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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	
CAROLINA POWER & LIGHT COMPANY)	Docket Nos. 50-400 OL
AND NORTH CAROLINA EASTERN)	50-401 OL
MUNICIPAL POWER AGENCY)	
)	
(Shearon Harris Nuclear Power)	
Plant, Units 1 and 2))	

APPLICANTS' RESPONSES TO
INTERROGATORIES TO APPLICANTS
OF INTERVENOR CHANGE/ELP (CONTENTION 44)

Applicants Carolina Power & Light Company and North Carolina Eastern Municipal Power Agency, pursuant to 10 C.F.R. § 2.740(b), hereby submit the following responses to the interrogatories on Contention 44 contained in "Request for Production and Interrogatories to Applicants of Intervenor CHANGE/ELP," dated June 30, 1983. The provision of answers to these interrogatories is not to be deemed a representation that Applicants consider the information sought to be relevant to Contention 44.

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General Interrogatories

INTERROGATORY NO. 1: State the name, present or last known address, and present or last known employer of each person known to Applicants to have first-hand knowledge on which the responses are based, for each of the contentions which are the subject of this set of interrogatories.

ANSWER: The following persons provided information upon which Applicants relied in answering the interrogatories on Contention No. 44: W.G. Lyman; R.H. McFetridge; J.C. Mesmeringer; S.G. Scaglia; R.J. Skwarek; and C.G. Draughon. All of the above are employees of Westinghouse Electric Corp., Nuclear Technology Division, Box 355, Pittsburgh, Pennsylvania 15230.

INTERROGATORY NO. 2: Identify those facts concerning which each such person has first-hand knowledge.

ANSWER: All such facts are indicated within Applicants' answers to the interrogatories on Contention No. 44.

INTERROGATORY NO. 3: State the specific basis or facts which support each response. To the extent that Applicants rely solely upon documents for their response(s), please indicate the documents by their title, date, author, and location. Please identify also relevant page citations.

ANSWER: All such bases, facts or documents are indicated within Applicants' answers to the interrogatories on Contention No. 44.

INTERROGATORY NO. 4: State the name, present or last known address, and present or last known employer of each person who provided information upon which Applicants relied in answering each interrogatory herein.

ANSWER: See answer to Interrogatory No. 1.

INTERROGATORY NO. 5: Identify all such information which was supplied by each such person and the specific interrogatory response in which such information is contained.

ANSWER: All such information is indicated within Applicants' answers to the interrogatories on Contention No. 44.

INTERROGATORY NO. 6: State the name, address, title, employer, and educational and professional qualifications of each person Applicants intend to call as an expert witness or as a witness relating to any contention which is the subject of this set of interrogatories.

ANSWER: Applicants have not yet identified the expert or other witnesses they expect to call in this proceeding. When and if such witnesses are identified, Applicants will supplement this response in a timely manner.

INTERROGATORY NO. 7: Identify the contention(s) regarding which each person identified in interrogatory (6) is expected to testify, and the subject matter as to which each such witness is expected to testify.

ANSWER: See answer to Interrogatory No. 6.

INTERROGATORY NO. 8: Identify all documents in Applicants' possession, custody or control, including all relevant page citations, pertaining to the subject matter of, and upon which the Applicants relied, in formulating responses to, each contention which is the subject of this set of interrogatories.

ANSWER: All such documents are identified in Applicants' answers to the interrogatories on Contention No. 44.

INTERROGATORY NO. 9: State the specific response to each contention or interrogatory which Applicants contend each document supports.

ANSWER: See answer to Interrogatory No. 8.

INTERROGATORY NO. 10: Identify all documents in Applicants' possession, custody, or control, including all relevant page citations, upon which Applicants relied in answering each interrogatory herein.

ANSWER: All documents Applicants relied upon in answering these interrogatories are indicated within each response to the specific interrogatories on Contention No. 44.

INTERROGATORY NO. 11: Identify all other sources of information, not identified in responses to General Interrogatories 5, 8 and 11 herein, which were used in answering each interrogatory herein.

ANSWER: All sources of information Applicants relied upon in answering these interrogatories are indicated within each response to the specific interrogatories on Contention No. 44.

