
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.: 389-8430
SRP Section: 11.03 – Gaseous Waste Management System
Application Section: 11.3
Date of RAI Issue: 02/01/2016

Question No. 11.03-9

REQUIREMENT: 10 CFR 50 Appendix I Design Criteria

GUIDANCE: RG 1.109, SRP 11.3

ISSUE: DCD Table 11.3-7 does not currently demonstrate compliance with the annual maximum organ doses criteria.

10 CFR 50 Appendix I, Section II.C states that:

“The calculated annual total quantity of all radioactive iodine and radioactive material in particulate form above background to be released from each light-water-cooled nuclear power reactor in effluents to the atmosphere will not result in an estimated annual dose or dose commitment from such radioactive iodine and radioactive material in particulate form for any individual in an unrestricted area from all pathways of exposure in excess of 15 millirems to any organ.”

To demonstrate compliance, the staff requests that the applicant add a row to DCD Table 11.3-7 (1 of 3) to demonstrate compliance with the maximum organ doses. The staff acknowledges the discussion in DCD section 11.3.3.1 and requests an update to DCD Table 11.3-7 for consistency. Additionally, please add a column indicating the annual dose limits for each category.

Please address these items and provide a mark-up for the proposed DCD changes.

Response

KHNP will revise DCD Tier 2 Table 11.3-7 (1 of 3). A row and a column to demonstrate compliance with the maximum organ doses and annual dose limits for each category will be

inserted.

Impact on DCD

DCD Tier 2 Table 11.3-7 will be updated as indicated in the Attachment.

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 Environment Report.

APR1400 DCD TIER 2

Table 11.3-7 (1 of 3)

Maximum Offsite Individual Dose Resulting
from Normal Plant Gaseous Releases

Type of Dose	Estimated Dose	Annual Dose Limit
Annual beta air dose (mGy/yr)	7.94E-02	2.00E-01
Annual gamma air dose (mGy/yr)	6.13E-03	1.00E-01
Dose to total body (mSv/yr)	3.79E-03	0.05E-02
Dose to skin (mSv/yr)	5.57E-02	1.50E-01
Dose to any organ (mSv/yr)	1.45E-01	1.50E-01