

October 15, 2009

Mr. Russell J. Bell, Director
New Plant Licensing
Nuclear Generation Division
Nuclear Energy Institute
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Washington, DC 20006-3708

SUBJECT: FINAL SAFETY EVALUATION FOR NUCLEAR ENERGY INSTITUTE
TOPICAL REPORT NEI 07-08, GENERIC FINAL SAFETY ANALYSIS
REPORT TEMPLATE GUIDANCE FOR ENSURING THAT OCCUPATIONAL
RADIATION EXPOSURES ARE AS LOW AS REASONABLY ACHIEVABLE,
REVISION 3 (PROJECT NO. 689)

Dear Mr. Bell:

By letter dated September 10, 2007, the Nuclear Energy Institute (NEI) submitted for U.S. Nuclear Regulatory Commission (NRC) staff review its proposed topical report, NEI 07-08, "Generic Final Safety Analysis Report (FSAR) Template Guidance for Ensuring that Occupational Radiation Exposures are as Low as Reasonably Achievable (ALARA)," Revision 0. The template has undergone subsequent revisions. NEI submitted Revision 3 of the ALARA template by letter dated November 24, 2008.

Enclosed is the staff's safety evaluation (SE) which defines the basis for acceptance of NEI 07-08, Revision 3. The NRC staff finds that for combined license (COL) applications, NEI 07-08, Revision 3, provides an acceptable template for assuring that the ALARA program meets applicable NRC regulations and guidance, provided it is used in conjunction with NEI 07-03A, Revision 0, "Generic FSAR Template Guidance for Radiation Protection Program Description."

Our acceptance applies only to material provided in NEI 07-08, Revision 3. We do not intend to repeat our review of the acceptable material described in NEI 07-08, Revision 3. When NEI 07-08, 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 07-08, 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 07-08, Revision 3, 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.

R. Bell

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If future changes to the NRC's regulatory requirements affect the acceptability of NEI 07-08, Revision 3 or NEI 07-03A, Revision 0, NEI will be expected to revise NEI 07-08 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

R. Bell

-2-

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(Revised 10/07/2009)

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SAFETY EVALUATION
REGARDING THE NUCLEAR ENERGY INSTITUTE
TOPICAL REPORT 07-08
“GENERIC FSAR TEMPLATE GUIDANCE FOR ENSURING THAT OCCUPATIONAL
RADIATION EXPOSURES ARE AS LOW AS IS REASONABLY ACHIEVABLE (ALARA)”
REVISION 3

1.0 BACKGROUND

By letter dated November 24, 2008, the Nuclear Energy Institute (NEI) submitted Revision 3 of topical report NEI 07-08, “Generic FSAR Template Guidance for Ensuring that Occupational Radiation Exposures are As Low As Is Reasonably Achievable (ALARA)” for U.S. Nuclear Regulatory Commission (NRC) review and acceptance. The topical report provides a complete generic ALARA program description for use with combined license (COL) applications. NEI 07-08 is to be used in conjunction with NEI 07-03A, “Generic FSAR Template Guidance for Radiation Protection Program Description,” Revision 0. NEI 07-08 is not applicable to the review and issuance of construction permits (CPs) or operating licenses (OLs) described under Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR Part 50).

2.0 REGULATORY EVALUATION

The NRC staff verified that NEI 07-08, Revision 3 complies with the following regulations, regulatory guidance, NUREGs, and industry standards:

- 10 CFR Part 19, “Notices, Instructions and Reports to Workers: Inspections and Investigations.”
- 10 CFR Part 20, “Standards for Protection against Radiation.”
- 10 CFR Part 50, “Domestic Licensing of Production and Utilization Facilities.”
- 10 CFR Part 52, “Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants.”
- Regulatory Guide (RG) 1.8, Revision 3, “Qualification and Training of Personnel for Nuclear Power Plants.”
- RG 1.206, “Combined License Applications for Nuclear Power Plants (LWR Edition).”
- RG 8.2, “Guide for Administrative Practices in Radiation Monitoring.”

