

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
PUBLIC SERVICE COMPANY OF OKLAHOMA,)
ASSOCIATED ELECTRIC COOPERATIVE, INC.,) Docket Nos. STN 50-556
AND) STN 50-557
WESTERN FARMERS ELECTRIC COOPERATIVE)
)
(Black Fox Station, Units 1 and 2))

APPLICANTS' REPLY TO PROPOSED
FINDINGS OF FACT AND CONCLUSIONS
OF LAW OF THE NRC
STAFF AND INTERVENORS

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I.

INTRODUCTION

1. This Nuclear Regulatory Commission (the NRC or the Commission) proceeding concerns the application by Public Service Company of Oklahoma (PSO), Associated Electric Cooperative, Inc., and Western Farmers Electric Cooperative (the Applicants) for construction permits for the Black Fox Station, Units 1 and 2. Applicants filed their proposed Findings of Fact and Conclusions of Law regarding radiological health and safety matters (Applicants' Findings) with this Atomic Safety and Licensing Board (Licensing Board) on March 26, 1979.^{1/}

^{1/} Applicants' Proposed Findings of Fact Concerning Load Combination Methodology were filed on March 28, 1979.

2. Citizens' Action for Safe Energy, Ms. Ilene Younghein and Lawrence Burrell (Intervenors) submitted "Intervenors' Proposed Findings of Fact, Conclusions of Law, and Proposed Order in the Form of a Partial Initial Decision Concerning Radiological Health and Safety Matters" (Intervenors' Findings) on April 12, 1979. The NRC Staff filed "NRC Staff Proposed Findings of Fact and Conclusions of Law in the Form of an Initial Decision on Radiological Health and Safety Matters" (NRC Staff Findings) on April 13, 1979.

3. Applicants submit this reply to the pleadings of Intervenors and the NRC Staff specified above. Applicants do not intend to controvert every contrary finding of fact and conclusion of law asserted by the Intervenors and the NRC Staff. In many instances, Applicants' initial Findings adequately delineate and characterize the record and no further reply is necessary. Our Reply is limited to those findings where further clarification of the state of the record is required. Consequently, the lack of a response to each and every contrary finding should not be construed as an endorsement thereof or acquiescence therein by Applicants.

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II. BOARD QUESTION 18-1 - INTEREST COVERAGE RATIOS

Has PSO provided different data on coverage ratios for bonded debt to NRC and OCC, and, if so, what is the reason for the difference.

4. As a result of the Licensing Board's Order Ruling on Motions for Summary Disposition dated September 8, 1978, the above question is the only one which remains for decision with regard to Applicants' financial qualifications.^{2/} Applicants have demonstrated that, while PSO provided coverage ratios for bonded debt to the NRC which were not also furnished to the Oklahoma Corporation Commission (OCC), legitimate reasons existed both for doing so and for the differences which exist among the various ratios.^{3/} Those differences are attributed to the use of different computational methods, time periods and data bases.^{4/} Intervenor's concede that any differences which exist among the different coverage ratios have been explained.^{5/}

5. In view of the foregoing, it is apparent that further inquiry into the financial qualifications of Applicants should end, for the only question left open by the Licensing Board has been answered. Nevertheless, Intervenor's

^{2/} Order Ruling on Motions for Summary Disposition at 52-55.

^{3/} Applicants' Findings at Paragraphs 44-48.

^{4/} Id. at Paragraph 48.

^{5/} Intervenor's Findings at Paragraphs 3-4.

now seek to reopen the issue of financial qualifications in general and of PSO's probable rate of return on equity in particular.^{6/} This action is manifestly improper for three reasons. First, this Licensing Board has previously excluded the portion of Intervenor's Contention 18 which sought to raise the question of the adequacy of the return on equity of PSO's parent company.^{7/} In so doing, the Licensing Board concluded that the record indicated a satisfactory return on equity for both PSO and its parent company.^{8/}

6. Second, although Intervenor's argument is presented as proposed findings of fact, it can only be construed (if the argument is to be considered at all) as a motion to reopen the record because Intervenor attempts to rely on extra-record information. Judged under the standards applicable to such a motion,^{9/} Intervenor's statements fall short of carrying their heavy burden. Intervenor brings forth nothing new or significant (discussed further in Paragraph 7.

