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 EURY, L.W.      Carolina Power & Light Co.  
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SUBJECT: Application for amend to License NPF-63, revising operability requirements of Tech Spec 3.3.3.7 re chlorine detection sys.

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**Carolina Power & Light Company**

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SERIAL: NLS-88-106  
10CFR50.90

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Senior Vice President  
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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  
CHLORINE DETECTION SYSTEM

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 (SHNPP).

The proposed amendment revises the operability requirements of Technical Specification 3.3.3.7, Chlorine Detection Systems. The current specification requires that two independent chlorine detector trains be operable in all Modes with each train consisting of a detector at each Control Room Area Ventilation System intake (both normal and emergency) and a detector at the chlorine storage area. The proposed change will require the detectors at the chlorine storage area to be operable only when there is liquified chlorine in amounts in excess of 20 pounds stored at the chlorine storage area. The operability requirements for the chlorine detectors located in the control room intakes are not affected by the proposed amendment.

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 provides the proposed Technical Specification page.

In accordance with the requirements of 10CFR170.12, a check for \$150 is also enclosed.

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

Yours very truly,

  
L. W. Eury

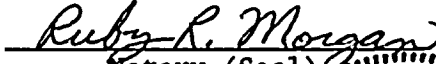
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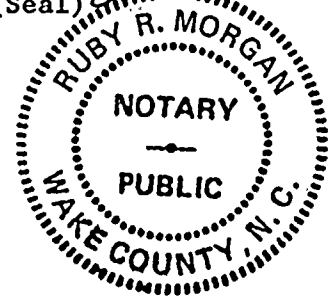
1. Basis for Change Request
2. 10CFR50.92 Evaluation
3. Technical Specification Page

cc: Mr. Dayne H. Brown  
Mr. B. C. Buckley  
Dr. J. Nelson Grace  
Mr. G. F. Maxwell

L. W. Eury, 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: 11/27/89





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U.S. DEPARTMENT OF AGRICULTURE  
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ENCLOSURE 1

SHEARON HARRIS NUCLEAR POWER PLANT  
NRC DOCKET NO. 50-400  
OPERATING LICENSE NPF-63  
REQUEST FOR LICENSE AMENDMENT  
CHLORINE DETECTION SYSTEM

BASIS FOR CHANGE REQUEST

Proposed Change

The proposed amendment revises the operability requirements of Technical Specification 3.3.3.7, Chlorine Detection Systems. The current specification requires that two independent chlorine detector trains be operable in all Modes with each train consisting of a detector at each Control Room Area Ventilation System intake (both normal and emergency) and a detector at the chlorine storage area. The proposed change will require the detectors at the chlorine storage area to be operable only when there is liquified chlorine in amounts in excess of 20 pounds stored at the chlorine storage area. The operability requirements for the chlorine detectors located in the control room intakes are not affected by the proposed amendment.

Basis

The Chlorine Detection System ensures that sufficient capability is available to promptly detect and initiate protective action in the event of an accidental chlorine release from either an onsite or an offsite location. The proposed amendment does not reduce the ability of the Chlorine Detection System to perform its intended function. The change will merely allow the chlorine detectors located at the chlorine storage area to be inoperable when less than 20 pounds of liquified chlorine is stored at the chlorine storage area. The 20 pound limit is based on Regulatory Guide 1.95 which exempts small quantities of liquified chlorine (20 pounds or less) from consideration. Movement and use of chlorine at SHNPP will continue to meet the guidance of Regulatory Guide 1.95.

The remote detectors at the chlorine storage area were installed in accordance with Regulatory Guide 1.95 which requires remote chlorine detectors located at the chlorine storage and unloading location for facilities with Type V control rooms (such as SHNPP). The purpose of the storage area detectors is to alarm and isolate the control room in the event of an accidental release of chlorine at the storage area. The remote chlorine detectors are not relied on to provide protection from an offsite chlorine release. Should an accidental offsite release occur, the probability of the remote detectors providing control room isolation in advance of the detectors located in the control room air intakes is minimal since this would be highly dependent on the location of the spill and wind direction. As such, their operability is required

only when liquified chlorine is being stored at the chlorine storage area.

The detectors located in the control room ventilation intakes provide offsite release protection. These detectors alarm and isolate the control room if necessary in the event of an offsite release of chlorine. This is consistent with Regulatory Guide 1.78 which requires Type A and B control rooms (SHNPP has a Type B control room) to have the capability of detecting at the control room fresh air intake those hazardous chemicals stored or transported near the site. The operability requirements for the chlorine detectors located in the control room intakes are not affected by the proposed amendment.

At present, liquid sodium hypochlorite in concentrations of 15 weight percent or less is used for water treatment at SHNPP. As such, liquified chlorine is not being stored at the chlorine storage area.

