

ACCELERATED DOCUMENT DISTRIBUTION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9310120290 DOC. DATE: 93/10/05 NOTARIZED: YES DOCKET # 05000400
FACIL: 50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina
AUTH. NAME AUTHOR AFFILIATION
ROBINSON, W.R. Carolina Power & Light Co.
RECIP. NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Application for amend to license NPF-63 requesting rev to
to liquid release rate limit in manner that acks rev to
10CFR20.

DISTRIBUTION CODE: A001D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 9+6
TITLE: OR Submittal: General Distribution

NOTES: Application for permit renewal filed. 05000400

	RECIPIENT		COPIES		RECIPIENT		COPIES	
	ID	CODE/NAME	L	T	ID	CODE/NAME	L	T
	PD2-1	LA	1	1	PD2-1	PD	1	1
	LE,N		2	2				
INTERNAL:	ACRS		6	6	NRR/DE/EELB		1	1
	NRR/DORS/OTSB		1	1	NRR/DRCH/HICB		1	1
	NRR/DSSA/SPLB		1	1	NRR/DSSA/SRXB		1	1
	NUDOCS-ABSTRACT		1	1	OC/LFDCB		1	0
	OGC/HDS1		1	0	<u>REG FILE</u>	01	1	1
EXTERNAL:	NRC PDR		1	1	NSIC		1	1

NRR/DSSA/PRPB

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK,
ROOM P1-37 (EXT. 504-2065) TO ELIMINATE YOUR NAME FROM DISTRIBUTION
LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTR 21 ENCL 19

AA2

R
I
D
S
/
A
D
D
S



Carolina Power & Light Company
P. O. Box 165
New Hill, NC 27562

OCT - 5 1993

File: HO-930545

SERIAL: HNP-93-849
10 CFR 50.90

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

**SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT
LIQUID EFFLUENT RELEASE RATES**

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 (TS) for the Shearon Harris Nuclear Power Plant (SHNPP). This Technical Specification Change Request proposes revision to the liquid release rate limit in a manner that acknowledges the revisions to 10 CFR 20 and which also accommodates necessary operational flexibility. In addition, the BASES for the liquid release rate limit Specifications has been revised to reflect the transition of requirements to the revised 10 CFR Part 20.

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

Enclosure 2 details, in accordance with 10 CFR 50.91(a), the basis for the Company's determination that the proposed changes do not involve a significant hazards consideration.

Enclosure 3 provides 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 assessment needs to be prepared in connection with the issuance of the amendment.

Enclosure 4 provides page change instructions for incorporating the proposed revisions.

