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 CUTTER,A.B. Carolina Power & Light Co.  
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SUBJECT: Application for amend to License NPF-63, deleting note on  
 Tech Spec Table 4.4-4, Item 1 re GRD of RC activity.

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A. B CUTTER  
Vice President  
Nuclear Services Department

SERIAL: NLS-89-101  
10CFR50.90

United States Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
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SHEARON HARRIS NUCLEAR POWER PLANT  
DOCKET NO. 50-400/LICENSE NO. NPF-63  
REQUEST FOR LICENSE AMENDMENT  
REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY

Gentlemen:

In accordance with the Code of Federal Regulations, Title 10, Parts 50.90 and 2.101, Carolina Power & Light Company (CP&L) hereby requests a revision to the Technical Specifications for the Shearon Harris Nuclear Power Plant.

The proposed change deletes the note on Item 1 of Technical Specification Table 4.4-4 which deals with the Gross Radioactivity Determination of the reactor coolant specific activity.

Enclosure 1 provides a detailed description of the proposed change and the basis for the change.

Enclosure 2 details the basis for the Company's determination that the proposed change does not involve a significant hazards consideration.

Enclosure 3 is an environmental evaluation which demonstrates that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9), therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the amendment.

Enclosure 4 provides the proposed Technical Specification pages.

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THE  
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Please refer any questions regarding this submittal to Mr. Mark A. Turkal at (919) 362-2985.

Yours very truly,



A. B. Cutter

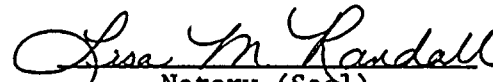
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Enclosures:

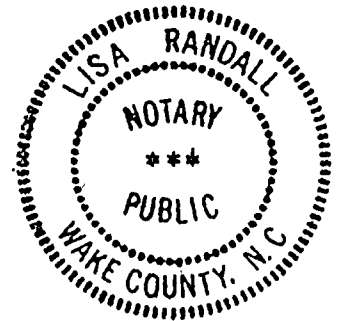
1. Basis for Change Request
2. 10CFR50.92 Evaluation
3. Environmental Evaluation
4. Technical Specification Pages

cc: Mr. R. A. Becker  
Mr. W. H. Bradford  
Mr. Dayne H. Brown  
Mr. S. D. Ebnetter

A. B. Cutter, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.

  
Notary (Seal)

My commission expires: 6-7-93





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ENCLOSURE 1

SHEARON HARRIS NUCLEAR POWER PLANT  
NRC DOCKET NO. 50-400  
OPERATING LICENSE NPF-63  
REQUEST FOR LICENSE AMENDMENT  
REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY

BASIS FOR CHANGE REQUEST

Proposed Change

The proposed change deletes the note on Item 1 of Technical Specification Table 4.4-4 which deals with the Gross Radioactivity Determination of the reactor coolant specific activity. This amendment is consistent with the Technical Specifications issued for Callaway and V. C. Summer.

Basis

Item 1 of Technical Specification Table 4.4-4 requires a gross radioactivity determination of the reactor coolant be performed at least once per 72 hours when the reactor is in Modes 1, 2, 3, or 4. The note associated with this item states in part: "The total of specific activity shall be the sum of the degassed beta/gamma activity and the total of all identified gaseous activities in the sample..." Performance of this analysis is too restrictive and not necessary to fulfill the intent of the Technical Specification as discussed in the Bases for Specification 3/4.4.8. Conformance with the note requires collection of a pressurized Reactor Coolant System (RCS) liquid sample; degassing of the sample; separate isotopic analysis of the degassed liquid and stripped gas portions; and the summing of these activities with the activities of pure beta emitters such as tritium, Fe-55, Sr-89 and Sr-90. In essence, the note requires, on a three day schedule, completion of essentially the same procedure performed for the Average Energy Determination required by Item 3 of Technical Specification Table 4.4-4. This Average Energy Determination, however, is required to be performed only once each six months. The proposed amendment deletes the note associated with Item 1 of Technical Specification Table 4.4-4.

In lieu of the analysis specified in the note, the gross count described in the Bases for Specification 3/4.4.8 will be performed. This is accomplished by collecting a depressurized RCS liquid sample. The sample is then evaporated and a gross beta/gamma count of the residue is obtained using a proportional counter. The gaseous activity determination required by the existing Technical Specification will not be performed.

The intent of the gross radioactivity determination required by Technical Specification Table 4.4-4, Item 1 is to verify that RCS liquid specific activity is maintained within the specific activity limits of

Technical Specification 3.4.8.b. These limits were established to maintain doses at the site boundary below 10 CFR 100 guidelines in the event of a steam generator tube rupture accident. For the purposes of this determination, RCS gaseous activity is insignificant when compared to overall RCS liquid activity. Therefore, elimination of gaseous activity determination does not affect the adequacy of the proposed analysis. This conclusion was supported by the performance of both the existing analysis and the proposed analysis on RCS liquid samples. The specific activities determined by these analyses were on the same order of magnitude. A degradation of fuel performance would be readily detectable by an increase in the sample's non-gaseous fission products. Based on the above, the Company believes the proposed analysis accomplishes the intent of the gross radioactivity determination and does not result in a significant reduction in the margin of safety.



