

September 29, 2008

Mr. J. Randy Johnson
Vice President - Farley
Joseph M. Farley Nuclear Plant
7388 North State Highway 95
Columbia, AL 36319

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2 RE: ISSUANCE OF AMENDMENTS RE: REVISED TECHNICAL SPECIFICATION FOR LIMITING CONDITION FOR OPERATION 3.9.3, "CONTAINMENT PENETRATION" (TAC NOS. M5433 AND MD5434)

Dear Mr. Johnson:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 178 to Renewed Facility Operating License No. NPF-2 and Amendment No. 171 to Renewed Facility Operating License No. NPF-8 for the Joseph M. Farley Nuclear Plant, Units 1 and 2. The amendments consist of changes to the Technical Specifications in response to your application dated April 27, 2007, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML071210081), as supplemented by letters dated May 12, 2008, (ADAMS Accession No. ML081330202) and July 24, 2008, (ADAMS Accession No. ML082060528).

The amendments revise Joseph M. Farley Nuclear Plant (FNP) Units 1 and 2 Technical Specifications (TS) for Limiting Condition for Operation (LCO) 3.9.3, "Containment Penetrations," to allow the containment personnel air locks that provide direct access from the containment atmosphere to the auxiliary building to be open during refueling activities if appropriate administrative controls are established. The proposed changes are based on NRC-approved Technical Specifications Task Force (TSTF) Traveler TSTF-68, Revision 2.

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,
/RA/

Karl D. Feintuch, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-348 and 50-364

Enclosures:

1. Amendment No. 178 to NPF-2
2. Amendment No. 171 to NPF-8
3. Safety Evaluation

cc w/encl: See next page

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Joseph M. Farley Nuclear Plant, Units 1 & 2

September 23, 2008

cc:

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SOUTHERN NUCLEAR OPERATING COMPANY, INC.

ALABAMA POWER COMPANY

DOCKET NO. 50-348

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 178
Renewed License No. NPF-2

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Southern Nuclear Operating Company, Inc. (Southern Nuclear), dated April 27, 2007, as supplemented by letters dated May 12, and July 24, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-2 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 178, are hereby incorporated in the license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA by Leonard N. Olshan for/

Melanie Wong, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 29, 2008

SOUTHERN NUCLEAR OPERATING COMPANY, INC.

ALABAMA POWER COMPANY

DOCKET NO. 50-364

JOSEPH M. FARLEY NUCLEAR PLANT, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 171
Renewed License No. NPF-8

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Southern Nuclear Operating Company, Inc. (Southern Nuclear), dated April 27, 2007, as supplemented by letters dated May 12, and July 24, 2008, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications, as indicated in the attachment to this license amendment; and paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-8 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 171, are hereby incorporated in the license. Southern Nuclear shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA by Leonard N. Olshan for/

Melanie Wong, Chief
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: September 29, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 178
TO RENEWED FACILITY OPERATING LICENSE NO. NPF-2
DOCKET NO. 50-348, AND
ATTACHMENT TO LICENSE AMENDMENT NO.171
TO RENEWED FACILITY OPERATING LICENSE NO. NPF-8
DOCKET NO. 50-364

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove

License Pages

NPF-2 page 4

NPF-8 page 3

TS Pages

3.9.3-1

Insert

License Pages

NPF-2 page 4

NPF-8 page 3

TS Pages

3.9.3-1

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 178 TO
RENEWED FACILITY OPERATING LICENSE NO. NPF-2
AND AMENDMENT NO. 171 TO
RENEWED FACILITY OPERATING LICENSE NO. NPF-8
SOUTHERN NUCLEAR OPERATING COMPANY, INC.
JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2
DOCKET NOS. 50-348 AND 50-364

1.0 INTRODUCTION

By application dated April 27, 2007 to the U.S. Nuclear Regulatory Commission (NRC), (Agencywide Documents Access and Management System (ADAMS) Accession No. ML071210081), as supplemented by letters dated May 12, 2008 (ADAMS Accession No. ML081330202) and July 24, 2008, (ADAMS Accession No. ML082060528) the Southern Nuclear Operating Company, Inc. (SNC, the licensee) submitted a request for changes to the Joseph M. Farley Nuclear Plant, Units 1 and 2, Technical Specifications (TS). The supplemental letters provided clarifying information did not change the scope of the April 27, 2008 application and the initial proposed no significant hazards consideration determination.

