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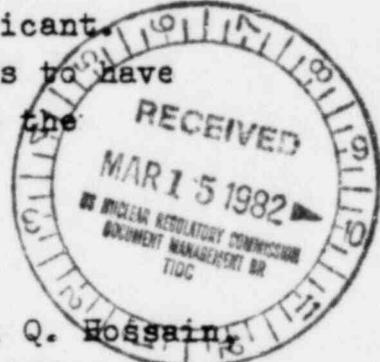
UNITED STATES OF AMERICA
 NUCLEAR REGULATORY COMMISSION March 10, 1982
BEFORE THE ATOMIC SAFETY & LICENSING BOARD 11:45

In the Matter of:
 HOUSTON LIGHTING & POWER CO.
 (Allens Creek Nuclear Generating
 Station, Unit 1)

enf
 Docket No. 50-466 CP

INTERVENOR DOHERTY'S FOURTH SET OF INTERROGATORIES TO APPLICANT WITH REGARD TO TEXPIRG CONTENTION 31 AND QUADREX REPORT MATTERS

John F. Doherty, Intervenor in the above construction license proceeding, and acting under the Board Order of January 28, 1982, now files the below Interrogatories pursuant to 10 CFR 2.740(b) and 10 CFR 2.741. Please answer each question fully. Please identify all documents, memoranda, reports, studies, or other similar items relied upon by Applicant which support the answer, and make available such documents to this Intervenor. Identify expert witnesses who answer the questions and give their relationship to Applicant. Identify any expert witnesses who Applicant intends to have testify on the subject matter questioned and state the expert's qualifications. Thank you.



THE INTERROGATORIES

1. What are the personal qualifications of R. Koppe, Q. Hossain, J. Nardello, Gene Esswein, H. R. Booth, and R. Uffer of the Quadrex Corporation?
2. What examples did Quadrex provide to support its statement in Sec. 4.6.2.1(c) of the Report, that: "Nuclear Analysis has failed to scope, perform or have analysis performed that should have been completed (including correction of reports containing obsolete or erroneous analysis) given the present state of STP design and construction?
 - (a) Does Applicant agree with the finding in 4.6.2.1(c)?
 - (b) Does the finding apply to NUS and B&R?
 - (c) What part of its organization will Applicant rely upon to prevent a similar problem or situation at ACNGS?

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3. What are the personal qualifications of Earl Willey of Quadrex Corp.?
4. What basis did Quadrex provide for the statement:
"The technical assumptions used for design and analysis are not reasonable for STP?" (See Sec. 4.6.2, p. 4-57. Report)
 - (a) Prior to Quadrex, did Applicant protest that any technical assumptions were not reasonable for STNP?
 - (b) Make available any documents that question technical assumptions in the above, but identify same in your reply please.
5. In Sec. 4.6.2, p. 4-57, has Quadrex indicated what it means when it states, "...no evidence has been seen that the B&R Nuclear Analysis Group has produced a significant contribution to the STP design?"
 - (a) Prior to Quadrex has Applicant been dissatisfied with the production of this group?
 - (b) Make available any documents that show Applicant's dissatisfaction expressed, but identify same in your reply please.
 - (c) What does Applicant intend to do supervising ACNGS construction with regard to the analogous Ebasco Services Nuclear Analysis Group that will prevent the problem cited here by Quadrex?
 - (d) With regard to Question N-15, what equipment had been purchased without backup analysis?
6. Had Applicant prior to Quadrex detected the inappropriate use of RELAP3 code mentioned in Question N-13?
 - (a) If so, make available any document showing this, and identify the document by name and date in your response please.
7. Did Applicant obtain any reasons from B&R for not identifying any high energy lines in the Mechanical Auxilliary Building (MAB) to be analyzed for environment? (See Question N-3)
 - (a) Was applicant aware that B&R had no plans or scoping mass releases for breaks in the MAB of high energy lines, prior to Quadrex?
 - (b) How will Applicant be organized differently to become