^{6/} Intervenor's Findings at Paragraphs 4-5.

^{7/} Order Ruling on Motions for Summary Disposition at 53.

^{8/} Id.

^{9/} A motion to reopen the record must be timely presented and addressed to a significant safety or environmental issue. Furthermore, a motion to reopen must also establish that a different result would have been reached initially if the material submitted in support of the motion had been considered. The proponent of a motion to reopen the record has a heavy burden. Kansas Gas and Electric Company (Wolf Creek Generating Station, Unit No.1), ALAB-462, 7 NRC 320, 338 (1978). Georgia Power Company (Alvin W. Vogtle Nuclear Plant, Units 1 and 2), ALAB-291, 2 NRC 404, 409 (1975); Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station), ALAB-138, 6 AEC 520, 523 (1973).

below) to support their position, and certainly they do not show that the Licensing Board would have reached a different conclusion on the issue of Applicants' financial qualifications if the material contained in Intervenor's Findings had been considered.

7. Third, the admissibility of the extra-record information relief upon by Intervenor was in fact considered by the Licensing Board. Intervenor base their motion upon information contained in the Karlowicz Affidavit, an affidavit which was denied admission by the Licensing Board at the hearing on the grounds of relevancy.^{10/} Thus, this Licensing Board has already considered and rejected one attempt to expand the scope of the financial qualification question subsequent to the ruling on motions for summary disposition. It is transparent that the Karlowicz Affidavit, which has been reviewed and excluded from evidence, cannot be said to offer new or significant information requiring a fresh inquiry into or a different conclusion concerning the area of financial qualifications.

8. In connection with the question of financial qualifications, the NRC Staff has proposed findings of fact, based upon the Karlowicz Affidavit, concerning the rate of return on equity earned by PSO and its parent company.^{11/} Paragraph 199 of the NRC Staff's Findings should be disregarded by the Licensing Board on the ground that it is based

^{10/} Tr. 7801.

^{11/} NRC Staff Findings at Paragraph 199.

upon material which is not only outside the record, but was also denied admissibility based upon the objection of the NRC Staff on relevancy grounds.^{12/}

III. BOARD QUESTION 15-1 -- INTERGRANULAR STRESS CORROSION CRACKING (IGSCC)

Will General Electric be committed to remedial measures in parts of the Black Fox system where very recent (or future) experience indicates IGSCC may occur, as well as in parts of the system where such cracking has occurred in the past 10-15 years?

9. Board Question 15-1 is addressed in Paragraphs 49-56 of Applicants' Findings.

10. The Intervenor, in Paragraph 11 of their Findings, suggest that Applicant's commitment to take appropriate remedial measures with respect to IGSCC is equivocal and unreliable. This suggestion is based on Intervenor's reading of Dr. John B. West's supplemental testimony.^{13/} Intervenor's reading of Dr. West's testimony and the hearing record as a whole is erroneous.

11. Applicants' commitment, as stated by the Executive Vice President for PSO is clear, express and unequivocal, viz., PSO is fully committed to remedial measures with respect to IGSCC and should it ever be determined that the occurrence of IGSCC is creating a safety problem at the

^{12/} Tr. 7801.

^{13/} See Supplemental Testimony of Dr. John B. West following Tr. 8582.

Black Fox Station, PSO will take immediate steps to eliminate the safety problem.^{14/} The supplemental testimony of Dr. West does not alter or qualify PSO's commitment in any way.^{15/} The purpose of Dr. West's testimony was to keep the Licensing Board informed of new developments and no qualification of Mr. Fate's commitment was intended.^{16/} Somehow, Intervenor believe that the consideration by PSO of 316-K stainless steel as a potential piping material evidences equivocation with respect to Mr. Fate's commitment. Such an inference is nonsense. PSO is considering 316-K stainless steel in cooperation with General Electric Company (GE)^{17/}, and if 316-K is ultimately selected by PSO as a piping material, it must be approved by the NRC Staff pursuant to MTEB-5-7.^{18/} This action exemplifies PSO's intent to carry out and honor the commitment articulated by Mr. Fate.