ENCLOSURE 2

SHEARON HARRIS NUCLEAR POWER PLANT  
NRC DOCKET NO. 50-400  
OPERATING LICENSE NPF-63  
REQUEST FOR LICENSE AMENDMENT  
CHLORINE DETECTION SYSTEM

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 amendment revises the operability requirements of Technical Specification 3.3.3.7, Chlorine Detection Systems. The current specification requires that two independent chlorine detector trains be operable in all Modes with each train consisting of a detector at each Control Room Area Ventilation System intake (both normal and emergency) and a detector at the chlorine storage area. The proposed change will require the detectors at the chlorine storage area to be operable only when there is liquified chlorine in amounts in excess of 20 pounds stored at the chlorine storage area. The operability requirements for the chlorine detectors located in the control room intakes are not affected by the proposed amendment.

Basis

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

1. The proposed amendment does not involve an increase in the probability of an accident previously evaluated because the change will not affect any systems or equipment which are involved in the initiation of any previously analyzed accident. The proposed change allows the chlorine detectors located at the chlorine storage area to be inoperable when 20 pounds or less of liquified chlorine is stored at the chlorine storage area. The Chlorine Detection System ensures that sufficient capability is available to promptly detect and initiate protective action in the event of



an accidental chlorine release. Changing the operability requirements of the Chlorine Detection System can not affect the probability of an accidental release of chlorine.

The proposed amendment does not reduce the ability of the Chlorine Detection System to perform its intended function. The change will merely allow the chlorine detectors located at the chlorine storage area to be inoperable when 20 pounds or less of liquified chlorine is stored at the chlorine storage area. The remote detectors at the chlorine storage area were installed in accordance with Regulatory Guide 1.95 which requires remote chlorine detectors located at the chlorine storage and unloading location for facilities with Type V control rooms (such as SHNPP). The purpose of the storage area detectors is to alarm and isolate the control room in the event of an accidental release of liquified chlorine stored at the storage area. The remote chlorine detectors are not relied on to provide protection from an offsite chlorine release. Should an accidental offsite release occur, the probability of the remote detectors providing control room isolation in advance of the detectors located in the control room air intakes is minimal since this would be highly dependent on the location of the spill and wind direction. As such, their operability is required only when liquified chlorine is being stored at the chlorine storage area. The 20 pound limit is based on Regulatory Guide 1.95 which exempts small quantities of liquified chlorine (20 pounds or less) from consideration. Movement and use of chlorine at SHNPP will continue to meet the guidance of Regulatory Guide 1.95. The detectors located in the control room ventilation intakes will alarm and isolate the control room if necessary in the event of an offsite release of chlorine. This is consistent with Regulatory Guide 1.78 which requires Type A and B control rooms (SHNPP has a Type B control room) to have the capability of detecting at the control room fresh air intake those hazardous chemicals stored or transported near the site. The operability requirements for the chlorine detectors located in the control room intakes are not affected by the proposed amendment. Based on this reasoning, the Company has determined that the proposed change does not involve an increase in the consequences of a previously evaluated accident.

2. The proposed change to Technical Specification 3.3.3.7 does not require the use of a new or different system than currently exists, nor does it require existing systems to perform functions for which they were not originally designed. Therefore, the proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.
3. The Chlorine Detection System ensures that sufficient capability is available to promptly detect and initiate protective action in the event of an accidental chlorine release. The proposed amendment does not reduce the ability of the Chlorine Detection

System to perform its intended function. The change will merely allow the chlorine detectors located at the chlorine storage area to be inoperable when 20 pounds or less of liquified chlorine is stored at the chlorine storage area. The remote detectors at the chlorine storage area were installed in accordance with Regulatory Guide 1.95 which requires remote chlorine detectors located at the chlorine storage and unloading location for facilities with Type V control rooms (such as SHNPP). The purpose of the storage area detectors is to alarm and isolate the control room in the event of an accidental release of liquified chlorine stored at the chlorine storage area. The remote chlorine detectors are not relied on to provide protection from an offsite chlorine release. Should an accidental offsite release occur, the probability of the remote detectors providing control room isolation in advance of the detectors located in the control room air intakes is minimal since this would be highly dependent on the location of the spill and wind direction. As such, their operability is required only when liquified chlorine is being stored at the chlorine storage area. The 20 pound limit is based on Regulatory Guide 1.95 which exempts small quantities of liquified chlorine (20 pounds or less) from consideration. Movement and use of chlorine at SHNPP will continue to meet the guidance of Regulatory Guide 1.95. The detectors located in the control room ventilation intakes will alarm and isolate the control room if necessary in the event of an offsite release of chlorine. This is consistent with Regulatory Guide 1.78 which requires Type A and B control rooms (SHNPP has a Type B control room) to have the capability of detecting at the control room fresh air intake those hazardous chemicals stored or transported near the site. The operability requirements for the chlorine detectors located in the control room intakes are not affected by the proposed amendment. Therefore, the proposed amendment does not involve a reduction in the margin of safety.

ENCLOSURE 3

SHEARON HARRIS NUCLEAR POWER PLANT  
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OPERATING LICENSE NPF-63  
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CHLORINE DETECTION SYSTEM

TECHNICAL SPECIFICATION PAGE