

LevyCountyRAIsPEm Resource

From: Habib, Donald
Sent: Friday, August 07, 2015 1:03 PM
To: LevyCountyRAIsPEm Resource
Subject: RAI Letter No. 130 Related to SRP Section 12.03-12.04, Radiation Protection Design Features, for the Levy Nuclear Plant Units 1 and 2 COL Application
Attachments: 2015-08-07 RAI Letter 130 for MCR Dose RPAC 8028.docx

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UNITED STATES
NUCLEARREGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 7, 2015

Mr. Christopher M. Fallon
Vice President, Nuclear Development
Duke Energy Florida, Inc.
P.O. Box 1006 – EC12L
Charlotte, NC 28201-1006

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 130 RELATED
TO STANDARD REVIEW PLAN SECTION 12.03-12.04, RADIATION
PROTECTION DESIGN FEATURES, FOR THE LEVY NUCLEAR PLANT UNITS
1 AND 2 COMBINED LICENSE APPLICATION

Dear Mr. Fallon:

By letter dated July 28, 2008, as supplemented by a letter dated September 12, 2008, Progress Energy Florida, Inc., now Duke Energy Florida, submitted its application to the U. S. Nuclear Regulatory Commission (NRC) for a combined license (COL) for two AP1000 advanced 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.

C. Fallon

If you have any questions or comments concerning this matter, you may contact me at 301-415-1035.

Sincerely,

Donald Habib, Project Manager
Licensing Branch 4
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-029
52-030

eRAI Tracking No. 8028

Enclosures:
Requests for Additional Information

C. Fallon

If you have any questions or comments concerning this matter, you may contact me at 301-415-1035.

Sincerely,

Donald Habib, Project Manager
Licensing Branch 4
Division of New Reactor Licensing
Office of New Reactors

Docket Nos. 52-029
52-030

eRAI Tracking Nos. 8028

Enclosures:
Requests for Additional Information

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Request for Additional Information Letter 130, RAI 8028

Issue Date: 08/07/2015

Application Title: Levy County, Units 1 and 2 - Dockets 52-029 and 52-030

Operating Company: Duke Energy Florida

Review Section: 12.03-12.04 - Radiation Protection Design Features

Application Section: Chapter 6.4, 9.3, 11.5, 12.2, 12.3

QUESTIONS

12.03-2

Title 10 of the Code of Federal Regulations (10 CFR), Part 50 "Domestic Licensing of Production and Utilization Facilities" Appendix A "General Design Criteria [GDC] for Nuclear Power Plants," "Criterion 19—Control room," requires that for applications for a certification submitted after January 10, 1997, a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem total effective dose equivalent (TEDE) for the duration of the accident. 10 CFR 52.79(a)(4) requires that a combined license (COL) application include a final safety analysis report (FSAR) that describes the design of the facility including the principal design criteria for the facility, for which the AP1000 used the 10 CFR Part 50, Appendix A, GDC. 10 CFR 52.79(a)(17), requires that the COL FSAR include information with respect to compliance with technically relevant positions of the Three Mile Island requirements in 10 CFR 50.34(f). 10 CFR 50.34(f)(2)(xxviii) relates to the evaluation of potential pathways for radioactivity and radiation that may lead to control room habitability problems under accident conditions and necessary design provisions to preclude such problems. NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition" (SRP), Section 6.4, "Control Room Habitability System," states that the control building layouts are checked to see if radiation streaming through doors or other apertures or from equipment might be a problem, and if deemed necessary, quantitatively evaluated. Regulatory Guide (RG) 1.183 "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," states that all sources of radiation that will cause exposure to control room personnel should be considered in the dose analyses, and that the models used to transport radioactive material into and through the control room and the shielding models used to determine radiation dose rates from external sources, should be structured to provide suitably conservative estimates of the exposure to control room personnel.

In Enclosure 1 to Serial: NPD-NRC-2015-014, "Partial Response to Request for Additional Information Letter No. 121 Related to SRP Sections 6.2.5 and 6.4 for the Levy Nuclear Plant [LNP] Units 1 and 2 Combined License Application," dated June 5, 2015, Duke Energy Florida, Inc. (DEF), stated in their response to RAI ID# L-1114 (NRC RAI 7661), question 1c, "Site-specific revisions for direct radiation and skyshine dose will be included in the LNP COL application. These revisions include updated direct radiation and skyshine dose calculations to account for MCR [main control room] penetrations shielding differences between the AP1000 and AP600 designs. Accounting for the updated direct radiation and skyshine dose maintains compliance with GDC-19."