- aware sooner of this type of problem if it should occur at ACNGS?
- (C) Would it be one of Applicant's responsibilities to make B&R certain of any need to perform analyses for high energy line breaks in the MAB?
8. Did Applicant know that NUS Company was using an obsolete code in its annulus pressurization analysis? (Question N-2, Report)
- (a) What group in Applicant would consider codes used by NUS in this work?
- (b) Did anyone from Applicant urge NUS to use the COMPARE code instead of RELAP3 code?
- (c) Have any mass and energy releases been calculated for ACNGS?
- (d) What has Applicant done^{to} be sure obsolete codes are not used there, if the answer to (c) is affirmative?
9. With regard to Question N-8 of the Report, was Applicant aware that B&R did not know the proper methodology for handling potential flow paths during environmental analysis?
10. With regard to Question N-10 of the Report, was Applicant aware B&R did not know of the need to model makeup supplies of water for long term environmental analysis, prior to Quadrex? If so, make available any documents which show this, but provide here please the names and dates of them.
11. Was Applicant aware B&R was not giving consideration to valve performance qualification requirements near break locations, prior to Quadrex? (Question N-12)
- (a) If so, make available any memoranda or documents showing this, but in reply, please give dates and names of these documents.
12. Was Applicant aware prior to Quadrex that B&R had not considered local hydrogen concentrations in the battery room? (Question N-25, Report)
- (a) If yes, indicate what memos, documents etc. indicate this and give dates in your reply, and please make them available for inspection and copying.
- (b) Is hydrogen generation in the battery room of the ACNGS a consideration in that plant's design?

13. With reference to Question N-11, (and see also p. 4-61 of the Report) , what part of the reactor protection system does the MSIV trip or valve ramp characteristics play?

- (a) Prior to Quadrex, was Applicant aware of any "weakness" in B&R's understanding of the MSIV trip logic?
- (b) How will Applicant be able to assess this weakness sooner should it occur at the ACNGS site?

14. Referring to Question N-18, does Applicant agree with Quadrex that acceptance criteria for the containment Spray Analysis should have been performed by B&R?

- (a) Was Applicant aware this was not done, prior to the Report?
- (b) Was Applicant aware that B&R considered this analysis a Westinghouse responsibility?
- (c) What steps has Applicant taken to be certain there is no recurrence of this at ACNGS?

15. In Quadrex's discussion of the B&R response to Question C-4, they mention a reportable deficiency on the structural steel inside containment caused by the lack of consideration of ~~consideration of~~ thermal loadings and two other factors.

- (a) Was this due to lack of knowledge of "much higher localized temperatures than expected?"(See: Question N-13, last sentence of "Quadrex Assessment")
- (b) Was the structural steel constructed prior to the deficiency report?

16. In Sec. 4.6.2.4(u) of the Report, did Quadrex calculate how much higher the localized temperature for the outside containment concrete would be?

- (a) Prior to Quadrex, was Applicant aware a higher temperature was required, and if so, when was Applicant first aware?

17. Referring to item 4.6.2.4(v) of the Report, has Applicant the option of enlarging the ECP to accomodate concurrent trip of the STNP units?

18. Question N-23 of the Report, which consists of several questions on ECCS pump room flooding, states in the "Quadrex assessment": "Quadrex review of hand-out calculations showed a 44% non-conservative error. (Break area of .432 in² should be .622 in². Pipe wall thickness was inadvertently used."
- (a) Does this mean B&R substituted the pipe wall thickness for the break area?
 - (b) Was Applicant aware of these two errors prior to Quadrex review?
 - (c) If Applicant was aware, please give the date of first awareness, and make available any documents, etc. on the discovery of these errors.
19. Does Applicant agree with the Quadrex finding in Sec. 4.8.2, "Sufficient evidence to verify that appropriate design inputs (based on the criteria documents) were utilized, was not provided? If not, for what reasons?"
20. Relevant to Question R-9 of the Report, was Applicant aware that access to a steam generator manway was interfered with by structures, prior to Quadrex?
- (a) If "yes" to the above, when did Applicant first become aware? (Please make available any documents, etc. showing Applicant was aware as stated)
 - (b) How did Applicant first find out?
 - (c) If Report was Applicants first notice, what changes has Applicant made at ACNGS to prevent structures from impeding access to frequently maintained equipment in containment?
21. Relevant to Question R-9 of the report, was Applicant aware that access to Valves RHO60B and XRH-019B were located such that maintainability would be very difficult or almost impossible, prior to the Report? If so, at what date was Applicant aware, and indicate in your reply which documents, etc. show this, plus make the documents, etc. available.
- (a) What is the function of these valves, and what systems utilize their function?