12. In Paragraphs 12 and 13 of their Findings, Intervenor assert that the review by the NRC Staff is incomplete because they have not looked at the detailed plans

^{14/} Written Testimony of Martin E. Fate, Jr., following Tr. 5918, pp. 2-3; and Tr. 5937-38.

^{15/} Tr. 8538.

^{16/} Tr. 8590.

^{17/} Tr. 8565, 8585-88.

^{18/} Tr. 8574, 8678-79. The NRC Staff's witness indicated that approval was required under NUREG-0313. However, NUREG-0313 contains the same content as MTEB-5-7 (Tr. 8562), and therefore it is appropriate to refer to the two documents interchangeably.

and specifications for the Black Fox Station to determine whether or not the requirements of Section II of MTEB-5-7 have been satisfied. This assertion is not supported by the record. Applicants' commitment to Section II of MTEB-5-7 is, in the NRC Staff's view, sufficient for construction permit review purposes.^{19/} Section II is part of an overall regime established by the NRC Staff to deal effectively with the problem of IGSCC.^{20/} The entire approach has been reexamined recently by the NRC Staff and it was found to be adequate.^{21/} Intervenor's notion that a specific review, at this time, of the detailed piping plans and specifications for the Black Fox Station is necessary to determine compliance with Section II of MTEB-5-7 is erroneous because the NRC Staff intends to assure compliance with Section II through the use of NRC inspectors.^{22/} The foregoing amply demonstrates that the NRC Staff has completed its construction permit review of IGSCC for the Black Fox Station. As NRC Staff Exhibit 13 indicates, the NRC Staff's careful surveillance of the IGSCC problem will be continuous and, for the Black Fox Station, the matter will be reexamined during the final design stage of the facility.

^{19/} Tr. 5222-23, 8562.

^{20/} See MTEB-5-7 attached to Mr. Turovlin's testimony following Tr. 5157.

^{21/} See NRC Staff Exhibit 13, p. xix; Tr. 8564.

^{22/} Tr. 5218.

IV. BOARD QUESTION 10-3 - QUALITY ASSURANCE

What experience in the nuclear quality assurance area do the members of Applicants' staff have.

13. The Applicants' nuclear quality assurance personnel have adequate experience in this area. This has been acknowledged by the NRC Staff, which has several methods of reviewing the experience of quality assurance personnel.^{23/} Mr. J. G. Spraul of the NRC Staff testified that he had reviewed the minimum education and experience requirements of the manager of quality assurance, the site quality assurance superintendent and the superintendent of quality control for the Black Fox Station and found them acceptable.^{24/} Furthermore, the Applicants have committed in Section 1.9 of the PSAR to meet the provisions of Regulatory Guide 1.58 which concerns the qualification of nuclear power plant inspection, examination and testing personnel.^{25/} Mr. W. G. Hubacek of the NRC Staff testified that the Applicants' Manager of quality assurance, the site quality assurance superintendent and the superintendent of quality control were found to meet the requirements stated in the Black Fox PSAR.^{26/} The adequacy of Applicants' nuclear quality

^{23/} Written testimony of Spraul, p. 2, following Tr. 5734.

^{24/} Id. at 2-3.

^{25/} Id. at 3.

^{26/} Written testimony of Hubacek, p. 2, following Tr. 5734.

assurance staff is further documented in Applicants' Findings.^{27/} Intervenor's criticism of Applicants' nuclear quality assurance experience is based primarily on the fact that Black Fox Station is the first nuclear power reactor to be constructed and ultimately operated by Applicants. Intervenor's seem to be arguing that competence can never be expected in any first-time endeavor. Such an argument is as ludicrous as suggesting that the representation by Intervenor's counsel lacks competence because Black Fox was their first nuclear case.

