October 19, 2009

Mr. Russell J. Bell, Director
New Plant Licensing
Nuclear Generation Division
Nuclear Energy Institute
1776 I Street, NW, Suite 400
Washington, DC 20006-3708

SUBJECT: FINAL SAFETY EVALUATION FOR NUCLEAR ENERGY INSTITUTE TOPICAL REPORT NEI 08-08, GENERIC FINAL SAFETY ANALYSIS REPORT TEMPLATE GUIDANCE FOR LIFE-CYCLE MINIMIZATION OF CONTAMINATION, REVISION 3 (PROJECT NO. 689)

Dear Mr. Bell:

By letter dated August 10, 2007, the Nuclear Energy Institute (NEI) submitted for U.S. Nuclear Regulatory Commission (NRC) staff review its proposed technical report, NEI 08-08, "Generic FSAR Template Guidance for Life-Cycle Minimization of Contamination," Revision 0. The template has undergone three subsequent revisions. NEI submitted Revision 3 of the NEI 08-08 Template by letter dated September 9, 2009.

Enclosed is the NRC staff's safety evaluation (SE) which defines the basis for acceptance of NEI 08-08, Revision 3. The NRC staff finds that for combined license (COL) applications, NEI 08-08, Revision 3, provides an acceptable template for an operational program to minimize contamination throughout the life-cycle of a facility which meets applicable NRC regulations and guidance.

Our acceptance applies only to material provided in NEI 08-08, Revision 3. We do not intend to repeat our review of the acceptable material described in the NEI 08-08, Revision 3. When NEI 08-08, Revision 3 appears as a reference in COL applications, our review will ensure that the material presented applies to the specific application involved. Licensing requests that deviate from NEI 08-08, Revision 3, will be subject to a plant-specific or site-specific review in accordance with applicable review standards.

In accordance with the guidance provided on the NRC website, we request that NEI publish the accepted version of NEI 08-08, Revision 3 as NEI 08-08A, Revision 0 within 3 months of receipt of this letter. The accepted version should incorporate this letter and the enclosed SE after the title page. The accepted version should also contain historical review information, including NRC's requests for additional information and your responses. The accepted versions shall include a "-A" (designating accepted) following the report identification symbol.

If future changes to the NRC's regulatory requirements affect the acceptability of NEI 08-08, Revision 3, NEI will be expected to revise NEI 08-08 appropriately, or justify its continued applicability for subsequent referencing.

If you have any questions, please contact Sheryl A. Burrows at (301) 415-6086 or via email at Sheryl.Burrows@nrc.gov.

Sincerely,

/RA/

William F. Burton, Chief
Rulemaking and Guidance Development Branch
Division of New Reactor Licensing
Office of New Reactors

Project No. 689

Enclosure:
Safety Evaluation

cc w/encl: See next page

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SAFETY EVALUATION

REGARDING THE NUCLEAR ENERGY INSTITUTE

TECHNICAL REPORT 08-08

"GENERIC FINAL SAFETY ANALYSIS REPORT TEMPLATE GUIDANCE

FOR LIFE-CYCLE MINIMIZATION OF CONTAMINATION"

REVISION 3

1.0 BACKGROUND

By letter dated September 9, 2009, the Nuclear Energy Institute (NEI) submitted a technical report, NEI 08-08, "Generic FSAR Template Guidance for Life-Cycle Minimization of Contamination," Revision 3 [Reference 5.1], for U.S. Nuclear Regulatory Commission (NRC) staff review. NEI initiated this program as a generic template, under NEI Project No. 689, in a letter dated August 10, 2007 [Reference 5.2]. The NEI template was developed by NEI to assist NRC review and approval of a combined license (COL) submitted by applicants. Combined license means a combined construction permit and operating license with conditions for a nuclear power facility issued under 10 CFR Part 52 Subpart C. Following a series of public meetings, communications, and letters, NEI addressed NRC comments and issued the third revision of the NEI 08-08 Template. The NEI 08-08 Template describes an operational program to minimize contamination throughout the life-cycle of a facility, including provisions for minimizing facility contamination, environmental contamination, waste generation, and facilitating decommissioning.