INTERROGATORY NO. 12: Identify all documents which Applicants intend to offer as exhibits during this proceeding to refute contentions which are the subject of this set of interrogatories.

ANSWER: Applicants have not yet identified those documents they intend to offer as exhibits relating to Contention No. 44. When and if such documents are identified, Applicants will supplement this response in a timely manner.

Specific Interrogatories -- Contention 44

INTERROGATORY NO. 44-1(a): At page 115 of NUREG-CR-2628, "Inadequate Core Cooling Measurement Using Differential Pressure for Reactor Vessel Level Measurement," it is stated that "There is an uncertainty in the measured level associated with the narrow range differential pressure measurement (the most sensitive) of about 6% or ± 2.5 ft." Do Applicants agree that this uncertainty applies to SHNPP?

ANSWER: Yes.

INTERROGATORY NO. 44-1(b): If the answer to 44-1(a) is "no", please state the basis for your position.

ANSWER: Not applicable.

INTERROGATORY NO. 44-1(b)(1): Does your "no" indicate simply that the margin of uncertainty will be different at SHNPP? If so, what do Applicants believe the margin of uncertainty will be? What is the basis for this belief?

ANSWER: Not applicable.

INTERROGATORY NO. 44-1(b)(2): Is the basis of your answer "no" the result of modifications or alterations to the system described in NUREG/CR-2628? If so, please describe all such modifications and/or alterations (diagrams would be helpful).

ANSWER: Not applicable.

INTERROGATORY NO. 44-1(b)(3): Is your answer "no" based on a disagreement with the conclusion quoted from NUREG/CR-2628? If so, please specify the basis for your disagreement?

ANSWER: Not applicable.

INTERROGATORY NO. 44-1(c): If the answer to 44-1(a) is "yes", please indicate to what range the potential uncertainty will apply. In describing such range, please indicate with particularity:

INTERROGATORY NO. 44-1(c)(1): The range of uncertainty for SHNPP, measured both in feet (to the nearest tenth of a foot) and in percent.

INTERROGATORY NO. 44-1(c)(2): For the figure in percent, indicate precisely over what range the percentage applies: for example, from the top of the reactor vessel to the bottom, hot leg centerline to bottom of vessel, etc. For distances measured from the top or bottom of the reactor vessel, please indicate whether this is measured from the inside or the outside of the vessel. Please state your measurement in feet (to the nearest tenth of a foot).

INTERROGATORY NO. 44-1(c)(3): Please indicate the height of the reactor vessel, from the lowest point on the inside to the highest point on the inside, in feet (to the nearest tenth of a foot).

ANSWER: Over the range of the vessel from the inside surface of the head to the inside surface of the vessel bottom (height 39.6 feet), the uncertainty will not exceed $\pm 6\%$ of this range which corresponds to 2.4 feet.

INTERROGATORY NO. 44-1(c)(4): Please indicate the height of the core, in feet (to the nearest tenth of a foot).

ANSWER: 12.0 feet.

INTERROGATORY NO. 44-1(c)(5): Please indicate the distance between the bottom of the core and the bottom of the inside of the reactor vessel in feet (to the nearest tenth of a foot).

ANSWER: 10.0 feet.

INTERROGATORY NO. 44-1(c)(6): Please indicate Applicants' best estimate as to the average likely error (in feet, rounded to the nearest tenth of a foot) this uncertainty is likely to cause in water level readings during normal operation of SHNFP.

ANSWER: See response to Interrogatory No. 44-1(c)(7).

INTERROGATORY NO. 44-1(c)(7): Please indicate the basis for such estimate.

ANSWER: The uncertainty associated with a narrow range differential pressure measurement has no impact on the average likely error during normal operation. This measurement is not used during normal operation.

INTERROGATORY NO. 44-2: Assume a small-break LOCA in which the top of the core is within the range of uncertainty indicated above. Please answer the following questions:

INTERROGATORY NO. 44-2(a): What other systems are available to provide operators with additional indication of the level of water inside the reactor vessel?

ANSWER: There are no other direct water level indicators inside the vessel.