14. Intervenor's also question compliance by Applicants with the certification requirements of SNT-TC-1A, which is entitled "Personnel Qualification and Certification in Nondestructive Testing".^{28/} Witnesses for both the NRC Staff^{29/} and Applicants^{30/} testified that Applicants have personnel who are qualified by training and experience to meet the qualifications of SNT-TC-1A, although those people are not officially certified under SNT-TC-1A at this time. That lack of formal certification does not present a problem, for Applicants are not now engaged in any activities

^{27/} Applicants' Findings at Paragraphs 85-90.

^{28/} Intervenor's Findings at Paragraph 30.

^{29/} Written testimony of Hubacek, p. 2, Tr. 5854.

^{30/} Tr. 5818.

which require the services of personnel who are certified in accordance with SNT-TC-1A.^{31/}

15. The statement of Applicants' witness, Mr. J. B. Perez,^{32/} which is relied upon by Intervenor,^{33/} does not alter the conclusion that the SNT-TC-1A certification standard is not applicable to the Black Fox Station at this time. Mr. Perez testified that in some cases, such as source surveillance, Applicants' QA personnel may be required to evaluate the results of radiographic examinations.^{34/} He went on to state, however, that "those personnel that do that will be qualified in accordance with SNT-TC-1A."^{35/} It is obvious that when the time comes to engage in activities which require personnel certified under SNT-TC-1A, a time estimated by Mr. Hubacek to be in three years,^{36/} Applicants will have quality assurance staff members who have been so certified. Intervenor's contrary assertions are without merit.

^{31/} Tr. 5854, 5856, 5895, 5901.

^{32/} Tr. 5818.

^{33/} Intervenor's Findings at Paragraph 30.

^{34/} Tr. 5818.

^{35/} Id.

^{36/} Tr. 5901.

V. BOARD QUESTION 66-1 - A-29

What relevance does TAP A-29 have to the construction permit proceedings for BFS? If it has relevance, what is its status?

16. Mr. W. F. Pasedag, a witness for the NRC Staff, testified flatly that TAP A-29 does not, and cannot, apply to the Black Fox Station.^{37/} This point is elaborated upon in Applicants' Findings.^{38/} In view of this, Board Question 66-1 has been answered adequately and the subject of protection of the Black Fox Station against sabotage should be closed.

17. Once again, however, Intervenors seek to go beyond the scope of the issues as defined by the Licensing Board and resurrect subjects which have previously been put to rest.^{39/} In the Order Ruling on Motions for Summary Disposition of September 8, 1978, the Licensing Board considered Intervenors' Contention 66, which stated:

The Applicants' present design does not adequately protect the public from the potential consequences of sabotage at the Black Fox Plant in that the Plant does not require sufficient structural integrity and safety redundancy to thwart a saboteur.

After reviewing the affidavits of Mr. William Ross for the NRC Staff and of Dr. E. L. Cox for Applicants which had

^{37/} Written testimony of Pasedag, p. 2, following Tr. 6189; Tr. 6193.

^{38/} Applicants' Findings at Paragraphs 95-98.

^{39/} Intervenors' Findings at Paragraphs 39-42.

been submitted with those parties' motions for summary disposition of Contention 66, the Licensing Board granted the motions in part and limited the inquiry in the area of sabotage and plant design to the narrow question stated above.^{40/}

18. In their Findings at Paragraphs 39-42, Intervenor's ignore the Licensing Board's ruling and initiate a renewed inquiry into whether the design features of the Black Fox Station have been reviewed with a view toward reducing the vulnerability of the facility to sabotage. The Licensing Board's ruling on the motions for summary disposition is res judicata, and we construe Intervenor's attempt to re-argue the matter in their Findings as essentially a request for reconsideration. As such, it must be rejected because Intervenor's have not provided any argument based on new information which could justify reconsideration by the Licensing Board.^{41/} Accordingly, Paragraphs 39-42 of Intervenor's Findings should be disregarded.

19. Despite the fact that the statements in Paragraph 40 of Intervenor's Findings are beyond the scope of Board Question 66-1, Applicants believe that the allegations in that paragraph require a response, lest the Licensing Board be left with the impression that the review of the

^{40/} Order Ruling on Motions for Summary Disposition at 56-58.

