

LeeRAIsPEm Resource

From: Ravindra Joshi
Sent: Friday, September 26, 2008 3:02 PM
To: LeeRAIsPEm Resource
Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 024 RELATED TO SRP
SECTION 12.03-12.04 FOR THE WILLIAM STATES LEE III UNITS 1 AND 2 COMBINED
LICENSE APPLICATION
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Subject: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 024 RELATED TO
SRP SECTION 12.03-12.04 FOR THE WILLIAM STATES LEE III UNITS 1 AND 2 COMBINED LICENSE
APPLICATION

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From: Ravindra Joshi

Created By: Ravindra.Joshi@nrc.gov

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September 26, 2008

Mr. Peter S. Hastings, P.E.
Licensing Manager, Nuclear Plant Development
Duke Energy
526 South Church Street
Charlotte, NC 28201-1006

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 024 RELATED TO
SRP SECTION 12.03-12.04 FOR THE WILLIAM STATES LEE III UNITS 1 AND
2 COMBINED LICENSE APPLICATION

Dear Mr. Hastings:

By letter dated December 12, 2007, as supplemented by letters dated January 28, 2008, February 6, 2008 and February 8, 2008, Duke Energy submitted its application to the U. S. Nuclear Regulatory Commission (NRC) for a combined license (COL) for two AP1000 advance passive pressurized water reactors pursuant to 10 CFR Part 52. The NRC staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed application.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

To support the review schedule, you are requested to respond within 30 days of the date of this letter. If changes are needed to the final safety analysis report, the staff requests that the RAI response include the proposed wording changes.

If you have any questions or comments concerning this matter, you may contact me at 301-415-6191 or you may contact Brian Hughes, the lead project manager for the William States Lee III combined license at 301-415-6582.

Sincerely,

/RA/

Ravindra G. Joshi, Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-018
52-019

Enclosure:
Request for Additional Information

CC: see next page

If you have any questions or comments concerning this matter, you may contact me at 301-415-6191 or you may contact Brian Hughes, the lead project manager for the William States Lee III combined license at 301-415-6582.

Sincerely,

/RA/

Ravindra G. Joshi, Project Manager
AP1000 Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-018
52-019

eRAI Tracking Nos. 1156, 1162

Enclosure:
Request for Additional Information

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NAME	TFrye*	RJoshi*	SBrock*	BHughes*
DATE	9/9/08	9/9/08	9/16/08	9/17/08

*Approval captured electronically in the electronic RAI system.

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William States Lee III Nuclear Station Units 1 and 2
Duke Energy Carolinas, LLC
Docket No. 52-018 and 52-019
SRP Section: 12.03-12.04 – Radiation Protection Design Features
Application Section: 12.4

QUESTIONS from Health Physics Branch (CHPB)

12.03-12.04-1

10 CFR 20.1301(a)(2) states "The dose in any unrestricted area from external sources, exclusive of the dose contributions from patients administered radioactive material and released in accordance with § 35.75, does not exceed 0.002 rem (0.02 millisievert) *in any one hour*"(italics added); which implies a maximum dose rate.

Table 12.4-201, "Construction Worker Dose Comparison to 10CFR20.1301 Criteria," in the Lee FSAR Chapter 12, section 4 describes the regulations as being 2 mrem (0.02 millisievert) *average* in any hour and then compares the collective average dose of the worker population to the 2 mrem/hour *average*. If the table is implemented as stated, it is in non-compliance with 10 CFR 20.1301, (i.e., there could be areas that could exceed 2 mrem/hour (0.02 millisievert/hr)).

The applicant is applying the 2 mrem/hour as a average rate limit, not as an individual maximum limit.

Revise Table 12.4-201 to comply with 10CFR20.1301 and update the Lee FSAR Section 12.4.

12.03-12.04-2

10 CFR 20.1301 (a)(1) states "The total effective dose equivalent to individual members of the public from the licensed operation does not exceed 0.1 rem (1 mSv) in a year",

The WS Lee III FSAR states that the dose to Unit 2 construction workers from liquid effluents is minimal due to the tie-in of the Unit 2 piping and dose at the Unit 2 shield building construction area. The FSAR does not contain sufficient information describing the applicants' conclusion that minimal exposure of Unit 2 construction workers results from liquid effluents due to the tie-in of the Unit 2 liquid effluent piping.

Section 12.4.1.9.4 states that for an occupational year (i.e., 2080 hours on site), dose at the Unit 2 shield building construction area would be 0.29 mrem Total Effective Dose Equivalent (TEDE). The applicant also states that the maximum dose anywhere on site that would be accessible to a construction worker would be 5.9 mrem per year in the southeast sector at the Unit 1 fence line.

The discussion of the Unit 2 shield building dose does not provide information as to the source of that dose (i.e., is it due to direct exposure from Unit 1, building wake effects of the air effluent, etc.?) or as to the derivation of that annual exposure.

Provide the necessary information to confirm the FSAR calculation results and revise the FSAR Section 12.4 to provide sufficient information to demonstrate compliance with 10CFR20.1301.