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AUTH.NAME AUTHOR AFFILIATION
HOWE,P.W. Carolina Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
VARGA,S.A. Operating Reactors Branch 1

SUBJECT: Forwards addl info requested in NRC 820413 ltr re upgraded senior reactor operator & reactor operator training & qualifications & training for mitigating core damage,per NUREG-0737,Items I.A.2.1 & II.B.4,respectively.

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CP&L
Carolina Power & Light Company

MAY 18 1982

Office of Nuclear Reactor Regulation
ATTN: Mr. Steven A. Varga, Chief
Operating Reactors Branch No. 1
United States Nuclear Regulatory Commission
Washington, D.C. 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261
LICENSE NO. DPR-23
REQUEST FOR ADDITIONAL INFORMATION -
UPGRADED SRO AND RO TRAINING AND
TRAINING FOR MITIGATING CORE DAMAGE

Dear Mr. Varga:

SUMMARY

Your letter of April 13, 1982 requested that Carolina Power & Light Company (CP&L) provide additional information regarding our July 11, 1980 submittal from R. B. Starkey, Jr. to Paul F. Collins, which submitted training programs for Operator Licensing Branch review in acccordance with H. R. Denton's letter of March 28, 1980 on revised criteria for operator training and licensing. This information is being used to ascertain the acceptability of CP&L's response to the requirements of NUREG-0737 Items I.A.2.1 and II.B.4 regarding upgrading reactor operator and senior reactor operator training and qualifications and training for mitigating core damage, respectively.

DISCUSSION

During the review of the NRC request for additional information, my staff noted the requirement for a "minimum of 80 contact hours of training for mitigating core damage" (un-numbered question, page 3 and questions 1 and 4, page 2). Further review of NUREGs-0660 and 0737 and H. R. Denton's guidance letter of March 28, 1980, indicated no guidance for a minimum of 80 contact hours in mitigation of core damage.

CP&L contacted the NRC regarding the aforementioned guidance. NRC advised CP&L that NRC's technical consultant misinterpreted NRC's intent of the "minimum requirement". NRC's intent was that a licensee's training program would very likely be acceptable if a minimum of 80 contact hours were provided that related to mitigating core damage (i.e. including training on related systems, heat transfer, fluid flow and thermodynamics).

411 Fayetteville Street o P. O. Box 1551 o Raleigh, N. C. 27602

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Enclosed please find CP&L's response to your letter of April 13, 1982. Please contact our staff should you have any questions regarding the enclosed information.

Yours very truly,

P. W. Howe
Vice President
Technical Services

DCW/lr (n-54)
Enclosure

cc: Mr. R. T. Liner
(Science Applications, Inc.)
Mr. J. P. O'Reilly (NRC-RII)
Mr. G. Requa (NRR)

ENCLOSURE
RESPONSE TO APRIL 13, 1982 LETTER

1. NRC's Request

Training procedures TI-201 and TI-201A identify heat transfer, fluid flow, thermodynamic and accident mitigation lectures which address the elements of enclosures 2 and 3 of Denton's March 28, 1980, letter. Do these lectures involve 80 contact hours? (A contact hour is a one-hour period in which the course instructor is present or available for instructing or assisting students; lectures, seminars, discussions, problem-solving sessions, and examinations are considered contact periods under this definition.)

CP&L's Response

The present Reactor Operator training program described in TI-201 and TI-201A include the following hours:

Heat Transfer, Fluid Flow, Thermodynamics	80 hours
Mitigating Core Damage (MCD)	35 hours
TOTAL:	115 hours

2. NRC's Request

Are the lectures and quizzes on the subject of accident mitigation given to shift technical advisors and operating personnel from the plant managers through the operations chain to the licensed operators? If they are, would you please provide the titles of the people who are trained and an organization chart which illustrates their position in the operations chain?

CP&L's Response

The lectures on accident mitigation were given to shift technical advisors and operating personnel from the plant managers through the operations chain to the licensed operators. An organizational chart, including titles, of those trained is attached.

3. NRC's Request

Do the training programs (TI-201, TI-201A and TI-203) have an increased emphasis on reactor and plant transients? If there is an increased emphasis, does it address both normal transients (startup, shutdown, power level changes) and abnormal transients (accident conditions)?

CP&L's Response

The present RO and SRO training programs have an increased emphasis on reactor and plant transients that address both normal and abnormal transients. The RO program has:

Transient and Accident Analysis	2 weeks
Simulator Program	5 weeks
TOTAL:	7 weeks

The SRO program has:

Transient and Accident Analysis	2 weeks
Simulator Program	2 weeks
TOTAL:	4 weeks

4. NRC's Request

The requalification program for H. B. Robinson provides lectures on heat transfer, fluid flow, thermodynamics and accident mitigation. Do these lectures involve 80 contact hours?

CP&L's Response

CP&L's requalification program for 1981 involved greater than 80 contact hours. The 1982 program will not. The requalification program in 1981 consisted of:

Heat Transfer, Fluid Flow, Thermodynamics	40 hours
Mitigating Core Damage Training	12 hours
Simulator Retraining 64 hours (50% MCD)	32 hours
TOTAL:	84 hours

The 1982 requalification program will consist of approximately:

Heat Transfer, Fluid Flow, Thermodynamics	6 hours
Mitigating Core Damage Training	3 hours
Simulator - 64 hours (50% MCD)	32 hours
TOTAL:	41 hours

5. NRC Request

For Item II.B.4 provide an outline of the training program for mitigating core damage, including the number of training hours involved. Your outline can include any training program which relates to the training for mitigating core damage. Follow the guidelines given in the enclosure 3 of H. R. Denton's letter dated March 28, 1980 and INPO Guidelines for Training to Recognize and Mitigate the Consequences of Core Damage (Document Number STG-01, Rev. 1, January 15, 1981). NRC requires a minimum of 80 contact hours of training for mitigating core damage.

CP&L Response

The present training program for mitigating core damage consists of the following:

	Hours
Fuel Rod Temperature Profiles	1
Reactor Heat Generation	1
Core Thermal Limits	1
Hot Channel Factors	1
Natural Circulation and Plant Incidents	3
Inadequate Core Cooling	1
Normal Coolant Activity	1
Accident Coolant Activity	1
Corrosion Mechanisms, Normal and Post Accidents	1
Hydrogen Generation	1
Calculations of Core Damage Based on Hydrogen	1
Post Accident Hydrogen Control	1
Fission Product Containment	2
Post Accident Radiation	2
Incore Thermocouple Systems	1
Incore Flux Detectors	1
Excore Instrumentation	1
Vital Accident Instrumentation Failure of TMI	1
Potential Instrumentation Problems During an Accident	1
TMI-2 Background, Sequence of Events, Lessons Learned, Radiological Aspects	4
Plant LERs related to TMI-2	1
St. Lucie Incident	1
Kewaunee Incident	1
Crystal River Incident	1
Rancho Seco Incident	1
Davis - Besse Incident	1
Ginna Incident	1
Indian Point Incident	1
TOTAL:	35 hours

ATTACHMENT

ORGANIZATION CHART OF PERSONNEL RECEIVING MITIGATING CORE DAMAGE TRAINING