

August 25, 2004

LICENSEE: Southern Nuclear Operating Company  
FACILITY: Joseph M. Farley Nuclear Plant, Units 1 and 2  
SUBJECT: SUMMARY OF THE TELEPHONE CONFERENCES HELD ON AUGUST 3, 11, AND 13, 2004, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND THE SOUTHERN NUCLEAR OPERATING COMPANY CONCERNING THE REVIEW FOR THE JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2, LICENSE RENEWAL APPLICATION (TAC NOS. MC0774 AND MC0775)

The U.S. Nuclear Regulatory Commission staff and representatives of Southern Nuclear Operating Company (SNC or the applicant) held telephone conferences on August 3, 11, and 13, 2004, to discuss questions pertaining to the Joseph M. Farley Nuclear Plant (FNP) license renewal application.

These conference calls were useful in clarifying the intent of the staff's questions. On the basis of the discussion, the applicant was able to better understand the staff's questions. No staff decisions were made during these telephone conferences, and the applicant agreed to provide information for clarification.

Enclosure 1 provides a listing of the telephone conferences participants. Enclosure 2 contains a listing of the question discussed with the applicant, including a brief description on the status of the item. The applicant has had an opportunity comment on this summary.

**/RA/**

Tilda Y. Liu, Senior Project Manager  
License Renewal Section A  
License Renewal and Environmental Impacts Program  
Division of Regulatory Improvement Programs  
Office of Nuclear Reactor Regulation

Docket Nos.: 50-348 and 50-364

Enclosures: As stated

cc w/enclosures: See next page

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FACILITY: Joseph M. Farley Nuclear Plant, Units 1 and 2

SUBJECT: SUMMARY OF THE TELEPHONE CONFERENCES HELD ON AUGUST 3, 11, AND 13, 2004, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION AND THE SOUTHERN NUCLEAR OPERATING COMPANY CONCERNING THE REVIEW FOR THE JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2, LICENSE RENEWAL APPLICATION (TAC NOS. MC0774 AND MC0775)

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These conference calls were useful in clarifying the intent of the staff's questions. On the basis of the discussion, the applicant was able to better understand the staff's questions. No staff decisions were made during these telephone conferences, and the applicant agreed to provide information for clarification.

Enclosure 1 provides a listing of the telephone conferences participants. Enclosure 2 contains a listing of the question discussed with the applicant, including a brief description on the status of the item. The applicant has had an opportunity comment on this summary.

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## LIST OF PARTICIPANTS FOR TELEPHONE CONFERENCES

### August 3, 2004

#### Participants

Tilda Liu  
Kenneth Chang  
Robert Hsu  
David Chen  
Jeff Mulvehill  
Wayne Lunceford  
Jon Hornbuckle

#### Affiliation

U.S. Nuclear Regulatory Commission (NRC)  
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NRC  
Southern Nuclear Operating Company (SNC)  
SNC  
SNC

### August 11, 2004

#### Participants

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Kenneth Chang  
Robert Hsu  
David Chen  
Jan Fridrichsen  
Wayne Lunceford  
Jon Hornbuckle  
Leann Walker  
Mike Macfarlane  
Charles Pierce  
Rick Allen

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### August 13, 2004

#### Participants

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Wayne Lunceford  
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## REVIEW OF LICENSE RENEWAL APPLICATION (LRA) FOR FARLEY NUCLEAR PLANT (FNP), UNITS 1 AND 2

August 3, 2004

On August 3, 2004, the staff discussed Questions 1 and 2 with the applicant regarding its review of the LRA. The staff sent these questions to the applicant via e-mail on August 4, 2004. The staff's question and the associated discussion with the applicant are presented below:

### Question 1: CASS Thermal Embrittlement

In Table 3.1.1-24 of the Farley Nuclear Plant (FNP) LRA, the applicant stated that no program is needed to manage loss of fracture toughness of the FNP reactor coolant system cast austenitic stainless steel (CASS) piping and fittings due to thermal embrittlement. The applicant also stated that FNP has updated the original leak-before-break (LBB) analyses to address the period of extended operation, and that the results of this calculation update indicate that adequate margin exists between the critical crack size and the postulated crack size that yields a detectable leak rate.

The staff acknowledges that updating the LBB analyses validate and demonstrate the LBB for the period of extended operation. However, the LBB analyses do not demonstrate the effects of aging will be adequately managed as required by 10 CFR 54.21(a)(3). The Generic Aging Lessons Learned (GALL) report recommends that either enhanced volumetric examination or flaw tolerance evaluation be performed to manage the aging effects for CASS components.

A LBB analysis is not a flaw tolerance evaluation. The flaw postulated in the LBB analysis is a through-wall flaw that, under the applicable loading combination, yields a detectable leak rate. The flaw tolerance evaluation is to determine the allowable flaw which is a partial through wall flaw with no leak at all. The applicant is requested to explain how the LBB analyses can be taken as the flaw tolerance evaluation which manages this aging effect. Otherwise, the applicant is requested to identify which alternative, enhanced volumetric examination or flaw tolerance evaluation, will be used to manage this aging effect during the period of extended operation.

**Discussion:** The applicant indicated that it understood the question. The applicant stated that it plans to discuss this question with its vendor and senior management first before informing the staff on its proposed action.

### Question 2: Pressurizer spray head

The applicant is requested to provide the basis as to why only one pressurizer spray head will be examined based on the spray head design and its as-installed configuration.

**Discussion:** The applicant indicated that it understood the question, and agreed to provide a supplemental response to this question.