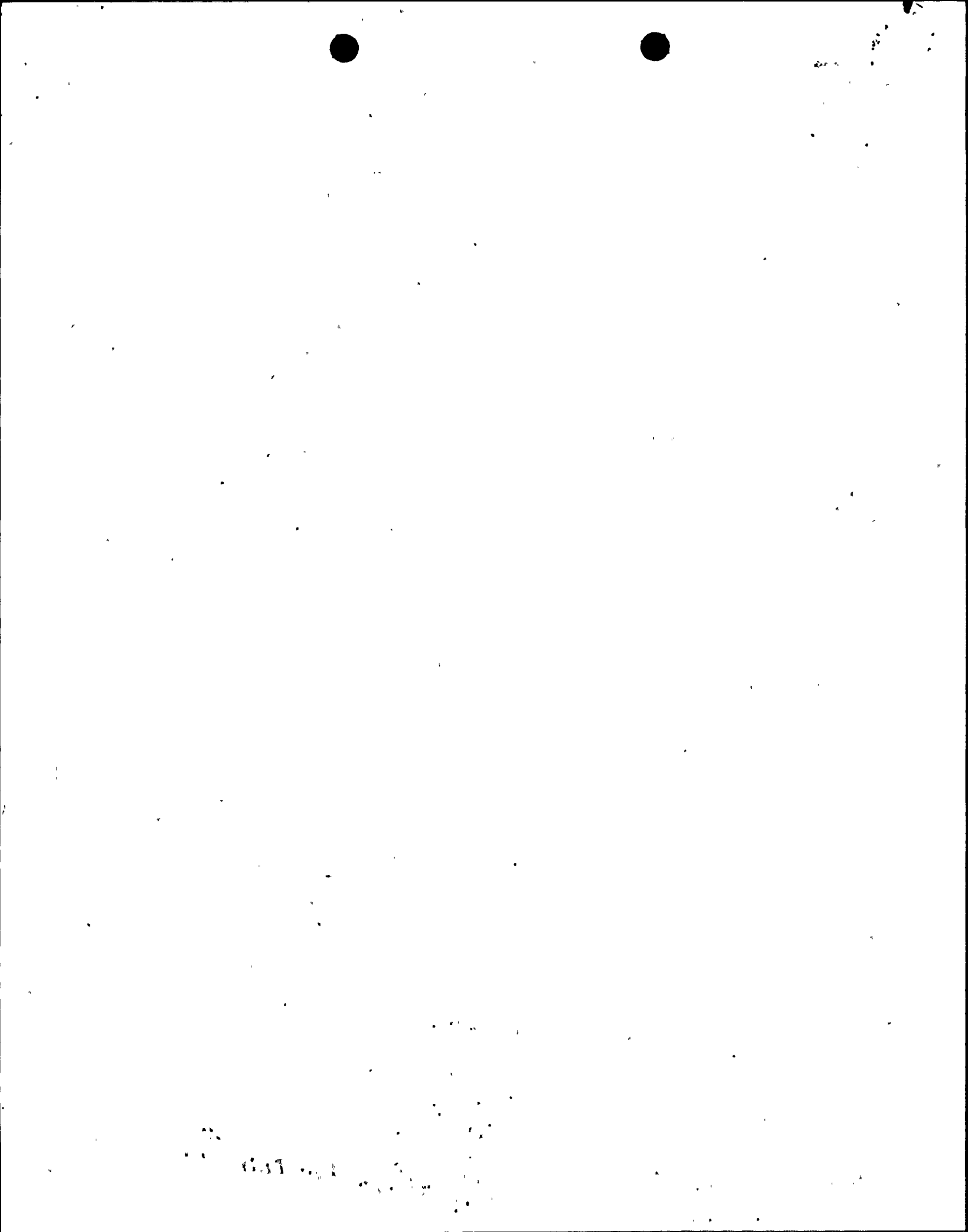
Enclosure 5 provides the proposed Technical Specification pages.

120020

MEM/HO930545/1/OS1

9310120290 931005
PDR ADOCK 05000400
P PDR

10/11
Add: NRR/DRSS/PRFB
Hr. Encl
11



In accordance with 10 CFR 50.91(b), CP&L is providing the State of North Carolina with a copy of the proposed license amendment.

CP&L requests that the enclosed Technical Specification change request be approved by December 15, 1993 in support of continued plant operations. In order to allow time for procedure revision and orderly incorporation into copies of the Technical Specifications, CP&L requests that the proposed amendments, once approved by the NRC, be issued such that implementation will occur within 30 days of issuance of the amendment.

Please refer any questions regarding this submittal to Mr. D. C. McCarthy at (919) 362-2100.

Yours very truly,



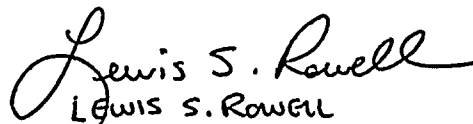
W. R. Robinson
General Manager
Harris Nuclear Plant

SDC:che

Enclosures:

1. Basis for Change Request
2. 10 CFR 50.92 Evaluation
3. Environmental Considerations
4. Page Change Instructions
5. Technical Specification Pages

W. R. Robinson, 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.

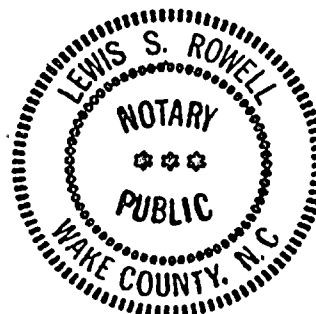


LEWIS S. ROWELL

Notary (Seal)

My commission expires: 7/12/94

cc: Mr. D. H. Brown
Mr. S. D. Ebnetter
Mr. N. B. Le
Mr. J. E. Tedrow



ENCLOSURE 1

SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT
LIQUID EFFLUENT RELEASE RATES