The generic Guidance for Life-Cycle Minimization of Contamination presented in the NEI 08-08 Template provides one acceptable method for a COL applicant to demonstrate compliance with NRC regulatory requirements, guidance, and acceptance criteria listed in:

- Title 10 of the *Code of Federal Regulations,* Section 20.1406 (10 CFR Section 20.1406), "Minimization of Contamination," [Reference 5.3] of 10 CFR Part 20,

- Regulatory Guide (RG) 1.206 "Combined License Applications for Nuclear Power Plants (LWR Edition)," [Reference 5.4],

- RG 4.21, "Minimization of Contamination and Radioactive Waste Generation: Life-Cycle Planning," [Reference 5.5],

- NUREG-0800, Sections 11 and 12 of the "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," (SRP) [Reference 5.6].

The COL applicant is to provide the operational programs and procedures that address design features of the Standard Design, as defined by 10 CFR Part 52, as well as the COL applicant described design features. The NEI template identifies plant and site-specific information that a COL applicant will provide prior to fuel load. This information includes a description of site

procedures, programs and controls, related to various aspects of minimization of contamination. NEI 08-08 identifies the need for site-specific information by the use of double parentheses (()). As a result, the NEI 08-08 Template complies with applicable NRC regulations and the intent of the regulatory guidance provided and may be used for COL applications submitted under the requirements of Subpart C of Title 10 CFR Part 52. A site-specific operational life-cycle minimization of contamination program that is based on NEI Template 08-08 and implemented by COL applicants in accordance with the Radiation Protection Program's milestone 3 and license conditions described in COL Safety Analysis Report Section 13.4, constitutes an acceptable program for meeting the requirements of 10 CFR Section 20.1406.

2.0 REGULATORY EVALUATION

The NRC staff verified that NEI 08-08 complies with the following regulations, and is consistent with the intent of the guidance provided in the following regulatory guidance, NUREGs and industry standards.

The following listing identifies the major regulatory requirements:

- 10 CFR Part 20, "Standards for Protection against Radiation."
- 10 CFR Section 20.1406, "Minimization of Contamination."
- 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities."
- 10 CFR Section 50.75, "Reporting and Recordkeeping for Decommissioning Planning."
- 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants."
- 10 CFR Section 72.30, "Financial Assurance and Recordkeeping for Decommissioning."

The relevant requirements of the regulations identified above are met by meeting the intent of the following key RGs, NUREGs, regulatory information and industry standards:

- Inspection and Enforcement (IE) Bulletin 80-10, "Contamination of Nonradioactive System and Resulting Potential for Unmonitored, Uncontrolled Release to Environment."
- RG 4.21, "Minimization of Contamination and Radioactive Waste Generation."
- RG 8.8, "Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations will be as Low as is Reasonably Achievable."
- NUREG-0800, Revision 3, SRP Section 12.3 -12.4, "Radiation Protection Design Features."
- Interim Staff Guidance (ISG) DC/COL-ISG-06, "Interim Staff Guidance on Evaluation and Acceptance Criteria for 10 CFR Section 20.1406 to Support Design Certification and Combined License Application," [Reference 5.10].

3.0 TECHNICAL EVALUATION

The NRC staff's review concentrated on the program description, format, attributes and level of detail. In evaluating the level of detail and content of the NEI 08-08 Template, the NRC staff followed the guidance of SRP Sections 11.2, 11.3, 11.4, 12.3, 12.4 and 12.5, as well as DC/COL-ISG-06 and RG 4.21. DC/COL-ISG-06 outlines the NRC position on what is an acceptable level of detail and content required for an applicant to demonstrate compliance with 10 CFR Section 20.1406. RG 4.21 presents guidance to develop a performance based program for minimization of contamination and radioactive waste generation through life-cycle planning for an acceptable method to demonstrate compliance with 10 CFR Section 20.1406.

Given the above regulatory requirements and guidance, the NRC staff's review focused on identifying the elements of the NEI 08-08 Template that address the programmatic elements of life-cycle planning for minimization of contamination and radioactive waste generation. The COL applicant's plant and site-specific operational program to minimize contamination will be developed and implemented consistent with Final Safety Analysis Report (FSAR) Section 13.4 of the COL application (Radiation Protection Milestone 3, initial fuel load).