[

Control Document (DCD) Revision 19, Figure 6.4-2 “Main Control Room Habitability System Piping and Instrumentation Diagram,” indicates that 1-inch lines YAC-L009A and YAC-L009B penetrate the shielding boundary of the MCR. [

] The staff was unable to identify the contribution from direct radiation streaming through these penetrations to the MCR operator dose. The staff has not been able to confirm whether there are additional penetrations to the control room shielding boundary that may impact MCR operator dose. The staff has been unable to identify the radiation protection design features (i.e., labyrinth shields) provided to attenuate direct radiation streaming into the MCR. Therefore, based on the information provided by the applicant, the staff requests additional information to determine that the dose to the MCR operators is within the limits of GDC 19.

To provide clarification regarding the issues described above, please provide the following additional information or explain why it is not necessary: (1) identify penetrations to the MCR shielding boundary, (2) identify the radiation protection design features credited for attenuating streaming radiation into the MCR, and (3) describe the direct radiation dose contribution to the MCR operators from MCR shielding penetrations. If supplemental FSAR information is needed, please provide it.

12.03-3

10 CFR Part 50, Appendix A, GDC 19, requires that for applications for a certification submitted after January 10, 1997, a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident. GDC 61, “Fuel storage and handling and radioactivity control,” requires suitable shielding to assure adequate safety under normal and postulated accident conditions. GDC 4, “Environmental and dynamic effects design bases” states that structures, systems, and components (SSC) important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents. 10 CFR 52.79(a)(4) requires that a COL application include an FSAR that describes the design of the facility including the principal design criteria for the facility, for which the AP1000 used the 10 CFR Part 50, Appendix A, GDC. 10 CFR 52.79(a)(17) requires that the COL FSAR include information with respect to compliance with technically relevant positions of the Three Mile Island requirements in 10 CFR 50.34(f). 10 CFR 50.34(f)(2)(xxviii) relates to the evaluation of potential pathways for radioactivity and radiation that may lead to control room habitability problems under accident conditions and necessary design provisions to preclude such problems. NUREG-0800, Section 6.4, states that the control building layouts are checked to see if radiation provided by structural concrete is analyzed to determine the effectiveness of shielding and structure surrounding the control room, and is reviewed under SRP Section 12.3-12.4, “Radiation Protection Design Features.”

In Enclosure 1 to Serial: NPD-NRC-2015-014 “Partial Response to Request for Additional Information Letter No. 121 Related to SRP Sections 6.2.5 and 6.4 for the Levy Nuclear Plant Units 1 and 2 Combined License Application,” dated June 5, 2015, DEF stated in their response to RAI ID# L-1114 (NRC RAI No. 7904), question 1c, that, “Site-specific revisions for direct radiation and skyshine dose will be included in the LNP COL application. These revisions

include updated direct radiation and skyshine dose calculations to account for MCR penetrations shielding differences between the AP1000 and AP600 designs. Accounting for the updated direct radiation and skyshine dose maintains compliance with GDC-19.”

[

] However, AP1000 DCD, Figure 3.8.2-4 (Sheet 1 of 7), “Containment Penetrations Main Steam,” does not depict any shielding material. NPD-NRC-2015-027 “Revised Response to Request for Additional Information Letter No. 121 Related to SRP Sections 6.2.5 and 6.4 for the Levy Nuclear Plant Units 1 and 2 Combined License Application,” dated July 1, 2015, Enclosure 3, “Levy Nuclear Plant Units 1 and 2 Tier 1 and Tier 2 Licensing Basis Documents – Proposed Changes (Convenience Copy),” also does not contain pages reflecting these changes. Because information regarding the shielding used to assure compliance with the requirements of the regulations is not contained within the application, the staff requests additional information to determine that the dose to the MCR operators is within the limits of GDC 19 and that suitable shielding to assure adequate safety under normal and postulated accident conditions will be provided, consistent with the requirements of GDC 61.