^{41/} NRC practice is clear that a party must do more than merely express its displeasure with a decision in order to prevail on a motion for reconsideration. Houston Lighting and Power Company (South Texas Project, Units 1 and 2) ALAB-387, 5 NRC 638 (1977).

Black Fox Station was not carried out properly. Intervenor's first charge that the NRC Staff did not review the layout of the facility and other design features and equipment in accordance with the Standard Review Plan entitled "Industrial Security, Section 13.6".^{42/} However, NRC Staff witness Pasedag testified that that Standard Review Plan is "outdated" by a new regulation, 10 C.F.R. § 73.55.^{43/} Applicants have committed to meeting the requirements of Section 73.55 relating to protection against sabotage, and the NRC Staff has approved this commitment for the purposes of issuance of the construction permits for the Black Fox Station.^{44/} Furthermore, witness Pasedag also testified that given the fact of the current NRC requirements regarding sabotage protection and assuming that the NRC Staff holds Black Fox Station to those requirements, there is no need to review specifically the design of the facility in order to ensure that high assurances of public health and safety regarding protection from sabotage will be achieved.^{45/}

20. Intervenor's also charge that the NRC Staff failed to review the Black Fox Station in accordance with ACRS generic item II C-2 which relates to sabotage.^{46/}

^{42/} Intervenor's Findings at Paragraph 40.

^{43/} Tr. 6215.

^{44/} Written testimony of Pasedag, pp. 1-2; Tr. 6191.

^{45/} Tr. 6207-10.

^{46/} Intervenor's Findings at Paragraph 40.

However, the Safety Evaluation Report in this docket states clearly that that generic item has been considered and is resolved for the Black Fox Station by compliance with 10 C.F.R. § 77.55.^{47/}

21. The other allegation made by Intervenors in Paragraph 40 of their Findings, that the NRC Staff omitted consideration of five generic ACRS items (II A-1, II A-5, II C-2, II C-3, II C-5), including sabotage protection, in Supplement 1 of the Safety Evaluation Report, is equally incorrect. Supplement 1 states that the ACRS generic items relating to Black Fox Station have been examined in one of two places, Appendix D of the GESSAR-238 NSSS Safety Evaluation Report or Appendix C of the Safety Evaluation Report for Black Fox Station.^{48/} An examination of the two references reveals that the five generic ACRS items were indeed considered by the NRC Staff.^{49/}

VI. BOARD QUESTION 2-2 -- ECCS

What "recently discovered" errors may exist in GE ECCS evaluation codes? Are there any errors other than those set forth in the SER at p. 6010 of Appendix A?

22. Board Question 2-2 is fully addressed in Paragraphs 110-113 of Applicants' Findings.

^{47/} NRC Staff Exhibit 6, p. 13-5 and Appendix C, p. C-3.

^{48/} NRC Staff Exhibit 7, p. 18-2.

^{49/} NRC Staff Exhibit G, Appendix A, pp. D-1 to D-7 and Appendix C, pp. C-1 to C-4.

23. In paragraph 60 of their Findings, Intervenor's assert that the calculated peak cladding temperature for Black Fox Station, taking into account the uncertainty band referred to by Applicants' witness, is very close to the 2200°F. limit set forth in 10 C.F.R. § 50.46. No party disputes the fact that the calculated peak cladding temperature, assuming LPCI diversion, is 2085°F. for the Black Fox Station. Intervenor's would add an additional 100°F. to this value to account for the upper range of the uncertainty band indicated by Applicants' witness, Mr. Levine.^{50/} Mr. Levine testified that, in his personal opinion, the peak cladding temperature calculated pursuant to the requirements of 10 C.F.R. § 50.46 and Appendix K was subject to an uncertainty band of plus or minus 100°F.^{51/} The NRC Staff's witness, Mr. Frahm, thought the figure was more like plus or minus 20°F.^{52/} Mr. Levine further emphasized that in the real world the actual peak cladding temperature expected was on the order of 1200° to 1400°F. because of the

^{50/} Intervenor's also suggest an additional uncertainty exists because the calculated value of 2085°F. was based on certain input data which are "approximations at this time." Because the Black Fox Station is in the preliminary design state, the calculation is necessarily based on preliminary data. Such data will be updated during the final design phase and will be submitted to the NRC Staff during its review of the Final Safety Analysis Report. Tr.6468.