3.1 Operational Life-Cycle Minimization of Contamination Program Description Template Overview

NEI 08-08 provides guidance to develop a complete generic program description for compliance with operational aspects of minimizing contamination at a facility when developing COL applications. It will be incumbent on the COL applicant to provide site-specific information as described in NEI 08-08, and to implement a complete life-cycle minimization of contamination program. The purpose of the program is to address minimization of leaks and spills, prompt leak detection, avoid migration of contamination from undetected leaks, reduce decontamination of equipment and structures, update final site conceptual model, facilitate decommissioning, and waste management. The template would apply to the COL applicant that has selected a Standard Design, as defined by 10 CFR Part 52, and would address standard design features and COL described design features, that when supplemented by operational programs, are adequate to comply with 10 CFR Section 20.1406 requirements. Consistent with SECY 05-0197, the implementation of the minimization of contamination program identified in NEI Template 08-08, does not necessitate inspection, test, analysis, and acceptance criteria in a design certification or COL application, if the program is fully described. One of the purposes of this template is to present a program that is clearly and sufficiently described in terms of the scope and level of detail to allow a reasonable assurance finding of acceptability

3.1.1 Template Organization

The NEI 08-08 Template is organized into 8 sections and 1 appendix. The first two sections provide the introduction, applicability and controls. The third section addresses minimization of facility contamination; including elements to minimize leaks and spills, detect leaks quickly, avoid release of contamination from undetected leaks, reduce the need for decontamination of equipment and structures, and conduct periodic review of operational practices. This section has a placeholder for references to sections of the design certification document (DCD) and COL applications to describe how the facility design supports the site's operational program. The NEI 08-08 Template appendix lists design features that should be included. The fourth

section addresses guides for minimizing contamination of the environment. This section includes conceptual site model development, early detection of leakage and contaminant migration, and final site configuration. The fifth section describes the elements to facilitate decommissioning, including design and operational features to support decommissioning and decommissioning records. The sixth section describes the element to minimize the generation of waste by waste management and additional controls for onsite storage of radioactive waste. Sections 7 and 8 include definitions and references for the template.

3.1.2 Site Specific Information

Where specific site information is needed to fully describe the programs and processes for minimizing contamination, that information is contained in double parentheses (( )) and will be provided by the applicant as specified in FSAR Section 13.4 prior to initial fuel load.

3.1.3 Summary

In summary, the identified site-specific information includes a description of procedures, reports and/or programs for:

- minimization of leaks and spills,
- prompt leak detection,
- avoidance of release of contamination from undetected leaks,
- reduction of the need for decontamination,
- evaluation of work practices involving licensed material,
- development and implementation of conceptual site model,
- decommissioning facilitation and recordkeeping,
- waste management, and
- place holders to describe design features that support the minimization of contamination operational program.

3.2 NEI 08-08 Template Details

The NRC staff review and evaluation of the NEI 08-08 Template is organized into five functional areas;

- Introduction and Applicability,
- minimization of facility contamination,
- minimization of environmental contamination,
- facilitation of decommissioning, and
- minimization of radiological waste generation.

This approach is consistent with the review process identified in Section 12.3-12.4 of the SRP and DC/COL-ISG-06.

3.2.1 Introduction and Applicability of NEI 08-08 Template

NEI 08-08 Template Section 1 “Introduction”, and 2 “Applicability and Controls” note that this template implements Regulatory Guide 4.21 for license applications submitted after

August 20, 1997, which reference a Standard Design. As stated in the NEI 08-08 Template, NEI 07-07, "The Industry Ground Water Protection Initiative-Final Guidance Document," Section 1.0, "Ground Water Protection Program" [Reference 5.8], is the basis of the program for early detection of leakage described. Consistent with NEI 07-07, the COL applicant will develop the appropriate site procedures and programs to meet the Ground Water Protection Initiative (GPI) requirements for a protocol for responding to the detection of leaks and spills. The NEI 08-08 Template notes that the communications provisions of NEI 07-07 Template Section 2, "Communication" are not part of the NEI 08-08 Template. However, the introduction to NEI Template 07-07 states that "Each member company constructing a new plant after year 2006 shall develop the appropriate site procedures and/or programs to meet the GPI and implement them prior to initial receipt of nuclear fuel." An effective method of communications with stakeholders is a key part of a GPI, and COL applicants are encouraged to include this in their operating programs. The NEI 08-08 Template addresses the programmatic elements of 10 CFR Section 20.1406, "Minimization of Contamination," while recognizing that other supporting site programs, such as the Radiation Protection and Maintenance and Surveillance programs will be developed under the requirements of license conditions.