INTERROGATORY NO. 44-2(h): What are the uncertainties associated with each of these other systems?

ANSWER: Not applicable.

INTERROGATORY NO. 44-2(c): To what extent do other systems rely exclusively on the RVLIS system during such accidents?

ANSWER: No other systems rely on the RVLIS system.

INTERROGATORY NO. 44-3(a): NUREG/CR-2628 at p. 18 describes generally the set up of the RVLIS system. Please provide more specific details, particularly diameter, composition, installation and finished interior appearance data for the capillary tubing. Describe how the capillary tubing will be attached to the reactor vessel, hot legs, etc. Describe the appearance of the capillary tube entrance as it would appear from the inside plane of the reactor vessel, hot leg, etc. Diagrams would be helpful.

ANSWER: Using the description and diagram (Pages 18 and 19) of NUREG/CR-2628, the capillary lines are not directly attached to the RCS (i.e., reactor vessel, hot leg, etc.). The capillary lines are isolated from the RCS through a bellows arrangement.

The capillary lines are 304 stainless steel, 0.1875 inch outside diameter, and 0.0875 inch inside diameter.

INTERROGATORY NO. 44-3(b): Have Applicants conducted, or has Westinghouse or its contractor(s) conducted, any studies concerning the effect of corrosion on the capillary tubing?

ANSWER: Materials of construction of the capillary tubing (i.e., 304/316 stainless steel) and the fill fluid (i.e.,

demineralized and de-aerated water) were selected to obviate corrosion, based upon general knowledge and experience with these materials.

INTERROGATORY NO. 44-3(c): Have Applicants or Westinghouse or their contractor(s) conducted any studies or analysis of the effects of corrosion on joints between the vessel, hot legs, etc. and the capillary tubing?

ANSWER: Not applicable (See responses to Interrogatory Nos. 44-3(a) and 44-3(b)). Joints are stainless steel.

INTERROGATORY NO. 44-3(d): Have Applicants, Westinghouse or their contractor(s) conducted any studies or analysis on blockage scenarios and the potential effect of blockage on the RVLIS system?

ANSWER: Yes. See letter #NS-EPR-2597 dated May 14, 1982, Westinghouse to NRC.

INTERROGATORY NO. 44-3(e): If the answer to any of the preceding three questions (44-3(b)-(d)) is "yes" please indicate the results of such studies or analysis, the person(s) or organization(s) by whom they were performed, and produce documentary results for inspection or copying to the extent that such documents are in Applicants possession, custody, or control. To the extent that such documents are not in Applicants' possession, custody or control please indicate title, accession number(s), author, and other information necessary to locate same.

ANSWER: For answer to Interrogatory No. 44-3(d), results are on Page 3, Paragraph 6 "Plugging of impulse lines or parts" of NS-EPR-2597. Westinghouse Nuclear Technology Division performed the study.

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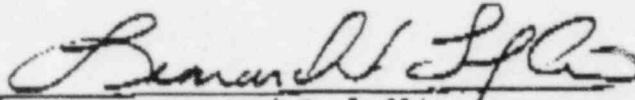
(Shearon Harris Nuclear Power
Plant, Units 1 and 2)

AFFIDAVIT OF LEONARD I. LOFLIN

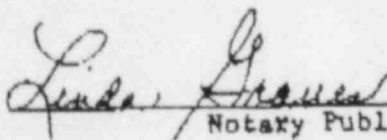
County of Wake)

State of North Carolina }

Leonard I. Loflin, being duly sworn according to law, deposes and says that he is Manager - Engineering, Harris Plant of Carolina Power & Light Company; that the answers in "Applicants' Responses to Interrogatories to Applicants of Intervenor CHANCE/ELP (Contention 44)" are true and correct to the best of his information, knowledge and belief; and that the sources of his information are officers, employees, agents and contractors of Carolina Power & Light Company.


Leonard I. Loflin

Sworn to and Subscribed before me,
this the 11th day of August, 1983.


Notary Public

My Commission Expires:

October 2, 1983

LINDA GRAVES
NOTARY PUBLIC
WAKE COUNTY, N. C.

My Commission Expires October 2, 1983