Please provide additional information, or explain why it is not necessary, regarding the following areas, as they relate to FSAR Sections 3.8 (e.g., Figure 3.8.2-4), 6.4.2.6 “Shielding Design,” and 12.3.2 “Shielding,” and other applicable sections, to identify those locations: (1) where radiation protection design features such as penetration sealants are credited for attenuating direct radiation entering the MCR, and (2) where radiation protection design features such as penetration sealants are utilized to ensure the presence of sufficient shielding material to establish the radiation zones described for post-accident conditions. If supplemental FSAR information is needed, please provide it.

12.03-4

10 CFR Part 50, Appendix A, GDC 19, requires that for applications for a certification submitted after January 10, 1997, a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident. GDC 61 requires suitable shielding to assure adequate safety under normal and postulated accident conditions. GDC 4 states that SSC important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including loss-of-coolant accidents. 10 CFR 52.79(a)(4) requires that a COL application include an FSAR that describes the design of the facility including the principal design criteria for the facility, for which the AP1000 used the 10 CFR Part 50, Appendix A, GDC. 10 CFR 52.79(a)(17), requires that the COL FSAR include information with respect to compliance with technically relevant positions of the Three Mile Island requirements in 10 CFR 50.34(f). 10 CFR 50.34(f)(2)(xxviii) relates to the evaluation of potential pathways for radioactivity and radiation that may lead to control room habitability problems under accident conditions and necessary design provisions to preclude such problems. NUREG-0800, Section 6.4, states that the control building layouts are checked to see if radiation provided by structural concrete is analyzed to determine the effectiveness of

shielding and structure surrounding the control room, and is reviewed under SRP Section 12.3-12.4. RG 1.69 "Concrete Radiation Shields and Generic Shield Testing for Nuclear Power Plants Concrete Radiation Shields for Nuclear Power Plants," provides guidance regarding the maintenance of shielding effectiveness under elevation temperature conditions. SRP 12.3-12.4 states that the acceptability of the shield construction will be based on an indication that the guidance of RG 1.69 has been implemented in facility construction, or that acceptable alternatives have been proposed. Because [] is not concrete, the guidance of RG 1.69 is not directly applicable; however acceptable practices for controlling temperature degradation of shielding material should be identified, where relevant.

In Enclosure 1 to Serial: NPD-NRC-2015-014, "Partial Response to Request for Additional Information Letter No. 121 Related to SRP Sections 6.2.5 and 6.4 for the Levy Nuclear Plant Units 1 and 2 Combined License Application," dated June 5, 2015, DEF stated in their response to RAI ID# L-1114 (NRC RAI No. 7904), question 1c, that "Site-specific revisions for direct radiation and skyshine dose will be included in the LNP COL application. These revisions include updated direct radiation and skyshine dose calculations to account for MCR penetrations shielding differences between the AP1000 and AP600 designs." Accounting for the updated direct radiation and skyshine dose maintains compliance with GDC-19.

[

] AP1000 DCD Tier 2, Figure 3.8.2-4 (Sheet 1 of 7), does not depict any insulating material between the metal pipe sleeve and the [] shielding material. Based on staff experience, the temperature of the main steam and main feed water lines and the associated sleeves can reasonably be expected to exceed 206 °F. Because of the limited information regarding the locations where the [] material has been used, the staff has been unable to identify other potentially affected areas. Because information regarding the shielding used to assure compliance with the requirements of the regulations is not contained within the application, the staff requests additional information to determine that the dose to the MCR operators is within the limits of GDC 19 and that suitable shielding to assure adequate safety under normal and postulated accident conditions will be provided, consistent with the requirements of GDC 61.

Please provide additional information, or explain why it is not necessary, regarding the following areas as they relate to FSAR Tier 2, Sections 3.8 (e.g., Figure 3.8.2-4) and 12.3.2: identify those locations where environmental conditions may limit the serviceability of radiation protection design features such as penetration sealants that are credited for attenuating direct radiation entering the MCR or that are utilized to provide sufficient shielding material to establish the radiation zones described for post-accident conditions. If supplemental FSAR information is needed in order to describe the design features required to maintain the integrity of required radiation shielding material, please provide it.

12.03-5

10 CFR Part 50, Appendix A, GDC 19 requires that for applications for a certification submitted after January 10, 1997, a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident.