The staff has reviewed the proposed NEI 08-08 and found that it is acceptable in describing the operational and programmatic elements and controls needed to be consistent with the guidance provided in RG 4.21, to meet the requirements of 10 CFR 20.1406.

3.2.2 Minimizing Facility Contamination

NEI 08-08 Template Section 3, "Minimizing Facility Contamination," addresses the development of operational programs and procedures to limit leakage and control the spread of contamination consistent with the intent of the guidance provided by RG 4.21. As stated in the NEI 08-08 Template, NEI 07-07 Template Section 1.0, "Ground Water Protection Program" [Reference 5.8], is the technical basis for the GPI. NEI 08-08 also notes that Electric Power Research Institute (EPRI) Report TR-1016099 [Reference 5.9] provides a detailed technical basis in the accomplishment of NEI 07-07 and NEI 08-08, and should be used to implement a comprehensive approach to the operational aspects of ground water protection for new reactors**.** It is the position of the NRC staff that deviations from the guidance provided in EPRI-TR-1016099 constitute an exception to the NEI 08-08 Template, and are to be identified as such during the application process. The NEI 08-08 Template also recognizes that IE Bulletin No. 80-10, "Contamination of Nonradioactive System and Resulting Potential for Unmonitored, Uncontrolled Release of Radioactivity to Environment" [Reference 5.14], provides additional information regarding system interactions that could result in facility contamination. The NRC staff review concluded that the scope and elements of the programmatic aspects of minimization of facility contamination identified in NEI Template 08-08 are consistent with the requirements identified in NRC regulations and the intent of the regulatory guidance.

The NEI 08-08 Template identifies activities and practices for minimizing leaks and spills, such as:

- Identification of worker practices regarding segregation of contaminated areas and access control,
- The use of risk based structure, system or component (SSC) evaluation as described in NEI 08-08 Section 3.1.4,

- The use of EPRI-TR-1016099 and NEI 07-07 as technical basis documents,
- The use of as low as reasonably achievable (ALARA) principals to control contamination resulting from spills or leaks,
- Evaluation and periodic review of worker practices involving licensed material for which there is a credible mechanism for the licensed material to reach ground water,
- Review of leak detection systems, and
- Establishment of long term preventative maintenance or surveillance activities

The NEI 08-08 Template notes that a 'credible mechanism' for the licensed material to reach ground water is considered to be one wherein the failure of a single barrier between the SSCs and the environment could result in inadvertent or unintentional contamination of ground water or native soil. NEI 08-08 Template uses EPRI Ground Water Protection Guidelines for Nuclear Power Plants and NEI 07-07 to identify leak detection methods for each SSC that has a credible mechanism for the licensed materials to reach ground water and describes the use of program elements to identify and implement potential enhancements to these programs as a result of periodic reviews. As already described, EPRI-TR-1016099 provides the detailed technical basis for the accomplishment of NEI 07-07, which is in turn, the basis for NEI Template 08-08. EPRI-TR-1016099 notes that a review of potential sources of subsurface contamination will be performed every 5 years. NEI 08-08 states that the COL applicant is to establish and document the basis for the frequency of this review. It is the position of the NRC staff that SSC review periods in excess of 5 years are a deviation from the guidance provided in EPRI-TR-1016099 and constitute an exception to the NEI 08-08 Template, and must be identified as such during the application process. Additionally, the template describes site procedures and programs for monitoring and routine surveillance of accessible systems, on-site ground water monitoring, ensuring adequate leakage detection capability, and the use of remote surveillance techniques for monitoring potential sources of leaks in not readily accessible or not frequently accessed areas. The template notes that the leak detection program objective is to identify leaks that may other wise be hard to identify due to accessibility or the size of the leak.

The NEI 08-08 Template Section 3.1.4(a) provides some examples of SSCs that could reasonably be expected to involve radioactive material and for which there is a credible mechanism for the material to reach the surrounding environment and ground water, one of which is a refueling water storage tank, if outdoors. NEI has indicated that the verbiage related to outdoor tanks was included to provide consistency with the examples listed in the NEI 07-07 Template. As noted by NEI, the intent of 3.1.4(a) is not to limit the review of refueling water storage tanks to only those located outdoors, rather the system evaluation should include both the provisions of 3.1.4(b) and 3.3.1, which addresses tanks or pools imbedded in concrete in contact with soil that are susceptible to undetected leakage.