BASIS FOR CHANGE REQUEST

Background

Technical Specification 3/4 11.1.1, Liquid Effluent Concentration, ensures that the concentration of radioactive materials released in liquid waste effluents to unrestricted areas will be less than the concentration levels specified in 10 CFR Part 20, Standards for Protection Against Radiation, Appendix B, Table II, Column 2. This limitation provides additional assurance that the levels of radioactive materials in bodies of water in unrestricted areas will result in exposures within: (1) the Section II.A design objectives of Appendix I, 10 CFR 50, to a member of the public, and (2) the limits of 10 CFR Part 20.106(e) to the population. Effective June 20, 1991, the NRC published a revised 10 CFR Part 20, which among other changes, significantly affected the requirements of the previous 10 CFR 20.106 (Appendix B, Table II, Column 2). Specifically, the new Part 20 effectively reduces the concentration limits of most nuclides in liquid effluents. SHNPP has implemented the new Part 20 requirements effective January 1, 1993, including the revised concentration limits. At the current rate of operations, the revised limits associated with liquid effluent concentrations will severely impact operational flexibility.

Proposed Change

This Technical Specification Change Request proposes revision to the liquid release rate limit in a manner that acknowledges the revisions to 10 CFR 20 and which also accommodates necessary operational flexibility. In addition, the BASES for the liquid release rate limit Specifications have been revised to reflect the transition of requirements to the revised 10 CFR Part 20.

Basis

This proposed Technical Specification change request would revise the TS wording such that it is consistent with the revised terminology of 10 CFR Part 20 and will retain the same overall level of effluent control required to meet the design objectives of Appendix I to 10 CFR 50.

The requirements for the content of the Technical Specifications concerning radioactive effluents are contained in 10 CFR 50.36a. 10 CFR 50.36a requires the maintenance of controls over radioactive material in gaseous and liquid effluents to unrestricted areas,

produced during normal reactor operations, to levels that are as low as reasonably achievable (ALARA). For power reactors, Appendix I to 10 CFR 50 contains the numerical guidance to meet the ALARA requirements of Part 50.36a. Additional limitations and controls on radioactive effluents are imposed in 10 CFR 20 and 40 CFR 190. The liquid effluent limitations imposed by 10 CFR 50, 10 CFR 20 and 40 CFR 190 are tabulated below.

CFR Sections	Requirements
10 CFR 50 Appendix I	Dose to the public Less than: 3 mrem (whole body) or 10 mrem (any organ) in a year
10 CFR 20.106	App. B Table II Column 2 imposes maximum isotopic concentrations (MPCs) based on 500 mrem/year
10 CFR 20.1301	Dose to the public Less than: 50 mrem in a year
10 CFR 20.1302	Show compliance with 20.1301 by: - measurement, calculation or - maintaining annual average effluent concentrations less than App. B Table 2 limits (ECs)
40 CFR 190.10	Annual Dose Equivalent is less than: 25 mrem whole body 75 mrem thyroid 25 mrem any other organ

As shown above, the dose values specified in Appendix I of 10 CFR Part 50 provide the limiting dose criteria for liquid effluents. The Part 50 limits are a fraction of the implicit limits in 10 CFR 20.106 (MPCs) and the explicit limits in 10 CFR 20.1301 (ECs). For additional conservatism, the annual average concentration limits of Part 20.106 (Appendix B, Table II, Column 2) have been applied as an instantaneous limit to ensure that annual average releases of radioactive material in liquid effluents are maintained within the dose values specified in Appendix I of 10 CFR Part 50.

The limitation imposed by 10 CFR 20 is in the form of the rate at which dose to the public may approach the 10 CFR 50 Appendix I limit. Specifically, the limitation is on the concentration of isotopes released to unrestricted areas. The revisions to 10 CFR 20 reduces the annual dose to the public from 500 mrem to 50 mrem in a year. This in turn reduces the allowable effluent release rate.

The SHNPP was designed with limited dilution water capabilities with which to meet 10 CFR 20 release rate concentrations. The reduced limits in 10 CFR 20, especially for tritium, have reduced the plants capabilities for effluent releases. Since the radwaste treatment system can not remove tritium from water, storage in the radwaste tanks is required. The accumulation is approaching SHNPP's storage capacity. At the current rate of operations, the revised limits associated with liquid effluent concentration will severely impact operations.

For the purposes of Specification 3.11.1.1, 10 CFR Part 20 is used as a source of reference values only. 10 CFR 50 Appendix I requirements allow operational flexibility, compatible with considerations of health and safety, which may temporarily result in release rates which if continued for the calendar quarter would result in releases higher than specified in Appendix I.