GDC 61 requires suitable shielding to assure adequate safety under normal and postulated accident conditions. 10 CFR 52.79(a)(4) requires that a COL application include an FSAR that describes the design of the facility including the principal design criteria for the facility, for which the AP1000 used the 10 CFR Part 50, Appendix A, GDC. 10 CFR 52.79(a)(17), requires that the COL FSAR include information with respect to compliance with technically relevant positions of the Three Mile Island requirements in 10 CFR 50.34(f). 10 CFR 50.34(f)(2)(xxviii) relates to the evaluation of potential pathways for radioactivity and radiation that may lead to control room habitability problems under accident conditions and necessary design provisions to preclude such problems. NUREG-0800, Section 6.4, states that the control building layouts are checked to see if radiation provided by structural concrete is analyzed to determine the effectiveness of shielding and structure surrounding the control room. 10 CFR 52.80 "Contents of applications; additional technical information," states that the application must contain the proposed inspections, tests, and analyses, necessary and sufficient to provide reasonable assurance that, if the inspections, tests, and analyses are performed and the acceptance criteria (ITAAC) met, the facility has been constructed and will be operated in conformity with the COL, the provisions of the Act, and the Commission's rules and regulations.

In Enclosure 1 to Serial: NPD-NRC-2015-014, "Partial Response to Request for Additional Information Letter No. 121 Related to SRP Sections 6.2.5 and 6.4 for the Levy Nuclear Plant Units 1 and 2 Combined License Application," dated June 5, 2015, DEF stated in their response to RAI ID# L-1114 (NRC RAI No. 7904), question 1c, that "Site-specific revisions for direct radiation and skyshine dose will be included in the LNP COL application. These revisions include updated direct radiation and skyshine dose calculations to account for MCR penetrations shielding differences between the AP1000 and AP600 designs. Accounting for the updated direct radiation and skyshine dose maintains compliance with GDC 19."

[

] NPD-NRC-

2015-027 "Revised Response to Request for Additional Information Letter No. 121 Related to SRP Sections 6.2.5 and 6.4 for the Levy Nuclear Plant Units 1 and 2 Combined License Application," dated July 1, 2015, Enclosure 3, "Levy Nuclear Plant Units 1 and 2 Tier 1 and Tier 2 Licensing Basis Documents – Proposed Changes (Convenience Copy)," Section 12.3.2.2.7, "Control Room Shielding Design," states that shielding of the VES filtration unit is accomplished by safety-related metal shielding that is composed of either tungsten that is 0.25 inches thick or stainless steel shown to provide an equivalent amount of shielding. However, AP1000 DCD Tier 1 Table 3.3-1, "Definition of Wall Thicknesses for Nuclear Island Buildings, Turbine Building, and Annex Building," does not describe the ITAAC for verifying the presence, quantity, and the material properties of either the penetrations [] material or the VES shielding material. DCD Tier 1 Section 2.2.5, "Main Control Room Emergency Habitability System," including Table 2.2.5-5, "Inspections, Tests, Analyses, and Acceptance Criteria," and Figure 2.2.5-1, "Main Control Room Emergency Habitability System," do not contain a description of the safety related VES filter shielding. The staff requests additional information to confirm that shielding used to assure that the dose to the MCR operators will be maintained within the limits of GDC 19 and that the shielding needed to assure adequate safety under normal and postulated accident conditions will be provided, consistent with the requirements of GDC 61. The staff must have assurance that the facility has been constructed and will be operated in conformity with the combined license, the provisions of the Act, and the Commission's rules and regulations.

Please provide additional information, or explain why it is not necessary, regarding the following areas as they relate to the proposed markups for information contained in DCD Tier 1 Sections 3.3 and 2.2.5: does an ITAAC exist that will permit the staff to verify the type, quantity, and properties of radiation protection design features, such as penetration sealants and VES shielding, that are credited for attenuating direct radiation entering the MCR or that are utilized to provide sufficient shielding material to establish the radiation zones described for post-accident conditions. If supplemental FSAR information is needed, please provide it.

