
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

APR1400 Design Certification

Korea Electric Power Corporation / Korea Hydro & Nuclear Power Co., LTD

Docket No. 52-046

RAI No.: 242-8276
SRP Section: 11.04 – Solid Waste Management System
Application Section: 11.4
Date of RAI Issue: 10/14/2015

Question No. 11.04-4

In review of 11.4.1 “Process Control Program” the staff finds that the important document, NEI 07-10A, the “GENERIC FSAR TEMPLATE GUIDANCE FOR PROCESS CONTROL PROGRAM (PCP)” is not being referenced by the applicant or the COL action item relating to the Process Control Program. NEI 07-10A was determined to be acceptable by the staff (ML091460627) for the purpose of meeting the regulatory milestone to develop a plant-specific PCP with the format and content of the PCP, as generally described in NUREG-0133, until a plant-specific PCP is prepared before fuel load.

Staff requests that the applicant reference NEI 07-10A in DCD section 11.4.4. The staff is verifying that this was not an oversight by the applicant in development of COL action items.

Please address the items above and provide a mark-up on the proposed DCD changes.

Response

The DCD will be updated to reference NEI 07-10A as the guidance for the development of a site-specific process control program listed in a COL 11.4(5).

Impact on DCD

DCD Tier 2, Table 1.8-2, subsections 11.4.4, 11.4.9 and 11.4.10 will be revised as indicated in the attached markup.

Impact on PRA

There is no impact on the PRA.

Impact on Technical Specifications

There is no impact on the Technical Specifications.

Impact on Technical/Topical/Environmental Reports

There is no impact on any Technical, Topical, or Environmental Report.

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Table 1.8-2 (19 of 29)

Item No.	Description
COL 11.4(1)	The COL applicant can incorporate an onsite laundry facility for processing of contaminated clothing.
COL 11.4(2)	The COL applicant is to perform a site-specific cost-benefit analysis following the guidance in NRC RG 1.110.
COL 11.4(3)	The COL applicant is to provide reasonable assurance that the provisions and requirements of ANSI/ANS-40.37-2009 are met. The COL applicant is to provide reasonable assurance that mobile and temporary solid radwaste processing and its interconnection to plant systems conform with regulatory requirements and guidance such as 10 CFR 50.34a, 10 CFR 20.1406, and NRC RG 1.143. The COL applicant is to prepare a plan to develop and use operating procedures so the guidance and information in IE Bulletin 80-10 are followed.
COL 11.4(4)	The COL applicant is to provide P&IDs. , which is consistent with the guidance of NEI 07-10A,
COL 11.4(5)	The COL applicant is to prepare the site process control program and the site radiological environmental monitoring program.
COL 11.4(6)	The COL applicant is responsible for the collection, temporary storage, and shipment of mixed waste for offsite treatment and disposal.
COL 11.4(7)	The COL applicant is responsible for the provision of a site-wide IRSF for interim storage of radioactive wastes.
COL 11.4(8)	The COL applicant is to provide a mobile crane to retrieve a waste package that becomes stuck in the lifted condition or that is dropped.
COL 11.4(9)	The COL applicant is also to provide operational procedures to properly ship low-level wastes to external sites in accordance with US NRC and US Department of Transportation (DOT) regulations.
COL 11.4(10)	The COL applicant is to prepare the operational procedures and maintenance programs for the SWMS as related to leak detection and contamination control.
COL 11.4(11)	The COL applicant is to develop plant-wide RG 4.21 life-cycle planning for minimization of contamination program following the guidance in NEI 08-08A, in which the SWMS procedures and programs are to be integrated.
COL 11.4(12)	The COL applicant is to maintain the complete documentation of system design, construction, design modifications, field changes, and operations.
COL 11.5(1)	The COL applicant is to determine the WARN and ALARM setpoints of the PERMSS based on the site-specific conditions and operational requirements.
COL 11.5(2)	The COL applicant is to develop an annual report that specifies the quantity of each principal radionuclide released to unrestricted areas in liquid and gaseous effluents.
COL 11.5(3)	The COL applicant is to provide site-specific procedures that conform with the numerical guides of 10 CFR 50.34a and 10 CFR Part 50, Appendix I.

APR1400 DCD TIER 2Site Radiological Environmental Monitoring

The SWMS is part of the plant and is included in the site process control program and the site radiological environmental monitoring program for monitoring of facility and environmental contamination. The site radiological environmental monitoring program includes sampling and analysis of effluent to be released, meteorological conditions, hydrogeological parameters, and potential migration pathways of radioactive contaminants. Both programs are included as COL information items (COL 11.4(5)).

11.4.3 Radioactive Effluent Releases

Liquid radioactive wastes that leak from components in the SWMS are collected and transferred to the LWMS through the radioactive drain system. This liquid waste is collected and processed in the LWMS prior to discharge to the environment. Radioactive liquid effluents released from the LWMS are evaluated in Subsection 11.2.3.

To handle the airborne radioactive materials generated during SWMS operation, a fan is used to pull potentially contaminated air through a HEPA filter and exhaust it to the compound building HVAC system to monitor the releases to the environment. Potentially contaminated air in the compound building where the SWMS components are installed is exhausted through the air cleaning unit and radiation monitors of the compound building HVAC system. Radioactive ventilation exhaust from the compound building is evaluated in Subsection 9.4.

Liquid and gaseous radioactive waste generated during the SWMS operation is processed by the LWMS and the HVAC system. There is no uncontrolled and/or unmonitored release from the SWMS.

11.4.4 Process Control Program


Solid waste is processed in accordance with the process control program, which contains site-specific requirements. The COL applicant is to provide the process control program (COL 11.4(5)). The process control program provides reasonable assurance of the production of a solid waste matrix in accordance with 10 CFR 71 (Reference 10) and the guidance of NRC Branch Technical Position (BTP) 11-3 (Reference 12).

, which is consistent with the guidance of NEI 07-10A (Reference 42)

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Instruments, including backflushing provisions, are located in low-radiation areas when possible for accessibility and fulfillment of the ALARA provisions. A list of alarm instruments and location of readouts is presented in Table 11.4-6.

11.4.9 Combined License Information

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41. ASTM D 5163-08, "Standard Guide for Establishing a Program for Condition Assessment of Coating Service Level I Coating Systems in Nuclear Power Plants," American Society for Testing and Materials, 2008.

42. NEI 07-10A, "Generic FSAR Template for Process Control Program (PCP)", 2009