The proposed changes would revise Joseph M. Farley Nuclear Plant (FNP) Units 1 and 2 Technical Specifications (TS) for Limiting Condition for Operation (LCO) 3.9.3, "Containment Penetrations," to allow the containment personnel air locks that provide direct access from the containment atmosphere to the auxiliary building to be open during refueling activities if appropriate administrative controls are established. Currently, TS Limiting Condition for Operation (LCO) 3.9.3, "Containment Penetrations," requires that one door in each air lock be closed during core alterations or movement of irradiated fuel inside containment. The licensee proposes to revise TS 3.9.3(b) to read, "One door in each air lock is capable of being closed." This revision is based on NRC-approved TSTF-68, Revision 2, "Containment Personnel Air Lock Doors Open During Fuel Movement".

2.0 REGULATORY EVALUATION

2.1 Regulatory Evaluation Pertaining To Containment And Ventilation Issues

The licensee addressed the regulatory requirements applicable to the proposed amendment in Section 4.2 of Enclosure 1 to the application dated April 27, 2007. The regulatory requirements, criteria, and guidance which the NRC staff applied in its review are discussed below.

The following General Design Criteria (GDCs) in Appendix A to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "General Design Criteria for Nuclear Power Plants," is applicable to the proposed amendment:

Criterion 16, "Containment design," insofar as it requires that the containment and its associated systems (e.g., penetrations) be provided to establish an essentially leak-tight barrier against the uncontrolled release of radioactivity to the environment and to assure that containment design conditions important to safety are not exceeded for as long as postulated accident conditions require.

Criterion 19, "Control room," insofar as it requires that adequate radiation protection is provided to permit access and occupancy of the control room under accident conditions.

Criterion 61, "Fuel Storage and Handling and Radioactivity Control," insofar as it requires that the fuel storage and handling, radioactive waste, and other systems which may contain radioactivity shall be designed to assure adequate safety under normal and postulated accident conditions.

The NRC staff also used the regulatory guidance provided in Regulatory Guide (RG) 1.196, "Control Room Habitability at Light-Water Nuclear Power Reactors" in performing this review.

The NRC staff also considered relevant information in the FNP Updated Final safety Analysis report (UFSAR), TS, response to Generic Letter (GL) 2003-01, "Control Room Habitability" and the August 25, 2004, amendment request (Ref. 4).

2.2 Regulatory Evaluation Pertaining To Accident Dose Issues

This safety evaluation input discusses the impact of the proposed changes on the previously analyzed radiological consequences of design basis accidents and the acceptability of the revised analysis results. The regulatory requirements against which the NRC staff performed its review of the licensee's current request are the accident dose criteria in 10 CFR 100.11 and 10 CFR Part 50 Appendix A, General Design Criterion 19 (GDC 19), "Control room." Except where the licensee proposed a suitable alternative, the NRC staff used the regulatory guidance provided in the following documents in performing this review:

Regulatory Guide (RG) 1.194, "Atmospheric Relative Concentrations for Control Room Radiological Habitability Assessments at Nuclear Power Plants";

RG 1.195, "Methods and Assumptions for Evaluating Radiological Consequences of Design Basis Accidents (DBA) at Light-Water Nuclear Power Reactors", and

RG 1.25, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors (Safety Guide 25)".

The NRC staff also considered relevant information in the FNP Updated Final Safety Analysis Report (UFSAR), TS, and applicable previous licensing actions for FNP Units 1 and 2.

3.0 TECHNICAL EVALUATION

3.1 Technical Evaluation Pertaining To Containment And Ventilation Issues

Each of the FNP Units 1 & 2 consist of a three loop pressurized water reactor, located side by side, with the auxiliary building located between the two containment buildings and a common control room located on the 155 ft. elevation of the auxiliary building. As stated by the licensee in Enclosure 1 to the application dated April 27, 2007, the main control room provides a protected environment from which the operators can control the unit(s) following an uncontrolled release of radioactivity, chemicals, or toxic release. The protection to the main control room environment is provided by the integrity of the Control Room Envelope (CRE) and the operation of the Control Room Emergency Filtration/Pressurization System (CREFS).