Enclosure 2

## REVIEW OF LICENSE RENEWAL APPLICATION (LRA) FOR FARLEY NUCLEAR PLANT (FNP), UNITS 1 AND 2

August 11, 2004

On August 3, 2004, the staff discussed Questions 1 and 2 with the applicant regarding its review of the LRA. The staff sent these questions to the applicant via e-mail on August 4, 2004. The staff reiterated these questions during the telephone conference held on August 11, 2004. On August 6, 2004, the staff sent Question 3 to the applicant via e-mail. The staff's questions and the associated discussions with the applicant are presented below:

### Question 1: CASS Thermal Embrittlement

In Table 3.1.1-24 of the FNP LRA, the applicant stated that no program is needed to manage loss of fracture toughness of the FNP reactor coolant system cast austenitic stainless steel (CASS) piping and fittings due to thermal embrittlement. The applicant also stated that FNP has updated the original leak-before-break (LBB) analyses to address the period of extended operation, and that the results of this calculation update indicate that adequate margin exists between the critical crack size and the postulated crack size that yields a detectable leak rate.

The staff acknowledges that updating the LBB analyses validate and demonstrate the LBB for the period of extended operation. However, the LBB analyses do not demonstrate the effects of aging will be adequately managed as required by 10 CFR 54.21(a)(3). The Generic Aging Lessons Learned (GALL) report recommends that either enhanced volumetric examination or flaw tolerance evaluation be performed to manage the aging effects for CASS components.

A LBB analysis is not a flaw tolerance evaluation. The flaw postulated in the LBB analysis is a through-wall flaw that, under the applicable loading combination, yields a detectable leak rate. The flaw tolerance evaluation is to determine the allowable flaw which is a partial through wall flaw with no leak at all. The applicant is requested to explain how the LBB analyses can be taken as the flaw tolerance evaluation which manages this aging effect. Otherwise, the applicant is requested to identify which alternative, enhanced volumetric examination or flaw tolerance evaluation, will be used to manage this aging effect during the period of extended operation.

**Discussion:** The staff indicated that its further research on this question would be useful in clarifying the question for the applicant during a future conference call. Another conference call will be held in the near future to discuss this question.

### Question 2: Pressurizer spray head

The applicant is requested to provide the basis as to why only one pressurizer spray head will be examined based on the spray head design and its as-installed configuration.

**Discussion:** In the August 3, 2004 teleconference, the applicant agreed to provide the staff with a supplemental response. During the teleconference held on August 11, 2004, the staff indicated it has already obtained the necessary information in the LRA and as part of the consistency with GALL audit, and will not be needing a supplemental response from the applicant.

### Question 3: Replacement Steam Generator (SG) Feedwater and Steam Nozzles

In the FNP LRA Table 3.1.1-25, the applicant states that the FNP replacement steam generator (SG) feedwater inlet and main steam outlet nozzles are fabricated from alloy steel and carbon steel. The applicant also states that these alloy steel components are much less susceptible to Flow Accelerated Corrosion (FAC) than carbon steel components.

NSAC-202L states that FAC is known to occur in piping systems made of carbon steel and low-alloy steel with flowing water or wet steam. Please provide the material information and justification for exclusion of FAC for the SG components (feedwater inlet and steam outlet nozzles, safe ends, etc).

**Discussion:** The applicant indicated that it understood the question, and agreed to provide a response to this question.

## REVIEW OF LICENSE RENEWAL APPLICATION (LRA) FOR FARLEY NUCLEAR PLANT (FNP), UNITS 1 AND 2

August 13, 2004

Telephone conferences were held to discuss the following question on August 3 and 11, 2004. And this question was sent to the applicant via e-mail on August 4, 2004. The staff reiterated this question during the telephone conference held on August 13, 2004. The staff's question and the associated discussion with the applicant are presented below:

### CASS Thermal Embrittlement

In Table 3.1.1-24 of the FNP LRA, the applicant stated that no program is needed to manage loss of fracture toughness of the FNP reactor coolant system cast austenitic stainless steel (CASS) piping and fittings due to thermal embrittlement. The applicant also stated that FNP has updated the original leak-before-break (LBB) analyses to address the period of extended operation, and that the results of this calculation update indicate that adequate margin exists between the critical crack size and the postulated crack size that yields a detectable leak rate.

The staff acknowledges that updating the LBB analyses validate and demonstrate the LBB for the period of extended operation. However, the LBB analyses do not demonstrate the effects of aging will be adequately managed as required by 10 CFR 54.21(a)(3). The Generic Aging Lessons Learned (GALL) report recommends that either enhanced volumetric examination or flaw tolerance evaluation be performed to manage the aging effects for CASS components.

A LBB analysis is not a flaw tolerance evaluation. The flaw postulated in the LBB analysis is a through-wall flaw that, under the applicable loading combination, yields a detectable leak rate. The flaw tolerance evaluation is to determine the allowable flaw which is a partial through wall flaw with no leak at all. The applicant is requested to explain how the LBB analyses can be taken as the flaw tolerance evaluation which manages this aging effect. Otherwise, the applicant is requested to identify which alternative, enhanced volumetric examination or flaw tolerance evaluation, will be used to manage this aging effect during the period of extended operation.

**Discussion:** The staff reiterated that LBB analysis is not a flaw tolerance evaluation, and that an enhanced volumetric examination or a flaw tolerance evaluation is recommended by GALL report. The applicant indicated that it understood the question, and agreed to provide a response to this question.

Joseph M. Farley Nuclear Plant

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