22. Referring to Question R-9 of the Report, was Applicant aware prior to Quadrex that Valve XRC-074C had been installed upside down? If so, please identify and make available any document, report, etc., which shows this.
- (a) What is the function of Valve XRC-074C, and of which plant system is it a part?
23. What is the radiation streaming referred to in Question R-13 of the Report?
- (a) Does Applicant agree with the Quadrex assessment that for the most part, the criteria of TRD A509NQ005-B dealing with (radiation) streaming through shield penetrations had not been implemented?
- (b) Prior to Quadrex Report, had Applicant noticed that the document mentioned in part 23(a) criteria had not been implemented with regard to shield penetrations? If so, please identify and make available any document, report, etc., which shows this.
24. Referring to Question R-10 of the Report, what is a "gap release" accident?
25. In what ways does Quadrex Corp maintain shielding design did not adequately consider ISI requirements or potential locations for temporary shielding? (Report, Question R-10)
26. Does Applicant agree that, "The radiation zones...have not taken into account accident situations or other abnormal conditions?" (Report, Question R-10)
- (a) Prior to Quadrex Report, had Applicant noticed this alleged deficiency? If so, please identify and make available any document, report, etc., which shows this.
27. Report, Question R-6, states, "A failure mode and effects analysis has not been performed from a radiological safety standpoint on the systems referred to in the B& R response". Are each of the systems below included in that statement to the best of your knowledge?
- (a) Spent Fuel Pool Ventilation, (b) Fuel Handling Building Ventilation, (c) Control Room Ventilation, (d) Reactor Containment Building Stack Monitor.

28. Were any reviews of plant design from an ALARA standpoint, ever given to Applicant in result form?
29. Did Applicant ever ask for the results of such reviews as mentioned in item 28, above?
30. Referring to the Report, Question R-1, does Applicant accept the statement that B&R reviews of plant design from an ALARA standpoint were inadequate? If so, indicate the date and names of any report, document, or memo indicating this, and make it available to this Intervenor, please.
31. At any time prior to the Report, had any of Applicant's personnel reviewed models and codes used for shielding analysis by B&R? Has Applicant any reports, memos, etc. showing their opinion of B&R's understanding of these analyses? If so, please indicate the date of, and identify these reports or memos, etc. as well as make them available to Intervenor. (See: Report, Question R-11)
32. What is the identity and date of any memo, report, etc., where Applicant requested that B&R make a listing of radioactive piping outside containment? Please make this request available to Intervenor. (See Report, Question R-12)
33. Did Applicant concur in B&R's conduct in not reviewing the documents NUS-TM-261, "Pressure Vessel Activation Product Radiation Analysis and Shield Design," 1976; and NUS-TM-232, " Radiation Streaming Through Reactor Vessel Primary Shield Gap and Inspection Torus," 1976? (See: Report, Question R-14)
34. Did Applicant, prior to Feb. 1981, request that B&R create radiation zone drawings based on accident conditions? (See: Report, Question R-30) If so, please give the date of the request, identify any memo, report, letter, etc., showing this, and make such item available to this Intervenor, please.
35. Had Applicant, prior to Quadrex Report, ever notified B&R or other contractor at STNP of the need for a design basis governing removable concrete block walls? (See: Report, Sec.4.8.2.1(g))