^{51/} Tr. 6471.

^{52/} Tr. 6573.

large conservatisms which exist in the evaluation models as approved by the NRC Staff.^{53/}

24. The question of whether or not to add an uncertainty band or margin of error to calculated peak cladding temperatures is immaterial because the controlling NRC Regulations set forth in 10 C.F.R. § 50.46 and Appendix K do not provide for such an approach. Appendix K provides rigorous parameters for establishing a model, acceptable to the NRC Staff, for calculating the peak cladding temperature. The value obtained from that process is compared without further adjustment to the 2200°F. limit. The regulation is met as long as the value is 2200°F. or less. As both Messrs. Levine and Frahm testified, the use of an uncertainty or error band is unnecessary because the foregoing regulations account for uncertainties in the evaluation model by assuring that conservative parameters are used in the development of an acceptable model.^{54/} Therefore, as a matter of law, Intervenor's suggestion that 100°F. be added to the calculated peak cladding temperature for the Black Fox Station should be rejected.

25. In Paragraph 61 of their Findings, Intervenor's ignore the uncontroverted evidence set forth in Amendment 13 of the PSAR for the Black Fox Station. Specifically, the information set forth in Amendment 13 includes a letter from

^{53/} Tr. 6482.

^{54/} Tr. 6469-70 and 6577.

GE to PSO dated November 14, 1978, which explains the successive revisions to the calculated peak cladding temperature from an initial calculation of 2180°F. to 2038°F.^{55/} As explained in the letter, these reductions were mainly attributable to corrections to certain input data.^{56/} The value of 2038°F. was further reduced to 202°F. as a result of further data refinements which occurred during GE's Reverification Program.^{57/} Accordingly, the revisions to the calculated peak cladding temperature are adequately explained on the record; and further, it should be emphasized that the various corrections resulted in a reduction in the calculated value.

26. In Paragraph 62, Intervenor suggest that the further investigation by the NRC Staff of the results of certain tests performed by GE at its two loop test apparatus in San Jose, might adversely affect the calculated peak cladding temperature. The NRC Staff does not share this concern. The NRC Staff testified that sufficient margin exists in the present Black Fox ECCS calculation to assure that the Black Fox design is sufficiently conservative as proposed in the PSAR so that no hardware changes would be required.^{58/} Moreover, it was their judgment that when the

^{55/} These calculations were performed in accordance with 10 C.F.R. § 50-46, and therefore, they do not consider the occurrence of the LPCI diversion.

^{56/} See attachment to the November 14, 1978, letter.

^{57/} Rebuttal Testimony of Aaron J. Levine, pp. 6-7 following Tr. 6622.

^{58/} Testimony of Wayne Hodges following Tr. 8033, pp. 1 and 5-6.

cumulative effects of all phenomena were taken into account, the peak cladding temperature for the Black Fox Station would be no higher than presently calculated.^{59/}

VII. BOARD QUESTION 2-3 -- ECCS and CONTENTION 65 -- ATWS

What bearing has TAP A-16 upon the Black Fox Station ECCS evaluation?

The analysis by the Applicants and the Staff of the facilities' response to certain anticipated transients with simultaneous failure of the scram system (ATWS) have underestimated both the consequences of such events and their likelihood, to such an extent that the facilities present an undue hazard to the health and safety of the public.

27. The text of Board Question 2-3 and Contention 65 set forth on pages 69 and 79 respectively of Applicants' Findings, and the matters are addressed in Paragraphs 114-118 and 129-134 of that document.

28. Intervenors refer to the Three Mile Island incident in Paragraphs 64, 67 and 99 of their Findings. Such references are improper and they should be disregarded because they rely on information which is not a matter of record in the Black Fox proceeding. Applicants intend to address the Three Mile Island matter further in connection with our response to the recent motion filed by the Attorney General of Oklahoma.^{60/}

^{59/} Testimony of Wayne Hodges following Tr. 8033 at 5.