Each containment is equipped with two personnel air locks. The personnel air locks provide a means for personnel access to containment during reactor operation. The air lock design provides two interlocked personnel access doors, which are part of the containment pressure boundary. The doors are normally interlocked to prevent simultaneous opening when containment operability is required. As stated by the licensee in the application dated April 27, 2007, the door interlock mechanism may be disabled during periods of shutdown when containment closure is not required, allowing both doors of an airlock to remain open for extended periods to enable frequent containment entry as necessary. However, during core alterations or movement of irradiated fuel assemblies within containment, TS 3.9.3 currently requires at least one door of each personnel air lock to be closed. The licensee's proposed change would allow both doors on each air lock to be open during operations involving core alterations or fuel movement inside containment if appropriate administrative controls are established and maintained. The licensee stated that the proposed change is based on NRC Staff approved TSTF-68, Revision 2, "Containment Personnel Air Lock Doors Open During fuel Movement." TSTF-68 was based primarily on the license amendment granted to Arkansas Nuclear One, Unit 2 on September 28, 1995 (Ref. 6). This change incorporates into the improved TS NUREGs the option to allow both containment personnel air lock doors to remain open during movement. Starting with the approval of an amendment to the Calvert Cliffs Nuclear Power Plant TS in August 31, 1994, this option has been granted to many other operating plants.

Adoption of TSTF-68 requires NRC staff approval of plant-specific fuel handling accident (FHA) dose calculations and commitments from the licensee to implement acceptable administrative procedures to ensure that, in the event of a refueling accident, the open air lock and open penetration(s) can and will be promptly closed following containment evacuation. Accordingly, the licensee performed a reanalysis of the FHA described in the FNP FSAR Chapter 15. The open air locks would change the containment release characteristics and could alter the offsite and control room projected dose. In addition, TS amendment number 165 / 157 (Reference 7) previously allowed the containment equipment hatch to remain open during the postulated FHA inside containment. Therefore, the new FHA analysis was performed with the containment equipment hatch and personnel air locks open during the postulated FHA inside containment.

The licensee stated that the amount of unfiltered inleakage into the control room used in the new FHA analysis is consistent with the values used in support of the amendment 165 / 157 with the exception of the normal HVAC unfiltered intake. The normal unfiltered intake was changed from 3,000 ft³/min to 2,340 ft³/min. The revised value reflects the value in TS 5.5.18, "Control Room Integrity Program (CRIP)" introduced into the TS by amendment 166 / 158 issued on September 30, 2004 (Reference 5). In a NRC letter to the licensee dated April 2, 2008 (Reference 3), the

NRC staff asked if any changes had taken place to the normal intake flow path since the last measurements was made. In the licensee response dated May 12, 2008 (Reference 2), the licensee stated that modifications were made to the normal control room makeup air system in early 2007. However, the modifications have not resulted in any change to the normal unfiltered intake flow rate. The values used for un-pressurized unfiltered infiltration following isolation activated by control room radiation monitors and pressurized unfiltered infiltration following the start of the Control Room Emergency Filtration/Pressurization System (CREFS) are considerably less than the values indicated by inleakage testing using the ASTM E741 tracer gas methodology (Ref. 8). The inleakage testing was performed in response to NRC Staff issued GL 2003-01, "Control Room Habitability." The NRC staff finds the inleakage values in to the control room used in the FHA are conservative, and therefore, are acceptable. The results of the FHA analysis show that control room doses comply with the acceptance criteria of GDC 19.

The evaluation of the assumptions used in the FHA radiological consequence analysis, the atmospheric dispersion estimates, and the results of the analysis is discussed in Section 3.2 of this safety evaluation (SE).

The licensee has previously addressed the control room habitability guidance of RG 1.196 "Control Room Habitability at Light-Water Nuclear Power Reactors." The TS changes in conjunction with the licensee's utilization of various aspects of RG 1.196 were granted by amendment 166 (Unit 1) and 158 (Unit 2) issued on September 30, 2004. Based on the information provided by the licensee, the NRC staff finds that control room habitability will continue to comply with the guidance of RG 1.196 (Reference 3).

In Enclosures 1 and 2 to the application dated April 27, 2007, the licensee made references in several places to FHA durations and the response time to close one personnel air lock door. In the letter dated April 2, 2008, the NRC staff requested the licensee to clarify if the FHA analysis requires closure of the equipment hatch and personnel air lock in two (2) hours. In the letter dated May 12, 2008 (Reference 2), the licensee stated that the FHA analysis assumed essentially 100 percent of the fission products released from the reactor cavity are released to the environment in two hours without any credit for filtration. The two hour closure was not included in the TS bases, since the analysis did not extend beyond two hours. However, as a defense in depth, the commitment was made to have one door in each personnel air lock closed following evacuation.