Enclosure

- RG 8.7, Revision 2, “Instructions for Recording and Reporting Occupational Radiation Exposure Data.”
- RG 8.8, Revision 3, “Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations Will Be as Low as Is Reasonably Achievable.”
- RG 8.9, Revision 1, “Acceptable Concepts, Models, Equations, and Assumptions for a Bioassay Program.”
- RG 8.10, Revision 1-R, “Operating Philosophy for Maintaining Occupational Radiation Exposures as Low as Is Reasonably Achievable.”
- RG 8.13, Revision 3, “Instruction Concerning Prenatal Radiation Exposure.”
- RG 8.15, Revision 1, “Acceptable Programs for Respiratory Protection.”
- RG 8.27, “Radiation Protection Training for Personnel at Light-Water-Cooled Nuclear Power Plants.”
- RG 8.28, “Audible Alarm Dosimeters.”
- RG 8.29, Revision 1, “Instruction Concerning Risks from Occupational Radiation Exposure.”
- RG 8.34, Revision 1, “Monitoring Criteria and Methods to Calculate Occupational Radiation Doses.”
- RG 8.35, “Planned Special Exposures.”
- RG 8.36, “Radiation Doses to Embryo/Fetus.”
- RG 8.38, Revision 1, “Control of Access to High and Very High Radiation Areas of Nuclear Power Plants.”
- NUREG-1736, “Consolidated Guidance: 10 CFR Part 20 — Standards For Protection Against Radiation.”
- NUREG-0800, Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants (SRP), Section 12.1, Revision 3, “Assuring That Occupational Radiation Exposures Are As Low As Is Reasonably Achievable (ALARA).”
- NUREG-0800, SRP, Section 12.3-12.4, Revision 3, “Radiation Protection Design Features.”
- NUREG-0800, SRP, Section 12.5, Revision 3, “Operational Radiation Protection Program.”

- NUREG-0800, SRP, Section 13.2.2, Revision 3, “Non-Licensed Plant Staff Training.”
- NEI 06-13A, Revision 2, “Template for an Industry Training Program.”
- NEI 07-03A, Revision 0, “Generic FSAR Template Guidance for Radiation Protection Program Description.”

3.0 TECHNICAL EVALUATION

As defined in 10 CFR 20.1003, ALARA (acronym for “as low as is reasonably achievable”), means making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part (Part 20) as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest. The staff’s review of NEI 07-08, Revision 3, concentrated on the proposed ALARA program description format, attributes and level of detail. In evaluating the adequacy of the format, attributes and level of detail, the staff followed the guidance of NUREG-0800, SRP Section 12.1, SRP Section 12.3, SRP Section 12.5, and SRP Section 13.2.2.

SRP Section 12.1 outlines an operational program for assuring that occupational radiation exposures (ORE) are ALARA for design certification (DC), COL, CP, and OL applicants and provides guidance in four ALARA program areas: policy, design, operational, and radiation protection considerations.

SRP Section 12.3-12.4 outlines the review of design features and equipment construction used to assure that ORE are ALARA for DC, COL, CP, and OL applicants and provides guidance in five radiation protection operational design areas: facility design features, shielding, ventilation, area radiation and airborne radioactivity monitoring instrumentation and dose assessment.

SRP Section 12.5 outlines the review of the operational radiation protection program used to assure that ORE are ALARA for DC, COL, CP, and OL applicants and provides guidance in five radiation protection operational program areas: organization, equipment, instrumentation, facilities and procedures.

SRP Section 13.2.2 outlines the training and requalification program guidance for non-licensed facility staff (including radiation protection staff) for DC, COL, CP, and OL applicants and provides guidance in facility staff training.

An NEI 07-08 based ALARA program will be implemented in parallel with the milestones described by NEI 07-03A below.