ENCLOSURE 2

SHEARON HARRIS NUCLEAR POWER PLANT  
NRC DOCKET NO. 50-400  
OPERATING LICENSE NPF-63  
REQUEST FOR LICENSE AMENDMENT  
REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY

10CFR50.92 EVALUATION

The Commission has provided standards in 10CFR50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. Carolina Power & Light Company has reviewed this proposed license amendment request and determined that its adoption would not involve a significant hazards consideration. The bases for this determination are as follows:

Proposed Change

The proposed change deletes the note on Item 1 of Technical Specification Table 4.4-4 which deals with the Gross Radioactivity Determination of the reactor coolant specific activity.

Basis

The change does not involve a significant hazards consideration for the following reasons:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. Deleting the detailed analysis of the RCS liquid required by the note and performing a gross beta/gamma activity determination in its place does not physically alter any safety related systems nor does it affect the way in which any safety related systems perform their functions. As such, the proposed change can not increase the probability of a previously evaluated accident.

The proposed amendment revises the method in which RCS specific activity is determined. The existing Technical Specification requires the RCS gaseous activity be determined and included in the overall RCS liquid specific activity. RCS gaseous activity would not be determined by the proposed analysis. Recent testing has demonstrated that, for the purposes of the gross radioactivity determination, RCS gaseous activity is insignificant when compared

to overall RCS liquid activity. Specific activity was determined using both the existing analysis and the proposed analysis. The results of these analyses were on the same order of magnitude. A degradation of fuel performance would be readily detectable by an increase in the sample's non-gaseous fission products. As such, the proposed analysis is adequate to fulfill the intent of the gross radioactivity determination required by Technical Specification Table 4.4-4, Item 1. Therefore, the proposed amendment does not significantly increase the consequences of a previously evaluated accident.

2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed change does not introduce any new equipment nor does it require any existing equipment or systems to perform a different type of function than they are currently designed to perform. No Technical Specification operating limits are affected by this change. Therefore, the proposed revision can not create the possibility of a new or different kind of accident from any accident previously evaluated.
3. The proposed amendment does not involve a significant reduction in a margin of safety. The intent of the gross radioactivity determination required by Technical Specification Table 4.4-4, Item 1 is to verify that RCS liquid specific activity is maintained within the specific activity limits of Technical Specification 3.4.8.b. These limits were established to maintain doses at the site boundary below 10 CFR 100 guidelines in the event of a steam generator tube rupture accident. For the purposes of this determination, RCS gaseous activity is insignificant when compared to overall RCS liquid activity. Therefore, elimination of gaseous activity determination does not affect the adequacy of the proposed analysis. This conclusion was supported by the performance of both the existing analysis and the proposed analysis on RCS liquid samples. The specific activities determined by these analyses were on the same order of magnitude. A degradation of fuel performance would be readily detectable by an increase in the sample's non-gaseous fission products. As such, the proposed analysis accomplishes the intent of the gross radioactivity determination and does not result in a significant reduction in the margin of safety.

ENCLOSURE 3

SHEARON HARRIS NUCLEAR POWER PLANT  
DOCKET NO. 50-400/LICENSE NO. NPF-63  
REQUEST FOR LICENSE AMENDMENT  
REACTOR COOLANT SYSTEM SPECIFIC ACTIVITY

ENVIRONMENTAL CONSIDERATION

10CFR51.22(c)(9) provides criterion for and identification of licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite; and (3) result in a significant increase in individual or cumulative occupational radiation exposure. Carolina Power & Light Company has reviewed this request and determined that the proposed amendment meets 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 to be prepared in connection with the issuance of the amendment. The basis for this determination follows:

Proposed Change

The proposed change deletes the note on Item 1 of Technical Specification Table 4.4-4 which deals with the Gross Radioactivity Determination of the reactor coolant specific activity.

Basis

The change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) for the following reasons:

1. As demonstrated in Enclosure 2, the proposed amendment does not involve a significant hazards consideration.
2. The proposed amendment does not result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite. The intent of the gross radioactivity determination required by Technical Specification Table 4.4-4, Item 1 is to verify that RCS liquid specific activity is maintained within the specific activity limits of Technical Specification 3.4.8.b. These limits were established to maintain doses at the site boundary below 10 CFR 100 guidelines in the event of a steam generator tube rupture accident. For the purposes of this determination, RCS gaseous activity is insignificant when compared to overall RCS liquid activity. Therefore, elimination of gaseous activity determination does not

affect the adequacy of the proposed analysis. This conclusion was supported by the performance of both the existing analysis and the proposed analysis on RCS liquid samples. The specific activities determined by these analyses were on the same order of magnitude. A degradation of fuel performance would be readily detectable by an increase in the sample's non-gaseous fission products. Based on the above, the proposed amendment does not result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

3. The proposed amendment does not result in an increase in individual or cumulative occupational radiation exposure. Performance of the gross beta/gamma activity count of a depressurized RCS liquid sample will eliminate the need for degassing, reduce sample preparation time, and, therefore, result in a reduction in occupational radiation exposure.