As noted in TS Bases 3.9.3, the potential for containment pressurization as a result of an accident in Mode 6 (refueling) is not likely; therefore, requirements to isolate the containment from outside atmosphere can be less stringent. The LCO requirements are referred to as "refueling integrity" rather than "containment OPERABILITY." Refueling integrity means that all potential escape paths are closed or capable of being closed. During periods of unit shutdown, when refueling integrity is not required, the personnel air lock door interlock mechanism may be disabled, allowing both doors of an air lock to remain open for extended periods when frequent containment entry is required. During Core Alterations or movement of irradiated fuel assemblies within containment, refueling integrity is required. As a result of the proposed change, one air lock door must always remain capable of being closed. As noted in TSTF-68, a licensee commitment that the open air lock can and will be promptly closed following containment evacuation is needed, even if it were determined that containment fission product control function is not required to meet acceptable dose consequences.

The NRC staff finds the licensee's approach is consistent with TSTF-68 and is acceptable. The licensee, however, has also informed the NRC staff that appropriate site guidance will be provided to close the personnel air lock doors within two hours, as discussed below in "Regulatory Commitments."

3.1.1 Technical Specification Changes

FNP TS 3.9.3, "Refueling Operations – Containment Penetrations," specifically LCO 3.9.3.b, currently requires one door in each air lock to be closed during operations involving core alterations or movement of irradiated fuel assemblies within containment by stating "One door in each air lock closed." To allow for the air locks to remain open during these conditions, the licensee is proposing to modify LCO 3.9.3.b to state, "One door in each air lock is capable of being closed." This change is supported by the licensee's analysis and by the NRC staff SE. Therefore, the NRC staff finds the proposed change acceptable.

3.1.2 Regulatory Commitments

In Enclosure 4 to the application dated April 27, 2007, the licensee made a regulatory commitment in support of the proposed change, stated as follows:

SNC procedures will ensure that the containment equipment hatch is installed and containment personnel air locks have at least one door closed promptly following a fuel handling accident inside containment.

In the same letter, the licensee stated that for the equipment hatch and the personnel air locks, closure capability are provided by a designated trained closure crew and the necessary equipment.

In a letter to the licensee dated April 2, 2008, the NRC staff noted that additional doors are required to be closed by the proposed change and asked if the licensee had considered increasing the available crew during conditions applicable to the proposed change. In the letter dated May 12, 2008, the licensee stated that the crew will be augmented with additional trained personnel to close the doors following evacuation of containment. The licensee further stated that the regulatory commitment will be revised as follows:

SNC procedures will ensure that the containment equipment hatch is installed and containment personnel air locks have at least one door closed promptly following a fuel handling accident inside containment. The designated trained hatch closure crew will be augmented to include additional personnel to have one door in each personnel lock closed following evacuation of containment.

The licensee also stated that the regulatory commitment will be completed prior to the implementation date after approval of the amendment request by the NRC. In addition, upon NRC approval, the regulatory commitment will be entered into the Corrective Action Program (CAP) to ensure that appropriate site guidance is revised to ensure closure of the personnel air lock within two hours.

3.2 Technical Evaluation Pertaining To Accident Dose Issues

3.2.1 Radiological Consequences of Fuel Handling Accident

The containment air locks, which are part of the containment pressure boundary, provide a means for personnel access during reactor operation. During core alterations or movement of irradiated fuel assemblies within containment, containment integrity is required. Therefore, at least one air lock door must always remain closed. The requirement for containment penetration closure ensures that a release of fission products from containment due to a FHA will be restricted from escaping directly to the environment. During core alterations or movement of irradiated fuel assemblies within containment, the most limiting radiological consequences result from the design basis FHA.

FNP's design-basis FHA analysis postulates that the spent fuel assembly with the highest inventory of fission products of the 157 assemblies in the core is dropped during refueling. All of the fuel rods in the assembly are conservatively assumed to rupture, releasing available activity within the fuel rod to the reactor cavity water. Volatile constituents of the core fission product inventory migrate from the fuel pellets to the gap between the pellets and the fuel rod cladding. The fission product inventory in the fuel rod gap of the damaged fuel rods is assumed to be instantaneously released because of the accident. Fission products released from the damaged fuel are decontaminated by passage through the overlaying water in the reactor cavity, depending on their physical and chemical form. The licensee assumed no decontamination for noble gases, an overall effective decontamination factor of 200 for radioiodines, and retention of all particulate fission products. The licensee also assumed that essentially 100 percent of the fission products released from the reactor cavity are released to the environment in 2 hours without any credit for filtration.