The operational history at SHNPP has demonstrated that the use of the concentration values associated with Part 20.106 has resulted in calculated maximum individual doses to a member of the public that are a fraction of the values given in Appendix I of 10 CFR 50. Since a release concentration corresponding to a dose rate of 500 mrem/year has been acceptable as an release rate limit for liquid effluents, it is not necessary to reduce this release concentration limit by a factor of ten as imposed by the new 10 CFR 20. Therefore, the use of effluent concentration values consistent with the old effluent release basis, i.e., that are ten times those listed in Appendix B, Table 2 Column 2 to 10 CFR 20.1001 - 20.2401 will not have a negative impact on the ability to continue to operate within the design objectives in Appendix I of 10 CFR 50.

Compliance with the limits of 10 CFR 20.1301 will be demonstrated by operating within the design objectives in Appendix I of 10 CFR 50 and 40 CFR Part 190.

In addition to the above described change, CP&L has included revised BASES for Technical Specifications 3.11.1.1, Liquid Effluents to reflect that the requirements in 10 CFR 20.106 are now located in the new 10 CFR 20.1302.

This TS change request deals only with the liquid effluent release concentration limitations of the revised 10 CFR 20. Updating the SHNPP TS to incorporate the remainder of the 10 CFR 20 revisions is awaiting staff guidance (draft Generic Letter).

Conclusions

Based on the above, it is acceptable that the limits associated with the liquid release rate TS are based on ten times the effluent concentration values given in Appendix B, Table 2, Column 2 to 10 CFR 20.1001 - 20.2401, to apply at all times.

ENCLOSURE 2

SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT
LIQUID EFFLUENT RELEASE RATES

10 CFR 50.92 EVALUATION

The Commission has provided standards in 10 CFR 50.92(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 determination. The bases for this determination are as follows:

Proposed Change

This Technical Specification Change Request proposes revision to the liquid release rate limit in a manner that acknowledges the revisions to 10 CFR 20 and which also accommodates necessary operational flexibility. In addition, the BASES for the liquid release rate limit Specifications have been revised to reflect the transition of requirements to the revised 10 CFR Part 20.