The template addresses provisions for establishing processes and procedures to minimize facility contamination by:

- segregating facility contaminated areas and clean areas,
- addressing and containing radiological leaks and spills to the extent practicable in a cost effective manner,
- evaluating SSCs consistent with the industry ground water protection program and EPRI ground water protection guidelines,

- identifying the causes and corrective actions for events, and
- conducting periodic reviews of operational procedures.

The provisions for minimization of leaks and spills and provision of containment are in accordance with the intent of the guidance for operational programs found in Regulatory Position C 1.2 in RG 4.21.

The template includes provisions for the monitoring and routine surveillance of accessible systems and the use of remote monitoring techniques for SSCs that are not readily accessible or infrequently accessed. For hard to detect leaks, the template describes a leak detection program for systems that might accumulate subsurface residual activity. The template includes provisions to provide timely assessment and response in the event of leaks. These provisions are consistent with the guidance for operational programs found in Regulatory Positions C 1.3 and C 1.4 in RG 4.21.

The template includes provisions for reducing the need to decontaminate equipment and structures by incorporating the use of industry consensus codes and standards for repair or replacement of components, use of quality control and quality assurance in procurement specifications for components based on reducing the potential for leakage, and use of an operational ALARA program to minimize the spread of contamination. These provisions are consistent with the intent of the guidance for operational programs found in Regulatory Position C 1.5 in RG 4.21.

The Template includes provisions for the periodic review of Operational Practices and program elements. To ensure the site configuration and facility design are accurately portrayed, periodic reviews are included in the template to:

- assess leaks and spills associated with SSCs,
- assess analytical laboratory capabilities for providing sample results,
- assess the ground water monitoring program at a determined frequency to ensure timely detection of inadvertent radiological releases to the ground water,
- assess on an established frequency, those work practices that involve radioactive material and where a credible mechanism exists for this material to reach ground water,
- assess the adequacy of current site hydrology studies and establish additional reviews based upon new construction activities,
- assess site characterization of geology and hydrology to understand onsite ground water flow and transport characteristics,
- assess the site protocol for responding to detected leaks and spills,
- assess the training and qualification of personnel,
- assess the installation of new or modified equipment.

It is the position of the NRC staff that adequate implementation of the NEI 08-08 Template encompasses the following elements:

- Adherence to the guidance provided in EPRI-TR-1016099. Any deviations from EPR-TR-1016099 constitute an exception to the NEI 08-08 Template, and are to be identified as such during the application process.

- SSC review periods of 5 years or less. Review periods of greater than 5 years are a deviation from the guidance provided in EPRI-TR-1016099; therefore, constitute an exception to the NEI 08-08 Template and should be identified as such during the application process.

The staff has reviewed the proposed NEI 08-08 and found that it is acceptable in describing the operational and programmatic elements, and controls for minimizing contamination of the facility, consistent with the requirements of 10 CFR 20.1406.

3.2.3 Minimization of Environmental Contamination

NEI 08-08 Template Section 4, "Guides for Minimizing Contamination to the Environment," addresses site characterization of geology and hydrology, along with an evaluation of predominant ground water flow characteristics utilizing the guidance in NEI 07-07 [Reference 5.8] and EPR-TR-1016099 [Reference 5.9]. NEI 08-08 provides guidance to review past and new hydrologic and geologic studies, identifying any potential pathways for ground water contamination migration from on-site to off-site locations, establishing a frequency for periodic reviews of site hydrogeology studies, and updating the relevant sections of the FSAR with any hydrological or structural changes as necessary. Commitments to perform site monitoring to detect and track contaminant migration, and sampling and analysis of ground water near any sources of contamination are also specified in NEI 08-08.