The current design-basis FHA analysis for FNP was approved by the NRC in License Amendment Nos. 165 (Unit 1) and 157 (Unit 2) issued September 30, 2004 (Reference 7). This amendment for both units allowed the containment equipment hatch to remain open during fuel movement. Therefore, the licensee has submitted a revised FHA analysis with the containment equipment hatch and personnel air locks open during the postulated FHA inside containment. The licensee states, and the NRC staff agrees, that the reanalysis is required because the open air locks would change the containment release characteristics and could alter the offsite and control room projected doses. The licensee also states that only the value that changed from the previously approved FNP FHA analysis is the control room normal HVAC unfiltered intake. That value has changed from 3,000 ft³/min to 2,340 ft³/min. This value was previously approved by the NRC in FNP Unit 1 and 2 License Amendment Nos. 166 (Unit 1) and 158 (Unit 2) (Reference 5).

To verify the licensee's calculated radiological consequences, the NRC staff performed a confirmatory FHA radiological consequence dose calculation and found these results to also be within the dose criteria specified in 10 CFR 100.11 and GDC 19 of 10 CFR Part 50, Appendix A. Although the NRC staff performed its independent radiological consequence dose calculation as a means of confirming the licensee's results, the NRC staff acceptance is based on the licensee's analyses. The results of the licensee's radiological consequence dose calculation are provided in Table 1 and the major parameters and assumptions used by the licensee and the NRC staff are listed in Table 2.

The FHA radiological consequences calculated by the licensee for the EAB and at the LPZ, and in the control room are all within the dose criteria specified in 10 CFR 100.11 and GDC 19 of 10 CFR Part 50, Appendix A and are, therefore, acceptable.

Table 1

Dose Results from Analysis of FHA Accident in Containment with
Equipment Hatch and Personnel Air Locks Open

Location	Dose Type	Dose (rem)	Acceptance Limit (rem)
EAB	Thyroid	68.5	75
	Whole-Body	0.2	6.3
	Skin	0.5	50
LPZ	Thyroid	25.3	75
	Whole-Body	0.1	6.3
	Skin	0.2	50
Control Room	Thyroid	39.6	50
	Whole-Body	<0.1	5
	Skin	1.0	50

Table 2

FNP Parameters and Assumptions Used in
FHARadiological Consequence Calculations

Parameter or Assumption	Value Used
Core thermal power (MWt)	2,831
Time between plant shutdown and accident (hr)	100
Minimum water depth between tops of Damaged fuel rods and water surface (ft)	23
Damage to fuel assembly	All rods ruptured
Fuel assembly activity	Highest powered fuel assembly in core region discharged
Activity release from assembly	Gap activity in ruptured rods per RG 1.195, Table 2
Radial peaking factor	1.7
Decontamination factor in water Elemental iodine (99.75%) Organic iodine (0.25%) Noble gases	400 1 1
Containment Exhaust flow rate (cfm)	53,500
Containment Exhaust isolation time	NA
Iodine filtration system	Containment purge system (not credited)
Filter efficiency (all species)	NA
Dose Conversion Factors	ICRP 30

Table 2 (continued)

FNP Parameters and Assumptions Used in
FHARadiological Consequence Calculations

Parameter or Assumption	Value Used
CR Normal HVAC unfiltered intake (ft ³ /min)	2,340
CR Un-pressurized unfiltered infiltration (ft ³ /min)	600
CR Filtered pressurization rate (ft ³ /min)	450
CR Pressurized unfiltered infiltration (ft ³ /min)	450
CR Filtered recirculation rate (ft ³ /min)	2,700
CR Unfiltered ingress/egress rate (ft ³ /min)	10
CR Filter efficiencies (all forms of iodine) (%)	
Pressurization air	98.5
Recirculation air	94.5
CR Isolation time (s)	30
CR Pressurization Sys Manual Start Time (min)	10
CR Volume (ft ³)	114,000
CR Operator breathing rate (m ³ /s)	3.47 x 10 ⁻⁴
Percent of time operator is in control room following loss-of-coolant accident (%)	
0-1 day	100
1-4 days	60
4-30 days	40

Table 3
FNP Meteorological Data

Boundary	Time Interval	Equipment Hatch X/Q Value (sec²/m³)	Personnel Air locks X/Q Value (sec²/m³)
Control Room	0 – 30 sec	8.79×10^{-4}	5.06×10^{-3}
	30 sec – 2 hrs	8.79×10^{-4}	1.66×10^{-3}
Site Boundary	0 – 2 hrs	7.6×10^{-4}	7.6×10^{-4}
LPZ	0 – 2 hrs	2.8×10^{-4}	2.8×10^{-4}