Basis

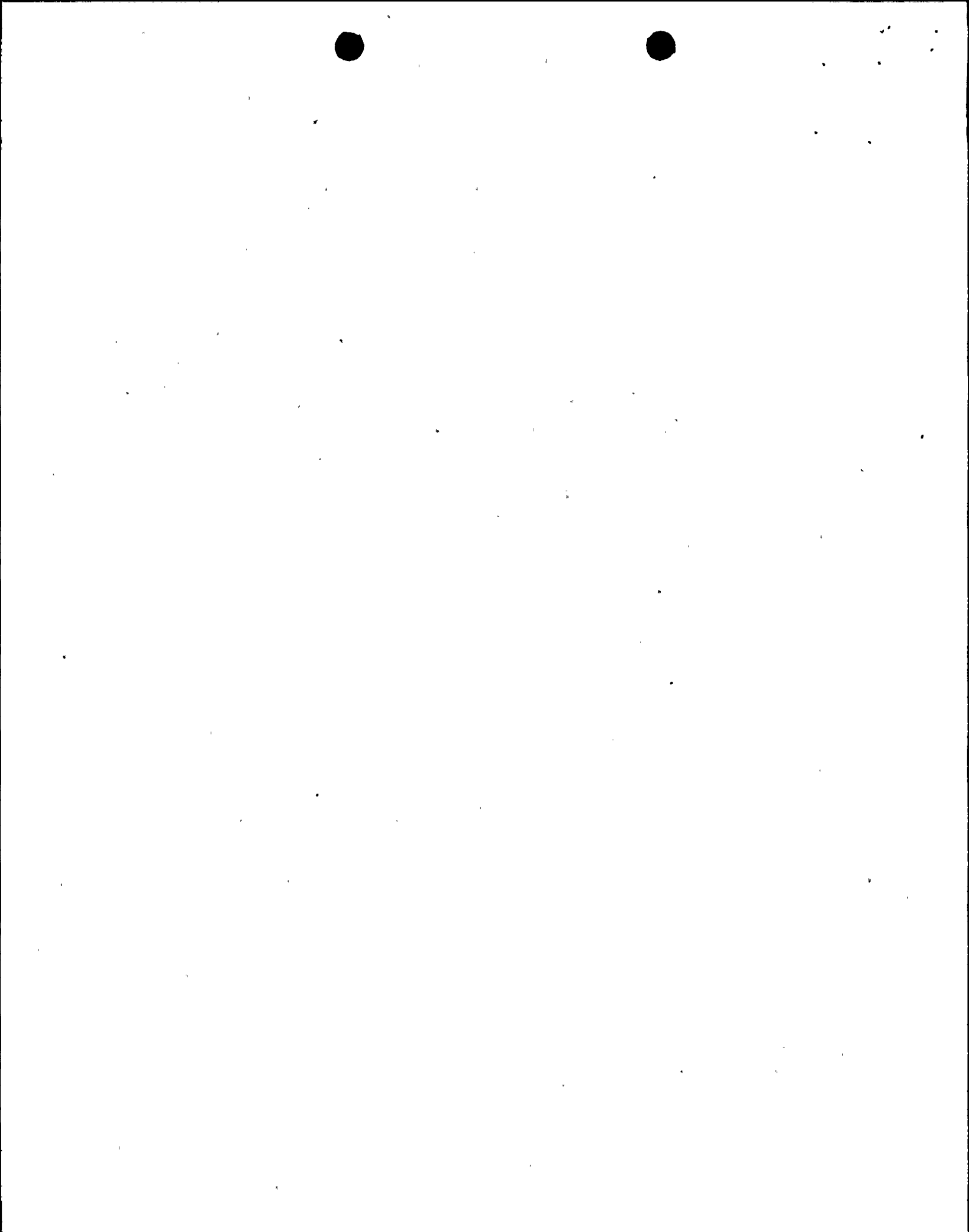
This change does not involve a significant hazards consideration for the following reasons:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed revisions to the liquid release rate limit and the relocation of the old 10 CFR 20.106 requirements to the new 10 CFR 20.1302 have no impact on plant systems, plant operations or accident precursors. The changes are administrative in nature, in that they will allow the continued operation of the facility with the same release rate limits as are currently implemented by the Technical Specifications and incorporate revised 10 CFR Section references.
2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. The proposed revisions to the liquid release rate limit and the relocation of the old 10 CFR 20.106 requirements



to the new 10 CFR 20.1302 have no impact on plant systems, plant operations or accident precursors. The changes are administrative in nature, in that they will allow the continued operation of the facility with the same release rate limits as are currently implemented by the Technical Specifications and incorporate revised 10 CFR Section references.

3. The proposed amendment does not involve a significant reduction in the margin of safety. The proposed revisions will maintain the release rate limits for liquid effluents at the same level as that required by 10 CFR 20.106. Therefore, there will be no change in the types and amounts of effluents that will be released, nor will there be an increase in individual or cumulative radiation exposures to any member of the public.



ENCLOSURE 3

SHEARON HARRIS NUCLEAR POWER PLANT
NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
REQUEST FOR LICENSE AMENDMENT
LIQUID EFFLUENT RELEASE RATES

ENVIRONMENTAL CONSIDERATIONS

10 CFR 51.22(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; (3) result in an 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 needs to be prepared in connection with the issuance of the amendment. The basis for this determination follows:

Proposed Change

This Technical Specification Change Request proposes revision to the liquid release rate limit in a manner that acknowledges the revisions to 10 CFR 20 and which also accommodates necessary operational flexibility. In addition, the BASES for the liquid release rate limit Specifications have been revised to reflect the transition of requirements to the revised 10 CFR Part 20.

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 proposed revisions to the liquid release rate limit and the relocation of the old 10 CFR 20.106 requirements to the new 10 CFR 20.1302 have no impact on plant systems, plant operations or the production and/or release of radioactive materials.

The changes are administrative in nature, in that they will allow the continued operation of the facility with the same release rate limits as are currently implemented by the Technical Specifications, and incorporate revised 10 CFR Section references. There will be no change, as a result of this Technical Specification change request, in the types and amounts of effluents that will be released, nor will there be an increase in individual or cumulative radiation exposures to any member of the public.

3. The proposed amendment does not result in an increase in individual or cumulative occupational radiation exposure. Given that the proposed Technical Specification change would allow the continued operation of the facility with the same release rate limits as are currently implemented by the Technical Specifications, there should be no affect on either individual or cumulative occupational radiation exposure.