Key aspects of the ALARA program, such as: implementation, organization, facilities, instrumentation and equipment, training, and procedures are implemented by the radiation protection program procedures described in NEI 07-03A.

Therefore, NEI 07-08 must be implemented in conjunction with NEI 07-03A to provide a complete program to meet the regulatory requirements and guidance documents referenced in this template.

NEI 07-03A describes a radiation protection program that will be implemented in stages consistent with the following milestones:

- 1) Prior to initial receipt of by-product, source, or special nuclear materials the following radiation protection program elements will be in place:
 - a. Organization – A radiation protection supervisor and at least one (1) radiation protection technician (RPT) for each operating shift, selected, trained and qualified consistent with the guidance in RG 1.8.
 - b. Facilities – A facility or facilities to support the receipt, storage and control of non-exempt radioactive sources in accordance with 10 CFR 20.1801, 20.1802, and 20.1906.
 - c. Instrumentation and Equipment – Adequate types and quantities of instrumentation and equipment will be selected, maintained, and used to conduct radiation surveys and monitoring (in accordance with 10 CFR 20.1501, and 20.1502) for the types and levels of radiation anticipated for the non-exempt sources that will be possessed under the license.
 - d. Procedures – Procedures will be established, implemented and maintained sufficient to maintain adequate control over the receipt, storage and use of radioactive materials that will be possessed under the license and to assure compliance with 10 CFR 19.11 and 19.12 and 10 CFR Part 20.
 - e. Training – Initial and periodic training will be provided to individuals responsible for the receipt, control or use of non-exempt radioactive sources possessed under the license in accordance with 10 CFR 19.12 and consistent with the guidance in RGs 1.8, 8.13, 8.27, and 8.29.
- 2) Prior to receiving reactor fuel under this license, and thereafter, whenever reactor fuel is possessed under the license, radiation monitoring will be established, implemented and maintained and procedures on criticality accident requirements will be established, implemented and maintained in accordance with 10 CFR 50.68, in addition, to the radiation protection elements specified in item 1 above.
- 3) Prior to initial loading of fuel in the reactor, all functional program areas described in this template [NEI 07-03A] will be fully implemented, with the exception of the program elements described in item 4 below. In addition, the position of radiation protection manager (RPM) (as described in Section 12.5.2.3 of NEI 07-03A) will be filled and at least one (1) RPT for each operating shift, who has been selected, trained and qualified consistent with the guidance in RG 1.8, will be onsite and on duty when fuel is initially loaded in the reactor, and thereafter, whenever fuel is in the reactor.

- 4) Prior to initial transfer, transport or disposal of radioactive materials, the organization, facilities, equipment, instrumentation, and procedures will be in place as necessary to assure compliance with 10 CFR Part 20, Subpart K, and applicable requirements in 10 CFR Part 71.

3.1 NEI -07-08 TEMPLATE OVERVIEW

NEI 07-08 provides guidance for establishing a complete generic ALARA program description for use in developing COL applications. The NEI 07-08 ALARA program shall be used in conjunction with the operational radiation protection program established under the guidance of NEI 07-03A. It will be incumbent on the applicant to provide site specific information, as described in NEI 07-03A, to provide a complete description of an operational radiation protection program which includes the written ALARA administrative policies, procedures and practices, the purpose of which will be to maintain occupational and public doses below regulatory limits and as low as reasonably achievable. Applicants must establish adequate facilities, purchase necessary equipment, and develop site procedures to effectively implement the ALARA program.

NEI 07-08 is organized into three areas, Operational Policies, Regulatory Compliance, and Operational Considerations.

3.1.1 OPERATIONAL POLICIES

The "Operational Policies" section of NEI 07-08 states that the Company and station policies will keep all radiation exposure of personnel within the limits of 10 CFR Part 20. Additionally, the applicant will establish administrative practices and procedures to organize, implement, and operate an effective ALARA program with an ALARA policy consistent with the guidance of RG 8.8, "Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations Will Be as Low as Is Reasonably Achievable," and RG 8.10, "Operational Philosophy for Maintaining Occupational Radiation Exposures as Low as Is Reasonably Achievable."