3.2.2 Atmospheric Dispersion Factors

For the current license amendment request (LAR), SNC used four years of onsite hourly meteorological data collected during calendar years 2000 through 2003 to generate one new control room atmospheric dispersion factor (χ/Q value) for input into the in-containment FHA dose assessment. These meteorological data and the current licensing basis χ/Q values used in the current LAR were discussed in the SE's associated with Farley Unit 1 Amendment Nos. 165 and 166 and Unit 2 Amendment Nos. 157 and 158 (References 5 and 7), dated September 30, 2004.

The NRC staff has reviewed the licensee's use of the current licensing basis equipment hatch door and personnel air lock control room χ/Q values discussed in the SE's associated with the amendments referenced above and has concluded that these χ/Q values are acceptable for use in the current LAR control room dose assessment. The NRC staff also reviewed the information provided in the Enclosure to the SNC letter dated July 24, 2008 concerning the one new χ/Q value calculated for the current LAR. The information included a list of inputs for three postulated release locations to substantiate that the release location assumed by the licensee resulted in the limiting χ/Q value. The NRC staff performed comparison calculations to confirm that SNC had selected the limiting χ/Q value.

The NRC staff also reviewed the licensee's use of the current licensing basis exclusion area boundary (EAB) and outer boundary of the low population zone (LPZ) χ/Q values discussed in the SE's associated with the amendments referenced above and has concluded that these χ/Q values are acceptable for use in the current LAR for the EAB and LPZ dose estimates.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the State of Alabama official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (72 FR 54479). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

Regarding containment and ventilation issues, the NRC staff finds that the proposed change is consistent with the regulatory requirements and guidance identified in Section 2.0 above, and TSTF-68, Revision 2. The NRC staff finds, with reasonable assurance, the proposed license amendment is in compliance with General Design Criteria (16 and 19) and the guidance in Regulatory Guide 1.196.

Regarding accident dose issues, NRC staff reviewed the assumptions and justifications used by SNC to assess the radiological impacts of administrative changes to FNP TS 3.9.3, "Containment Penetrations". The NRC staff finds that SNC used methods consistent with regulatory requirements and guidance identified in Section 2.0 above. The NRC staff finds, with reasonable assurance, that in the case of the design basis FHA at FNP the licensee's estimates of the exclusion area boundary, low-population zone, and control room doses will continue to comply with these criteria. Therefore, the proposed changes to TS 3.9.3 are acceptable with regard to the radiological consequences of postulated design basis accidents.

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. SNC letter NL-07-0067, "License Amendment Request to Technical Specification 3.9.3, Containment Penetrations - Personnel Air Lock Doors Open during Fuel Movement, dated April 27, 2007 (ADAMS Accession No. ML071210081).
2. SNC letter NL-08-0517, "License Amendment Request to Technical Specification 3.9.3, Containment Penetrations - Personnel Air Lock Doors Open during Fuel Movement, dated May 12, 2008 (ADAMS Accession No. ML081330202).
3. NRC letter, Request for Additional Information regarding the Joseph M. Farley Nuclear Plant Units 1 and 2, Licensing Amendment Request to allow Personnel Air Locks open during Fuel Movement, dated April 2, 2008.
4. Letter from L. M. Stinson, SNC to NRC, "Joseph M. Farley Nuclear Plant Units 1 and 2, Request to Revise Technical Specifications, Control Room Habitability," August 25, 2004.
5. NRC Letter Dated September 30, 2004, Joseph M. Farley Nuclear Plant, Units 1 and 2 RE: Issuance of Amendments [166/158] (TAC Nos. MC4186 and MC4187) (ADAMS Accession No. ML042780424).
6. NRC Letter Dated September 28, 1995, Arkansas Nuclear One, Unit 2, Issuance of Amendment No. 166 to Facility Operating License No. NPF-6 (TAC No. M92150).

7. NRC Letter Dated September 30, 2004, Joseph M. Farley Nuclear Plant, Units 1 and 2 RE: Issuance of Amendments [165/157] (TAC Nos. MC0625 and MC0626) (ADAMS Accession No. ML042820368).

8. SNC Letter Dated August 25, 2004, "Joseph M. Farley Nuclear Plant, Response to Generic Letter 2003-01 – Control Room Habitability" (ADAMS Accession No. ML042400122)

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