^{60/} Motion of the State of Oklahoma For an Indefinite Stay in the Issuance of an Initial Decision, filed on April 19, 1979.

29. In footnote 1 on page 109 of their Findings, the NRC Staff states:

"GE's risk figures were not without problems since they . . . somehow cited, Navy experience as having no scram failures when the material in question is classified and thus not available to the public. Tr. 7130."

The foregoing suggests that either GE or Applicants' witness, Mr. Fuller, or both breached government security regulations and laws. The record does not support this suggestion, and Applicants take sharp exception to the statement.

30. Mr. Fuller testified that a study performed by Electric Power Research Institute (EPRI) on scram reliability supported a similar but independent study performed by GE.^{61/} The GE study did not rely on Navy data.^{62/} The EPRI study consists of two parts, viz., an assessment of available scram failure experience and a synthetic analysis of the scram system that involves a review of each of the subcomponents of the system in order to determine overall system reliability.^{63/} Only the first part of the EPRI study relies on Navy data.^{64/} However, the so-called Navy data was not actual scram failure data which was not known because of its classified nature, but rather it was data that was postulated or assumed from the

^{61/} Tr. 7126-28.

^{62/} Tr. 7127.

^{63/} Tr. 7129-30.

^{64/} Tr. 7130.

number of known reactor years of Navy experience.^{65/}

31. The NRC Staff has submitted detailed findings of fact which delineate the differences between the positions of the NRC Staff and GE on whether or not ATWS should be accorded licensing status as a design basis event.^{66/}

Since the NRC Staff recognizes that this question is the proper subject of rulemaking and that ultimate resolution rests with the NRC Commissioners,^{67/} we conclude the NRC Staff agrees with Applicants that this issue should not be decided by the Licensing Board. It appears that the purpose of the detailed Findings set forth by the NRC Staff in Paragraphs 183-191 is to satisfy the requirements of the Appeal Board's River Bend decision.^{68/} Accordingly, the Licensing Board's consideration of these Findings should be limited to the River Bend matter.

VIII. CONTENTION 19 AND BOARD QUESTIONS 19-1, 2 AND 3 --
TURBINE MISSILES

Contention 19:

The Applicant has not adequately demonstrated that Black Fox, 1 and 2 will comply with 10 CFR Part 50, Appendix A, Criteria 4, in that the potential dynamic effects on the containment associated with internally generated turbine missiles have not been adequately considered.

19-1. What bearing, if any, do TAP-32 and TAP-37 have upon the review of BFS, and, if they do bear upon that review, what is their status?

^{65/} Tr. 7131-32.

^{66/} NRC Staff's Findings, Paragraphs 183-191.

^{67/} Id. at Paragraphs 181-82 and 192.

^{68/} See footnote 1 on Page 106 of the NRC Staff's Findings. Gulf States Utilities Co. (River Bend Station, Units 1 and 2) ALAB-444, 6 NRC 760 (1977).

19-2. Are the probabilities of failure per turbine year mentioned in the Staff's motion at p. 19-2 and in Reg. Guide 1.115, Rev. 1 in agreement with each other? (cf MHB affidavit, Section C at p. 19-2)

19.3 Which version of Reg. Guide 1.115 is applicable to BFS? Are there significant differences between Rev. 0 and Rev. 1?

32. Intervenors' Findings regarding turbine missiles, and the conclusion reached on this issue,^{69/} differ sharply from the findings proposed by Applicants and the NRC Staff concerning Contention 19 and Board Questions 19-1, 19-2 and 19-3.^{70/} There are three points made by Intervenors which Applicants wish specifically to address and refute. The first item concerns the value assigned to the probability of a turbine failure with missile ejection (P_1) in calculating the risk of unacceptable damage from turbine missiles. Applicants and the NRC Staff selected a value of 10^{-4} as the probability of P_1 based upon an article published by Dr. Spencer Bush in 1973.^{71/} Intervenors challenge this approach based upon the testimony of Mr. Dale Bridenbaugh that the value should be 3.1×10^{-4} , which is the higher of two values given by Dr. Bush in a follow-up article published in November-December, 1973.^{72/} The use of 10^{-4} as the value for P_1 continues to be valid, however, for both NRC Staff witness,

^{69/} Intervenors' Findings at Paragraphs 108-115.