12.03-6

10 CFR Part 50, Appendix A, GDC 19, requires that for applications for a certification submitted after January 10, 1997, a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident. GDC 61 requires suitable shielding to assure adequate safety under normal and postulated accident conditions. 10 CFR 52.79(a)(4) requires that a COL application include an FSAR that describes the design of the facility including the principal design criteria for the facility, for which the AP1000 used the 10 CFR Part 50, Appendix A, GDC. 10 CFR 52.79(a)(17), requires that the COL FSAR include information with respect to compliance with technically relevant positions of the Three Mile Island requirements in 10 CFR 50.34(f). 10 CFR 50.34(f)(2)(xxviii) relates to the evaluation of potential pathways for radioactivity and radiation that may lead to control room habitability problems under accident conditions and necessary design provisions to preclude such problems. NUREG-0800, Section 6.4, states that the control building layouts are checked to see if radiation provided by structural concrete is analyzed to determine the effectiveness of shielding and structure surrounding the control room. NUREG-0800, Section 12.3-12.4 provides guidance on methods for evaluating the acceptability of the shielding.

In Enclosure 1 to Serial: NPD-NRC-2015-014, "Partial Response to Request for Additional Information Letter No. 121 Related to SRP Sections 6.2.5 and 6.4 for the Levy Nuclear Plant Units 1 and 2 Combined License Application," dated June 5, 2015, DEF, stated in their response to RAI ID# L-1114 (NRC RAI No. #7904, question 1c – "Site-specific revisions for direct radiation and skyshine dose will be included in the LNP COL application. These revisions include updated direct radiation and skyshine dose calculations to account for MCR penetrations shielding differences between the AP1000 and AP600 designs. Accounting for the updated direct radiation and skyshine dose maintains compliance with GDC-19."

[

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Please provide additional information, or explain why it is not necessary, regarding whether the FSAR and the supporting MCNP5 calculations (such as Control Number 1669473662) are consistent with the density values specified in APP-SSAR-GSC-722. Please confirm the FSAR

values being used and explain why any inconsistencies with APP-SSAR-GSC-722 are conservative. If supplemental FSAR information is needed, please provide it.

12.03-7

10 CFR Part 50, Appendix A, GDC 19 requires that for applications for a certification submitted after January 10, 1997, a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident. 10 CFR Part 20, "Standards for Protection Against Radiation," Subpart F, "Surveys and Monitoring," requires licensees to make surveys of areas necessary for the licensee to comply with the regulations and to evaluate the magnitude and extent of radiation levels.

In Enclosure 1 to Serial: NPD-NRC-2015-027, "Revised Response to Request for Additional Information Letter No. 121 Related to SRP Sections 6.2.5 and 6.4 for the Levy Nuclear Plant Units 1 and 2 Combined License Application," dated July 1, 2015, DEF stated that MCR dose calculations for large break loss-of-coolant accident (LOCA), main steam line break (MSLB), fuel handling accident, rod ejection accident, locked rotor accident, small line break outside containment and steam generator tube rupture (SGTR) design basis accident analyses, were revised to correct the errors in the certified design. Enclosure 3, "Levy Nuclear Plant Units 1 and 2 Tier 1 and Tier 2 Licensing Basis Documents – Proposed Changes (Convenience Copy)," Figure 9.4.1-1 (Sheet 5 of 7), "Nuclear Island Non-Radioactive Ventilation System," shows the particulate, iodine, and noble gas airborne radiation monitor sample points upstream of the isolation valves V186 and V187. AP1000 DCD, Revision 19, Tier 2 Figure 7.2-1, Sheet 13 of 21, "Functional Diagram Containment and Other Protection," shows that the MCR radiation monitors are de-energized and the MCR isolation is actuated on either a high-2 radiation signal or a low battery charger input voltage for greater than 10 minutes. DCD Tier 2 Tables 8.3.2-1 through 8.3.2-4, describing 250V DC Class 1E divisional battery nominal load requirements, do not show any MCR airborne activity radiation monitors or MCR area radiation monitors, nor does it indicate any provisions for power to supply portable airborne activity monitoring equipment. The staff requests additional information to determine how the applicant will perform the surveys required by 10 CFR 20.1501 to ensure that the MCR filtration system is functioning as designed during post-accident conditions.

To provide clarification regarding the issues described above, please provide the following additional information or explain why it is not necessary, regarding FSAR section 12.3.4 "Area Radiation and Airborne Radioactivity Monitoring Instrumentation," to identify the design features needed to support performing the radiation surveys for airborne radioactive material as required by 10 CFR 20.1501. If supplemental FSAR information is needed, please provide it.