NEI 07-08 further states that all station personnel are responsible for ALARA, and each supervisor is responsible for enforcing the ALARA requirements as described in 10 CFR 20.1101. Training and annual retraining is provided in accordance with the requirements in 10 CFR 19.12. The extent of ALARA training is commensurate with each worker's responsibilities and work locations. The responsibility for the maintenance and implementation of the radiation protection training program is held by the training department. The staff evaluation considers the training of workers is essential to the ALARA concept.

Radiation protection personnel have stop work authority for any operation deemed to be radiologically unsafe. Radiation Protection Management is responsible to promptly notify higher management if the unsafe practices exceed their authority to correct. The staff considers this aspect important to ensuring adequate protection of the worker when radiological conditions are not as anticipated.

3.1.2 REGULATORY COMPLIANCE

The "Regulatory Compliance" section of NEI 07-08 states that the ALARA policies and practices are consistent with the applicable requirements of 10 CFR Part 20 "Standards for Protection against Radiation," and the following RGs: 1.8, 1.206, 8.2, 8.7, 8.8, 8.9, 8.10, 8.13, 8.15, 8.27, 8.28, 8.29, 8.34, 8.35, 8.36, and 8.38.

Additionally, the COL applicant will describe in Final Safety Analysis Report (FSAR) Section 12.5 compliance with NUREG-1736, Consolidated Guidance: 10 CFR Part 20 "Standards for Protection against Radiation," and in FSAR Section 13.2, "Training," compliance with RG 1.8. ALARA procedures will be established, implemented, maintained and reviewed consistent with 10 CFR 20.1101 and the sites' specific quality assurance criteria (described in FSAR Chapter 17 or other documented COL commitment).

3.1.3 OPERATIONAL CONSIDERATIONS

The "Operational Considerations" section of NEI 07-08 outlined below states that based on the mature nature of the ALARA programs in use at other operating commercial nuclear facilities, the industry regularly reviews and incorporates lessons-learned from decades of operating experience.

This section is broken down into several areas to provide a description of the features of a standard ALARA program. Under the heading, "Work Practices," illustrative examples of ALARA tools or processes are described.

- Functional Structure
The functional structure of the ALARA program is as described in COL FSAR Section 12.5 (additional details provided in NEI 07-03A).
- Organizational Structure
The organizational structure is as described in COL FSAR Section 13.1 and/or 17.5 (additional details provided in NEI 07-03A).
- Radiation Protection Program
The operational radiation protection program with the ALARA program and the operational ALARA philosophy is as described in COL FSAR Section 12.5 (additional details provided in NEI 07-03A).
- Training
The ALARA training program is as described in COL FSAR Section 12.5 (NEI 07-03A) and Section 13.2 (additional details provided in NEI 06-13A).
- Procedures
The procedures program is as described in COL FSAR Section 13.5 and/or 17.5. During initial procedure development radiation protection personnel will review the procedures with potential radiological impact for operations, maintenance, refueling, inservice inspection, and radioactive waste operations for compliance with ALARA guidelines (additional details provided in NEI 07-03A).

- ALARA Program Review and Improvement
This subsection describes the functional purpose of the ALARA committee and plant management reviews of the radiation protection program content and implementation to incorporate lessons learned and ALARA suggestions (additional details provided in NEI 07-03A).
- Plant Modifications
This subsection describes the general process to review plant modifications for adverse ALARA impact (additional details provided in NEI 07-03A).
- Work Practices
This subsection describes illustrative examples of ALARA tools, good practices, or processes that are to be used to provide an approach to various levels of radiological risk (such as high collective dose) encountered when performing maintenance, operations, or refueling activities (additional details provided in NEI 07-03A).