The template includes provisions for minimizing contamination of the environment to meet the requirements of 10 CFR Section 20.1406 and the intent of the guidance provided in RG 4.21. NEI 08-08 provides guidance for developing, periodically updating, and applying a hydrogeologic conceptual site model to characterize ground water flow and transport after the construction of a plant. The information derived from the conceptual site model will be valuable in predicting and remediating any ground water contaminations should they actually happen. NEI 08-08 also specifies the provisions for identifying and describing site procedures and programs that document ground water contamination monitoring. Early detection of ground water contamination is essential to minimize contamination of the environment and the cost of remediation

The staff has reviewed the proposed NEI 08-08 and found that it is acceptable in describing the operational and programmatic elements, and controls for minimizing contamination of the environment, consistent with the requirements of 10 CFR 20.1406.

3.2.4 Facilitation of Decommissioning

NEI 08-08 Template Section 5 addresses programmatic elements for facilitation of decommissioning, including design and operational features and decommissioning records. The template follows the intent of the guidance of RG 4.21. The NEI 08-08 Template provides provisions for establishing a remediation protocol to prevent migration of licensed material off-site and decommissioning impacts consistent with EPRI-TR-1016099 and NEI 07-07. The

NEI 08-08 Template also recognizes that IE Bulletin No. 80-10 provides additional information regarding system interactions relevant to minimizing contamination.

NEI 08-08 Template includes provisions to ensure that decommissioning records are retained and retrievable to meet the requirements of 10 CFR 50.75(g) and 10 CFR 72.30(d). NEI 08-08 Template endorses using the decommissioning records documented over the life-cycle of the facility to assist in development of a historical assessment of the site and facility and to determine facility areas' classifications for decommissioning surveys as described in NRC RIS 2002-02 [Reference 5.11] and NUREG 1757 [Reference 5.12].

The template includes requirements for administrative measures to ensure decommissioning records meet the requirements of 10 CFR 50.75(g) and 10 CFR 72.30(d). NEI 08-08 states that records of instances of facility environmental contamination and operational events that may have an impact on decommissioning or result in residual contamination will be documented and saved in a retrievable form. This recorded and documented information will be utilized to assess and efficiently decommission the facility and site following decommissioning guidance.

The staff has reviewed the proposed NEI 08-08 and found that it is acceptable in describing the operational and programmatic elements, and controls, for facilitating the decommissioning of the facility consistent with the requirements of 10 CFR 20.1406.

3.2.5 Minimizing the Generation of Waste

NEI 08-08 Template Section 6 addresses programmatic elements for identification and minimization of waste generation following RG 4.21 guidance. The generic program will include consideration of options to implement measures that identify and minimize waste generation along with radioactivity levels over the life-cycle of the facility, including decommissioning. Additionally, the approach used to identify the radioactive components and the waste that results from operations and processing of significant radioactive components will be documented. Commitments for the waste management program to periodically assess the waste stored onsite and to include additional onsite storage when other disposal or treatment options are not available are noted. Storage facility decontamination and decommissioning considerations are also specified in NEI 08-08.

The 564th meeting of the Advisory Committee on Reactor Safeguards, July 8-10, 2009, reviewed NEI 08-08, Revision 1, "Generic FSAR Template Guidance for Life-Cycle Minimization of Contamination" [Reference 5.17]. As a result, the committee recommended the definition of "radiologically significant" be changed by revising the "significance" threshold to address unexpected radiological conditions resulting from spills, leaks, unplanned releases or the identification of radioactive materials in unexpected locations that could have an adverse impact on license termination under Subpart E of 10 CFR Part 20. The NRC staff verified that the revised definition of "radiologically significant" presented in NEI 08-08, Revision 3, "Generic FSAR Template Guidance for Life-Cycle Minimization of Contamination," is satisfactory.

The template includes provisions for a radioactive waste management program and onsite storage of radioactive waste. NEI 08-08 discusses documenting the radioactive waste that will result from operations and processing and identification of significant radioactive components

used in the facility. This information contributes to understanding measures used to minimize life-cycle radioactive waste generation. The storage of radioactive waste onsite will be periodically assessed.

The staff has reviewed the proposed NEI 08-08 and found that it is acceptable in describing the operational and programmatic elements, and controls for minimizing the generation of waste, consistent with the requirements of 10 CFR 20.1406.

