March 8, 2010

MEMORANDUM TO: Peter Habighorst, Chief
Fuel Manufacturing Branch
Fuel Facility Licensing Directorate
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

FROM: Christopher Ryder, Project Manager **/RA/**
Fuel Manufacturing Branch
Fuel Facility Licensing Directorate
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

SUBJECT: MEETING SUMMARY OF FEBRUARY 18, 2010, PRE-LICENSING MEETING WITH GE HITACHI NUCLEAR ENERGY: VALLECITOS NUCLEAR CENTER

On February 18, 2010, the U.S. Nuclear Regulatory Commission (NRC) held a public meeting with General Electric Hitachi (GEH) to discuss intentions of the licensee to submit an application for a renewal of special nuclear materials license SNM-960 at the Vallecitos Nuclear Center. The following is a summary of the meeting.

LOCATION

The meeting was held at NRC Headquarters, Executive Office Building, at 6003 Executive Blvd, Rockville, Maryland, room 1B15. A bridge line allowed people outside of NRC Headquarters to participate.

PARTICIPATION

NRC

Michael Tschiltz, Deputy Director, Fuel Facility Licensing Directorate (FFLD), Fuel Cycle Safety and Safeguards (FCSS), Office of Nuclear Material Safety and Safeguards (NMSS), NRC

Peter Habighorst, Chief, Fuel Manufacturing Branch, FFLD, FCSS, NMSS, NRC

CONTACT: Christopher Ryder, NMSS/FCSS
(301) 492-3189

Christopher Ryder, Licensing Project Manager, FFLD, FCSS, NMSS, NRC

Rafael Rodriguez, Licensing Project Manager, FFLD, FCSS, NMSS, NRC

Mary Adams, Licensing Project Manager, FFLD, FCSS, NMSS, NRC

Licensee

Christopher Monetta, Senior Vice President, Advanced Programs, GEH Nuclear Energy

Scott Murray, Manager, Licensing and Liabilities COE Nuclear, GEH Nuclear Energy

External Stakeholders

Kevin Camp, Beyond Nuclear, http://www.beyondnuclear.org

Ron Rogus, Senior Health Physicist, Licensing Projects Unit, Radiologic Health Branch, California Department of Public Health

Gonzalo Perez, Supervising Health Physicist, Radioactive Materials Licensing, Radiological Health Branch, California Department of Public Health

David Turner, Site Manager, Vallecitos Nuclear Center

Donald Krause, Manager, Regulatory Compliance & EHS, Vallecitos Nuclear Center

Diane D'Arrigo, Nuclear Information and Resource Service

SUMMARY

NRC Presentation

The licensee had submitted an application in September 2009 and revised the application in December 2009. NRC did not accept the application, citing an insufficient description of the facility and equipment to perform a technical review.[1] The NRC cited Title 10 *Code of Federal Regulations* (10 CFR) 70.22(a)(7), requiring information about the facility and equipment to be in the application. Per 10 CFR 70.23(a)(3) and (4), the Commission will approve an application, if, among satisfying other requirements, the equipment and procedures are adequate to protect health and minimize danger to life and property. The Standard Review Plan[2], used by the NRC staff to review an application, is most relevant to fuel fabrication facilities and enrichment facilities, but of limited value to a research facility such as the Vallecitos Nuclear Center. The descriptive detail of the former types of fuel facilities are in Integrated Safety Analyses, which is not required for a facility such as GE Vallecitos.

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1 Letter from Daniel H. Dorman, Director, FCSS, NMSS, NRC, to David W. Turner, Manager, Vallecitos Nuclear Center, "NON-ACCEPTANCE OF RENEWAL APPLICATION (TAC NO. L32902) dated January 6, 2010. ADAMS accession number ML093510791.

2 NRC, "Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility", NUREG-1520, March 2002. ADAMS accession number ML020930033.

The level of detail about a facility is an issue for every NRC licensee. The licensee has the burden of deciding the detail in an application, balancing the flexibility to make changes to the facility without NRC approval and yet providing the NRC staff with enough information to evaluate safety. The NRC staff is not necessarily looking for detailed engineering drawings, for example, when simplified piping and instrumentation diagrams may suffice.

Mr. Ryder also described a view of systems that may be of use in determining the amount of descriptive detail to provide. Common Unit Systems are systems that come as a unit. Such a system may be assembled at a site, but the system itself is not altered. An example is a crane. For common unit systems, the level of design information can be general. Common Systems Individually Configured are systems that are built according to standard practices, but are configured to a specific application. Commonly available components are assembled into a more or less unique configuration. Systems are not purchased; instead, components are purchased to build the systems. For an individually configured system, relatively more detail would be needed by the staff. An example is a heating, ventilation, and air conditioning system. Non-Standard Systems are unique, consisting of an uncommon configuration of components. Relatively more detail would be needed by the staff to understand such a system.

GE Hitachi Nuclear Energy (GEH) Presentation

A major activity of the NRC Special Nuclear Material (SNM) license at the Vallecitos site is the measurement, engineering evaluation, and support of light water reactor fuels, fuel materials, components, and inspection equipment. Both the fuel rods themselves and other components (e.g., spacers, grid plates) are examined. The information is used to improve both the fabrication of fuel and the operation of power reactors using the fuel.

The Vallecitos site has several licenses. A test reactor is under an NRC license issued by the NRC Office of Nuclear Reactor Regulations. The license of the subject application is SNM-960. Another materials license, SNM-1270, is for shipping fuel between GEH facilities and customer sites. By-product material is under a license that is issued by the State of California.

The previous license had two sections, a license condition section and a demonstration section where facility details were discussed. The latter was not part of the license and hence, changes could be made to the facility without amending the license. Since the previous renewal in June 2000, changes in the regulations resulted in applications with only one section.

At the Vallecitos site, fuel segments are subject to both non-destructive and destructive testing. Radioactive liquid waste is solidified in small concrete-like blocks. High level waste (HLW) is stored on the Vallecitos site in retrievable canisters within a shielded facility. Because information about the HLW storage is considered sensitive, details of the storage were not discussed at the meeting and will not be discussed in the renewal application.

The amount of HLW at the Vallecitos site is relatively small. Over the past several decades, the amount of fuel rod segments is equivalent to about two fuel bundles. The facility receives about six fuel rods every three years for an examination period that can take as long as 18 months.

The closure of Barnwell site has created an issue of disposing low level waste, but the issue is a long term problem, not a short term problem for the renewal of the SNM-980 license. Some other wastes have gone to the Waste Isolation Pilot Plant near Carlsbad, New Mexico.

Although the seismic qualifications of the buildings at the Vallecitos site will be mentioned in the renewal application, details of the seismic analyses are not in the application. The seismic analyses are part of the building structural analyses, where the concern is for the stability of the buildings. There are no continuous nuclear processes at the site for a seismic event, should one occur, to interrupt.

Security is in accordance with 10 CFR Part 73. Nuclear fuel is shipped to the site in accordance with applicable regulations. The history of shipments is on the docket, but is not available to the public.

Enclosures:
1. List of Attendees
2. "Pre-Licensing Meeting With GE Vallecitos", February 18, 2010, ML100501059
3. "Vallecitos Nuclear Center, SNM-960 Renewal Pre-Application Meeting February 18, 2010", GE Hitachi, ML100501045

Docket No.: 70-754
License No.: SNM-960

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