3.2 STAFF EVALUATION

3.2.1 POLICY CONSIDERATIONS

The objectives of the radiation protection ALARA program are to provide reasonable assurance that the limits of 10 CFR 20.1201, 10 CFR 20.1202, 10 CFR 20.1203, 10 CFR 20.1204, 10 CFR 20.1207, and 10 CFR 20.1208 will not be exceeded; and to ensure that individual ORE are maintained as far below regulatory limits as is reasonably achievable and that total person-rem doses are ALARA, in accordance with the requirements of 10 CFR 20.1003 (ALARA Definition) and the guidelines of RGs 8.8 and 8.10.

An NEI 07-08 based ALARA program meets 10 CFR 20.1101 and the definition of ALARA in 10 CFR 20.1003, as they relate to those measures that ensure that radiation exposures to occupational workers and members of the public resulting from licensed activities are below specified limits and ALARA.

NEI 07-08 describes that a written ALARA policy will be established in accordance with the requirements in 10 CFR 19.12 and the ALARA provisions of 10 CFR 20.1101(b), and that the policy will be described, displayed, and will be implemented in accordance with the provisions of RGs 8.8 (Regulatory Position C.1) and 8.10 (Regulatory Position C.1) and NUREG-1736, as it relates to maintaining doses ALARA. A specific individual(s) will be designated and assigned responsibility and authority for implementing ALARA policy.

NEI 07-08 also states that radiation protection personnel have the responsibility to stop work and immediately notify radiation protection management and operations management, if unsafe radiological practices are noted. Radiation protection management is responsible to advise higher management of unsafe practices that they lack the authority to correct. These programmatic aspects of the ALARA policy are addressed as follows in NEI 07-03A.

As stated in NEI 07-03A, plant management will issue written policy on radiation protection, consistent with RGs 8.8 and 8.10, which will include the following commitments:

- The design, construction and operation of the plant will be such that occupational and public radiation exposures and releases of licensed radioactive materials will be maintained ALARA.
- Regulatory radiation requirements, dose limits, and limits on releases of radioactive materials will be complied with.
- A radiation protection program will be implemented and maintained such that radiation doses will be kept below regulatory limits, as well as ALARA.
- Each manager and supervisor in the plant organization will understand and be held accountable for implementing his or her responsibility to integrate radiation protection controls into work activities.
- Each individual working at the facility will understand and accept the responsibility of following radiation protection procedures and instructions provided by radiation protection staff and of maintaining his or her dose ALARA.
- The RPM will be provided with the delegable authority to stop work or order an area evacuated when the radiation conditions warrant such an action and such actions are consistent with plant safety.
- A direct reporting chain will be established from the RPM to the Plant Manager that is independent of the reporting chains for Operations and Maintenance.
- An ALARA committee will be established with delegated authority from the Plant Manager which will include, at a minimum, the managers of Operations, Maintenance, Work Control, Engineering and Radiation Protection to help assure effective implementation of line organization responsibilities for maintaining worker doses ALARA.

NEI 07-03A also provides additional detail on the RPM (or equivalent), who will report directly to the Plant Manager, independent of the reporting chains for Operations and Maintenance. The duties of the plant RPM will be in accordance with the guidance in RGs 8.8 and 8.10. The radiation protection organization personnel qualifications, personnel training, program objectives, and implementation methods will be in accordance with the guidance contained in RGs 1.8, 8.2, 8.8, 8.10, and 8.13 and will comply with 10 CFR 19.12.

An NEI 07-08 based ALARA program meets 10 CFR 19.12, as it relates to keeping workers who receive ORE informed as to the storage, transfer, or use of radioactive materials or radiation in such areas, and instructed as to the risk associated with ORE, precautions and procedures to reduce exposures, and the purpose and function of protective devices employed. Equipment to be used for radiation protection purposes includes portable radiation survey instruments, personnel monitoring equipment, portable area and airborne radioactivity monitors, laboratory equipment, air samplers, respiratory protective equipment, and protective clothing.