4.0 CONCLUSION

The NRC staff used 10 CFR Section 20.1406 and the guidance of SRP Chapters 11 and 12, DC/COL-ISG-06, and RG 4.21 as the bases for evaluating the acceptability of the NEI 08-08 Template. The NRC staff has determined that NEI 08-08, "Generic FSAR Template Guidance for Life-Cycle Minimization of Contamination" is consistent with regulatory requirements, and the intent of regulatory guidance for a life-cycle minimization of contamination program as outlined in Section 2.0 of this evaluation. With implementation in accordance with the milestones described in Section 3.0, and the Radiation Protection program license condition described in COL Safety Analysis Report Section 13.4, NEI 08-08, provides an acceptable approach for an effective ground water protection program that meets the requirements of 10 CFR Section 20.1406, with verification of the program during the construction stage.

Accordingly, the NEI 08-08 Template fulfills a licensing requirement for submission of a COL application. A license condition will specify the timing for the licensee to make elements of the site and plant specific operational life-cycle minimization of contamination program available for NRC inspection and verification prior to fuel load.

Under the requirements of SECY 05-0197, the implementation of the minimization of contamination program identified in NEI Template 08-08, does not require inspection, test, analysis, and acceptance criteria in a design certification or COL application, because the program is clearly and sufficiently described in terms of the scope and level of detail.

The NRC staff review concluded that the provisions in NEI 08-08 Template clearly and sufficiently describe the operational and programmatic elements needed to comply with 10 CFR Section 20.1406. This enables the NRC staff to make a reasonable assurance finding of acceptability for issuance of a COL with verification, during the construction stage, of an operational life-cycle minimization of contamination program, which complies with the applicable regulations and guidance.

5.0 REFERENCES

5.1 Bell, J.B, NEI to the NRC, "NEI 08-08, Revision 3, Generic FSAR Template Guidance for Life-Cycle Minimization of Contamination, September 2009," ADAMS Accession Number ML092740379.

5.2 Bell, J.B, NEI to the NRC, "Generic Templates on Radioactive Wastes and Radiation Protection Programs and Related Content of Final Safety Analysis Reports, August 10, 2007."

5.3 Title 10 of the *Code of Federal Regulations*, Section 20.1406, Minimization of Contamination.

5.4 RG 1.206 "Combined License Applications for Nuclear Power Plants (LWR Edition)." Revion 0, June 2007.

5.5 RG 4.21, "Minimization of Contamination and Radioactive Waste Generation: Life-Cycle Planning."

5.6 NUREG-0800, SRP Section 12.3-12.4, "Radiation Protection Design Features," March 2007.

5.7 SECY-05-0197, "Review of Operational Programs in Combined License Applications and Generic Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria," February 22, 2006.

5.8 NEI 07-07, "Industry Ground Water Protection Initiative – Final Guidance Document," August 2007.

5.9 EPRI-TR-1016099, "Ground Water Protection Guidelines for Nuclear Power Plants," January 2008 (Public Edition).

5.10 DC/COL-ISG-06, "Interim Staff Guidance on Evaluation and Acceptance Criteria for 10 CFR Section 20.1406 to Support Design Certification and Combined License Applications," October 2009.

5.11 RIS 2002-02, "NRC Regulatory Issuance Summary 2002-02 Lessons Learned Related to Recently Submitted Decommissioning Plans and License Termination Plans," January 2002.

5.12 NUREG-1757 "Consolidated Decommissioning Guides," September 2006.

5.13 NEI 07-03A "Generic FSAR Template Guidance for Radiation Protection Program Description," May 2009.

5.14 IE Bulletin No. 80-10, "Contamination of Nonradioactive System and Resulting Potential for Unmonitored, Uncontrolled Release of Radioactivity to Environment."

5.15 NUREG/CR-6204, "Questions and Answers Based on Revised 10 CFR Part 20."

5.16 Bonaca, Mario V., NRC ACRS Chairman to R.W. Borchart, NRC EDO, , “Draft Template Nei-08-08, “Generic FSAR Template Guidance For Life Cycle Minimization of Contamination,” and Draft DC/COL Interim Staff Guidance - 06, July 22, 2009,” Agencywide Documents Access and Management System Accession Number ML092010544.

5.17 Bell, J.B, NEI to the NRC, “NEI 08-08, Revision 1, Generic FSAR Template Guidance for Life-Cycle Minimization of Contamination, May 12, 2009.”

DCWG - Combined (All) (Revised 10/07/2009)
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