- (a) If so, identify and please make available a copy of any means used by Applicant to notify them, but give the date and identify the document or means used, in your reply to this Interrogatory.
36. Has Applicant concluded B&R performed a thorough review of system design features relative to crud buildup? (Report, R-15) If so, identify and make available memos, documents, etc. from which Applicant concluded this. Identify them in your reply, please.
37. Referring to a letter from G. W. Oprea signed by J. H. (?) Goldberg ("for") of 6/5/81 identified as ST-HL-AE-678; SFN: V-0530, did the assessment of computer codes mentioned there refer to work by Quadrex? (See Attachment "A")
38. Referring to Question C/M-3 of the Report, what are the names of the following computer programs and what do they compute or provide for the user?
a) ES-425; b) CP-231; c) EP-200; d) EL-303; e) CW-522.
39. Relevant to Question C/M-8 of the Report, had Applicant ever examined or approved of the document STP-DC-017-C?
(a) Did Quadrex ever give Applicant an idea of how many times the "loop hole" had been used? How many?
(b) Was Applicant aware B&R was not verifying nationally recognized programs? If so, please give the date and identifying name or number of any document or report showing this and make said item available. If not, how will Applicant at the ACNGS site prevent this with Ebasco Services?
(c) Was Applicant aware, prior to Quadrex, that B&R was permitted to verify codes in five ways according to document STP-DC-017-C, without guidance for preference? If so, please give the date it determined this, and identify any document or other item showing this and make it available.

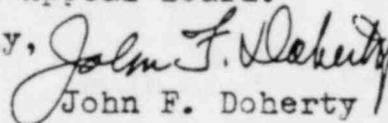
40. Prior to Quadrex Report, was Applicant aware that document STP-DC-017 permitted that, "If any part or portion of the computer code is verified, the whole is considered verified."? If so, indicate date Applicant became aware of it, anything it did as a result of this awareness, and identify and make available any memo, etc. that shows this. (Refer to C/M-13, Report)
41. Is Applicant aware at this time if there is a control document identifying all computer codes used on STP?
- (a) Prior to Quadrex, was Applicant aware that a control document of the type described in the first paragraph of the Quadrex Assessment of Question C/M-1 did or did not exist?
 - (b) Prior to Quadrex, was Applicant aware of the differences in the listings between the FSAR and the PSS mention by Quadrex in Question C/M-1 of the Report? If so, when was Applicant first aware, and what memo or document, etc. shows this awareness?
 - (c) What will Applicant do in the case of its ACNGS organization to keep these two documents correctly updated, that it did not do in the case of STNP?
42. Was Applicant aware program name and version number, date of execution, and sequential page numbering did not appear on every page of all output prior to Quadrex Assessment C/M-2? If so, please indicate the date of first awareness and identify any letters, memos, etc., that show this. Did Applicant attempt to have B&R revise this practice?

SERVICE OF PROCESS

I certify that copies of the above: INTERVENOR DOHERTY'S FOURTH SET OF INTERROGATORIES TO APPLICANT WITH REGARD TO TEXPIRG CONVENTION 31, AND QUADREX REPORT MATTERS were served on the below via First Class U. S. Postal Service, this 10th of March, 1982.

Sheldon J. Wolfe, Esq., Dr. E. Leonard Cheatum, Gustave A. Linenberger, Administrative Judges; Richard A. Black, Esq. Staff; J. Gregory Copeland, Esq. & Jack R. Newman, Esq., Applicant; The Several Intervening Parties; USNRC Docketing & Service; Atomic Safety Licensing & Appeal Board.

Respectfully,


John F. Doherty

INSPECTION FILE

The Light company

Houston Lighting & Power P.O. Box 1700 Houston, Texas 77001 (713) 228-9211

June 5, 1981
ST-HL-AE-678
SFN: V-0530



Mr. Karl Seyfrit
Director, Region IV
Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76012

Dear Mr. Seyfrit:

South Texas Project
Units 1 & 2
Docket Nos. STN 50-498; STN 50-499
First Interim Report Concerning
Computer Program Verification

On May 8, 1981, Houston Lighting & Power Company, pursuant to 10CFR50.55(e), notified your office of an item concerning computer program (code) verification. The verification methods lack adequate visibility to the user as to whether or not the program versions in use have been verified.

An assessment of computer codes used on the South Texas Project is in progress. This assessment includes a review of the computer program verification reports (CPVR) to evaluate the qualification of the computer codes used on the South Texas Project and a review of calculations for appropriate application of computer codes. To date, there has been no technical inadequacy identified in the use of computer programs which would preclude the safe operations of the plant. The next interim report concerning this item will be submitted to your office by August 28, 1981.

If you have any questions concerning this item, please contact Mr. Michael E. Powell at (713) 676-8592.

Very truly yours,

G. W. Oprea, Jr.
G. W. Oprea, Jr.
Executive Vice President

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