NEI 06-13A, "Template for an Industry Training Program Description," Revision 2, (Reference 5.4) describes an acceptable program for training of non-licensed plant staff for COL applicants. Section 1.3 of this template describes radiation worker and plant access training details. Personnel whose job duties require unescorted access to radiological controlled areas of the plant will receive instruction in the applicable aspects of radiation protection. Radiation Worker Training will include the topic, "Concept of as Low as Is Reasonably Achievable (ALARA)."

The staff has reviewed the proposed NEI 07-08 and found that when used in conjunction with NEI 07-03A, Revision 0, "Generic FSAR Template Guidance for Radiation Protection Program Description," it is acceptable in describing the operational policies of an ALARA program.

3.2.2 REGULATORY COMPLIANCE

As described in NEI 07-08, Section 12.1.2, and when used in conjunction with NEI 07-03A, the ALARA policies and practices are consistent with the applicable requirements of 10 CFR Part 20, "Standards for Protection against Radiation," and the following RGs: 1.8, 1.206, 8.2, 8.7, 8.8, 8.9, 8.10, 8.13, 8.15, 8.27, 8.28, 8.29, 8.34, 8.35, 8.36, and 8.38. Additionally, NEI 07-08 will require the COL applicant to describe in FSAR Section 12.5 compliance with NUREG-1736, Consolidated Guidance: 10 CFR Part 20, "Standards for Protection against Radiation," and in FSAR Section 13.2, "Training," compliance with RG 1.8.

As described in NEI 07-08, ALARA procedures will be established, implemented, maintained and reviewed consistent with 10 CFR 20.1101 and the sites' specific quality assurance criteria (described in FSAR Chapter 17 or other documented COL commitment).

The staff has reviewed the proposed NEI 07-08 and found that when used in conjunction with NEI 07-03A, Revision 0, "Generic FSAR Template Guidance for Radiation Protection Program Description," it is acceptable in that NEI 07-08 describes the necessary regulatory documents containing the key aspects of an ALARA program for a light water reactor.

3.2.3 DESIGN CONSIDERATIONS

As described in NEI 07-08, Section 12.1.3, "Operational Considerations," the design methods, approach, and interactions for Plant Modifications and ALARA Program Review and Improvement are in accordance with the ALARA provisions of 10 CFR 20.1101(b) and RG 8.8 (Regulatory Position C.2).

RG 8.8 includes incorporation of measures for reducing the need for time spent in radiation areas; maintenance; measures to improve the accessibility to components requiring periodic maintenance or ISI; measures to reduce the production, distribution, and retention of activated corrosion products throughout the primary system; measures for assuring that ORE during decommissioning will be ALARA; reviews of the design by competent radiation protection personnel; instructions to designers and engineers regarding ALARA design; experience from operating plants and past designs; and continuing facility design reviews.

NEI 07-03A also describes the radiation protection program commitment for 10 CFR 20.1101, as it relates to (a) development, documentation, and implementation of a radiation protection

program, (b) the use of procedures and controls to achieve doses to workers and the public that are ALARA, as defined in 10 CFR 20.1003, and (c) the review and audit of the radiation protection program content and implementation.

The staff has reviewed the proposed NEI 07-08 and found that when used in conjunction with NEI 07-03A, Revision 0, "Generic FSAR Template Guidance for Radiation Protection Program Description," it is acceptable in that NEI 07-08 describes the design considerations to consider when implementing an ALARA program for a light water reactor.

3.2.4 OPERATIONAL AND RADIATION PROTECTION CONSIDERATIONS

Acceptability is based on evidence that the applicant has a program to develop plans and procedures in accordance with RGs 1.8, 8.8, and 8.10 that can incorporate the experiences obtained from facility operation into facility and equipment design and operations planning and that will implement specific exposure control techniques as discussed in Section 12.1.3 of the NEI 07-08 template.