12.03-8

10 CFR Part 50, Appendix A, GDC 19, requires that for applications for a certification submitted after January 10, 1997, a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident. GDC 1, "Quality standards and records," requires the establishment and implementation of a quality assurance program in order to provide adequate assurance that these SSCs will satisfactorily perform their safety functions.

In Enclosure 1 to Serial: NPD-NRC-2015-027 "Revised Response to Request for Additional Information Letter No. 121 Related to SRP Sections 6.2.5 and 6.4 for the Levy Nuclear Plant Units 1 and 2 Combined License Application," dated July 1, 2015, DEF stated that MCR dose calculations for large break LOCA, MSLB, fuel handling accident, rod ejection accident, locked rotor accident, small line break outside containment, and SGTR design basis accident analyses, were revised to correct the errors in the certified design. [

] The staff identified other discrepancies between the MCNP5 input file, and Westinghouse document APP-SSAR-GSC-722, such as differences between the number of photons used for the energy binning. The staff requests additional information to identify documentation, besides the MCNP5 input file, that fully describes the values used for all of the input parameters contained within in the input file.

To provide clarification regarding the issues described above, please provide the following additional information or explain why it is not necessary: identification of the methods and documents used to establish control of the MCNP5 input parameters and to track changes to those parameters. If supplemental FSAR information is needed, please provide it.

12.03-9

10 CFR Part 50, Appendix A, GDC 19, requires that for applications for a certification submitted after January 10, 1997, a control room be provided with adequate radiation protection to permit access and occupancy of the control room under accident conditions without the personnel receiving radiation exposures in excess of 5 rem TEDE for the duration of the accident.

GDC 61 requires suitable shielding to assure adequate safety under normal and postulated accident conditions. GDC 4 states that SSCs important to safety shall be designed to accommodate the effects of and to be compatible with the environmental conditions associated with normal operation, maintenance, testing, and postulated accidents, including LOCAs. 10 CFR 52.79(a)(4) requires that a COL application include an FSAR that describes the design of the facility including the principal design criteria for the facility, for which the AP1000 used the 10 CFR Part 50, Appendix A, GDC. 10 CFR 52.79(a)(17) requires that the COL FSAR include information with respect to compliance with technically relevant positions of the Three Mile Island requirements in 10 CFR 50.34(f). 10 CFR 50.34(f)(2)(xxviii) relates to the evaluation of potential pathways for radioactivity and radiation that may lead to control room habitability problems under accident conditions and necessary design provisions to preclude such problems. NUREG-0800, Section 6.4, states that the control building layouts are checked to see if radiation provided by structural concrete is analyzed to determine the effectiveness of shielding and structure surrounding the control room and is reviewed under SRP Section 12.3-12.4.

In Enclosure 1 to Serial: NPD-NRC-2015-014 "Partial Response to Request for Additional Information Letter No. 121 Related to SRP Sections 6.2.5 and 6.4 for the Levy Nuclear Plant Units 1 and 2 Combined License Application," dated June 5, 2015, DEF stated in their response to RAI ID# L-1114 (NRC RAI No. 7904), question 1c, "Site-specific revisions for direct radiation and skyshine dose will be included in LNP COL application. These revisions include updated direct radiation and skyshine dose calculations to account for MCR penetrations shielding differences between the AP1000 and AP600 designs."

AP1000 DCD, Revision 19, Tier 1 Table 3.3-1 "Definition of Wall Thicknesses for Nuclear Island Buildings, Turbine Building, and Annex Building," footnote 2, states that the wall thicknesses have a tolerance of plus or minus 1 inch. Westinghouse document APP-SSAR-GSC-722 did not contain information about the use of the tolerance values specified in DCD Tier 1 Table 3.3-1. [

] Therefore the staff requests additional information to determine that the dose to the MCR operators is within the limits of GDC 19 and that suitable shielding to assure adequate safety under normal and postulated accident conditions will be provided, consistent with the requirements of GDC 61.

To provide clarification regarding the issues described above, please provide the following additional information or explain why it is not necessary: information contained in FSAR Section 12.3.2 and APP-SSAR-GSC-722 to ensure that the dose to the MCR operators is within the limits of GDC 19 and that suitable shielding to assure adequate safety under postulated accident conditions will be provided, consistent with the requirements of GDC 19 and GDC 61. If supplemental FSAR information is needed, please provide it.