cattle raising, with some scattered residences mostly to the west of the property.

(3) The schedule for release of the property;

The licensee has indicated in the submittal dated April 24, 2015, that the property will be released as soon as approval is received from the NRC. The property is currently being marketed and will transfer as soon as regulatory release is approved and commercial considerations are found to be acceptable.

(4) The results of the evaluations performed in accordance with § 50.59;

The results of the 10 CFR 50.59 analysis were provided in the April 24, 2015, submittal from the licensee. The licensee evaluated the potential release of this property against the criteria for evaluating changes, tests, and experiments found in § 50.59(c)(2) to see if implementing any change would require a change to the licensing basis for the VBWR or EVESR. The licensee found that area to be released is not explicitly used in any of the analyses supporting the licensing basis of either VBWR or EVESR. The NRC staff reviewed this evaluation and the licensing basis for the shutdown reactors and concurs with the finding that the current licensed area of the site is not explicitly identified but in any case the area to be released is not used to support the licensing basis.

(5) A discussion that provides the reasons for concluding that the environmental impacts associated with the licensee's proposed release of the property will be bounded by appropriate previously issued environmental impact statements.

The licensee notes that the proposed area to be released has never been used for licensed activity, and is up gradient from the active area of the site. Being up gradient of the site would preclude the surface transport of liquid effluents to the area proposed for release. The power reactors are shut down and there is no evidence of historic impact on the area. Samples taken in the area do not indicate impact from licensed activities.

The NRC staff reviewed this request and concluded that the environmental impacts associated with this request remain bounded by the environmental impacts evaluated in the previously issued "Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities," NUREG-0586, Supplement 1, Volume 1 (<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0586/s1/v1/index.html>). NUREG-0586 evaluated the environmental impacts of the decommissioning of entire power reactor sites and facilities that have been impacted by operations. The release of a part of a power reactor site that has been demonstrated to not have been impacted by operations, like the shutdown reactors at the VNC, is within the scope of the evaluation performed in NUREG-0586.

This site itself was licensed prior to the enactment of NEPA. As such, a site specific Final Environmental Statement (FES) or an Environmental Impact Statement (EIS) were never prepared by the NRC's predecessor agency, the Atomic Energy Commission (AEC), when the site was first licensed. In accordance with 10 CFR 50.83(b)(5), if an FES or EIS had been previously prepared, and if the licensee had demonstrated that the environmental impacts associated with the proposed partial site release were bounded by the FES or EIS, then the preparation of an Environmental Assessment (EA) would not be necessary. Therefore, NRC

staff prepared an EA (ADAMS Accession No. ML16069A155) in this case due to the absence of a FES or an EIS. The preparation of an EA in this case should not be taken as precedent-setting for future NRC approvals of 10 CFR 50.83 partial site releases of non-impacted land where the NRC or the AEC had previously prepared an FES or EIS and the licensee has demonstrated that any environmental impacts associated with the partial site release are bounded by that FES or EIS. Based on the results of the EA, the NRC has determined not to prepare an EIS for the partial site release, and is issuing a finding of no significant impact.

§ 50.83(c) *After receiving an approval request from the licensee for the release of a non-impacted area, the NRC shall--*

(1) Determine whether the licensee has adequately evaluated the effect of releasing the property as required by paragraph (a)(1) of this section;

That determination is being made in this approval evaluation.

(2) Determine whether the licensee's classification of any release areas as non-impacted is adequately justified;

The NRC reviewed the licensee's submittal and performed independent surveys to verify the licensee's conclusions about the classification of the proposed release areas as non-impacted. The NRC verified the proposed release areas as non-impacted during the site inspection of July 20-23, 2015.

(3) Upon determining that the licensee's submittal is adequate, inform the licensee in writing that the release is approved.

This letter satisfies this requirement.

§ 50.83(f) *The NRC shall notice receipt of the release approval request or license amendment application and make the approval request or license amendment application available for public comment. Before acting on an approval request or license amendment application submitted in accordance with this section, the NRC shall conduct a public meeting in the vicinity of the licensee's facility for the purpose of obtaining public comments on the proposed release of part of the facility or site. The NRC shall publish a document in the Federal Register and in a forum, such as local newspapers, which is readily accessible to individuals in the vicinity of the site, announcing the date, time, and location of the meeting, along with a brief description of the purpose of the meeting.*

A public meeting to obtain comments on the release approval request was announced on the NRC public meeting Web site on July 7, 2015 (ADAMS Accession No. ML15188A344). A notice of the release approval request, the public meeting, and a request for comment was also published in the Tri-Valley Herald, Livermore, CA on July 15, 2015 (ADAMS Accession No. ML15292A519). The NRC staff published a notice of the receipt of the release approval request, and request for comment, in the *Federal Register* on July 20, 2015 (80 FR 42846). The NRC staff conducted the public meeting in Pleasanton, CA on July 22, 2015.

A summary of the meeting, which includes copies of the presentations made and a copy of the transcript of the meeting, is available in ADAMS at Accession No. ML15260A199.

No comments were made or taken at the meeting or on the Federal Rulemaking Web site, mail, or e-mail, and all questions asked at the meeting were answered in the meeting.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

If you have any questions regarding this matter, please contact me by telephone at 301-415-6634, or e-mail at Jack.Parrott@nrc.gov.

Sincerely,

/RA/

Jack D. Parrott, Senior Project Manager
Reactor Decommissioning Branch
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

Docket Nos.: 50-18, 50-70, 50-73, and 50-183
License Nos. DPR-1, DPR-10, TR-1, and R-33

cc: GE Vallecitos mailing list

S. Murray

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Sincerely,

/RA/

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Docket Nos.: 50-18, 50-70, 50-73, and 50-183
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cc: GE Vallecitos mailing list

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