Acceptability is based on evidence as described in NEI 07-03A and NEI 07-08 that overall facility operations, as well as the radiation protection program, integrate the procedures necessary to ensure that radiation doses are ALARA, including work scheduling, work planning, design modifications, and radiological considerations. Under the subsection 12.1.3, "Work Practices," the applicant describes examples of the current operating nuclear power plants ALARA program work practices, such as remote monitoring via audio and visual means, temporary shielding, work permits (RWPs), and pre-planning (including dry run training or use of mock-ups), which, when used can result in a substantial reduction in ORE. As described in NEI 07-03A, access controls to high and very high radiation areas, when maintained in accordance with 10 CFR 20.1601 and 10 CFR 20.1602, can contribute to better awareness of the hazards to be encountered. Work is to be pre-planned in these areas.

The staff reviewed the sections of templates NEI 07-08 (Section 12.1.3) and NEI 07-03A (Section 12.5.4) describing maintenance, repair, surveillance, and refueling procedures and methods to ensure that all plant radiation protection procedures, practices, and criteria have been considered, and that ORE will be ALARA and in accordance with RG 8.8. NEI 07-03A states that ALARA procedures will be established, implemented and reviewed under an ongoing quality assurance program consistent with the requirements of 10 CFR 20.1101. Based on the above review, the staff finds that the proposed NEI 07-08, when used in conjunction with NEI 07-03A, is acceptable in describing the ALARA policies and program.

4.0 CONCLUSION

Health Physics Branch (CHPB) staff used the acceptance criteria of SRP Section 12.1 as the main basis for evaluating the acceptability of NEI 07-08. The CHPB staff has determined that NEI 07-08, Revision 3, is consistent with the regulatory requirements, guidance, and industry standards for operational radiation protection programs as outlined in Section 2.0 of this evaluation, with implementation in accordance with the four (4) NEI 07-03A, Revision 0, milestones described in Section 3.0 of this evaluation, and verification of the implementation of the operational program.

On the basis of its review, the staff concludes that NEI 07-08, "Generic FSAR Template Guidance for Ensuring That Occupational Radiation Exposures are as Low as is Reasonably Achievable (ALARA)," Revision 3, sufficiently describes the policy elements and operational objectives to enable a reasonable assurance finding of acceptability for issuance of a COL, followed with verification of the implementation of a site and plant-specific operational radiation protection program through the inspection process prior to fuel load.

The staff further concludes that NEI 07-08 is adequate and may be referenced in a COL application, and that the implementation of a plant and site-specific operational ALARA program will be executed by COL holders in accordance with the milestones described in COL FSAR Section 13.4 and license conditions.

Accordingly, the NEI 07-08 Template, in conjunction with the NEI 07-03A 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 radiation protection program available for NRC inspection and verification prior to fuel load. Finally, under the requirements of SECY 05-0197, the implementation of operational programs identified in the NEI 07-08 Template does not necessitate inspection, test, analysis, and acceptance criteria in a DC or COL application.

Based on the staff's review of NEI 07-08 outlined above, the staff concludes that NEI 07-08 clearly and sufficiently describes, in terms of scope and level of detail, plant management written policy on ALARA, when used in conjunction with NEI 07-03A, "Generic FSAR Template Guidance for Radiation Protection Program Description," Revision 0, to enable a reasonable assurance finding of acceptability for issuance of a COL with verification of the operational ALARA policy and program during the construction stage.

5.0 REFERENCES

- 5.1 Nuclear Energy Institute (NEI), NEI 07-03A, "Generic FSAR Template Guidance for Radiation Protection Program Description," Revision 0.
- 5.2 NUREG-0800, SRP, Section 12.5, "Operational Radiation Protection Program," March 2007.
- 5.3 RG 1.206, "Combined License Applications for Nuclear Power Plants, (LWR Edition)" Section C.I.12, "Radiation Protection," June 2007.
- 5.4 NEI 06-13A, "Template for an Industry Training Program Description," Revision 2, March 6, 2009.