^{70/} Applicants' Findings at Paragraphs 144-151.

^{71/} Id. at Paragraph 146.

^{72/} Intervenors' Findings at Paragraph 109.

Dr. Kazimieras M. Campe, and Applicants' witness, Robert E. Stippich, testified that the 10^{-4} figure falls between the two extreme values given in the range of probabilities in Dr. Bush's later article.^{73/} Furthermore, Mr. Stippich stated that 10^{-4} remained a reasonable estimate of turbine failure rates to use in turbine missile analysis,^{74/} and Dr. Campe testified that the November-December, 1978, article by Dr. Bush did not change his testimony concerning turbine missiles.^{75/} Clearly, the use by Dr. Bush of a range of probabilities to define P_1 does not invalidate the reliance by the NRC Staff and Applicants of a value in the middle of that range. Nothing in Dr. Bush's later article indicated that using the value at the high end of the range, as Intervenor's witness did, was the best way to calculate turbine failures.

33. Intervenor's argument for using the higher figure is based upon Dr. Bush's alleged finding that nuclear turbines experience higher failure rates than the general turbine population and that the GE and Westinghouse models may be overly optimistic.^{76/} However, Intervenor's witness, Mr.

^{73/} Tr. 7902, 7783.

^{74/} Tr. 7826.

^{75/} Tr. 7900.

^{76/} Intervenor's Findings at Paragraph 109.

Bridenbaugh, admitted that the values assigned by Dr. Bush in the summary of his later article are actually higher by a factor or two for nuclear turbines than they are for the general turbine population.^{77/} In view of the fact that Dr. Bush apparently took into account, in calculating the range of P_1 values, a higher failure rate for nuclear turbines, Intervenor's selection of 3.1×10^{-4} as the value which must be used is without justification.

34. The second point made by Intervenor's with which Applicants take issue is the statement that no plant-specific calculations were performed with respect to the probability of a damaging turbine missile at the Black Fox Station.^{78/} This is simply wrong. The NRC Staff's witness on the question of turbine missiles, Dr. Campe, made a change in his written testimony on the stand because of a design feature of the Black Fox Station.^{79/} Dr. Campe testified that it had been brought to his attention that the plant configuration at this nuclear facility contains one three-foot thick concrete wall instead of two three-foot thick concrete walls in the turbine building; thus, Dr. Campe corrected his written testimony accordingly.^{80/} It is obvious, therefore, that the

^{77/} Tr. 7954.

^{78/} Intervenor's Findings at Paragraph 112.

^{79/} Tr. 7899.

^{80/} Id.

NRC Staff review of the Black Fox Station with regard to turbine missiles took into account the unique characteristics of that facility.

35. Third, with respect to Board Question 19-2, Intervenor's response^{81/} fails to take into account the fact that the two figures involved serve different purposes and are, therefore, not comparable.^{82/} The figure of 10^{-4} , which is found in Reg. Guide 1.115, is intended to provide guidance and criteria with respect to determining turbine orientation, and evaluating turbine missile strike and damage.^{83/} The value of 4×10^{-5} found in Section 3.5.1.3. of the Standard Review Plan includes guidance on turbine failure probability criteria.^{84/} Thus, there is no conflict between the two figures.

IX. BOARD QUESTION 5-1 -- RPV SUPPORT AND PEDESTAL DESIGN.

Is the treatment of vertical motion in an earthquake of importance to the design of pressure vessel supports and pedestals, and, if so, has it been accommodated?

36. The only point at which the Findings of Intervenor on RPV support and pedestal design^{85/} differ signifi-

^{81/} Intervenor's Findings at Paragraph 113.

^{82/} Written testimony of Campe, p. 19-9.

^{83/} Written testimony of Campe, p. 19-9, following Tr. 6246.

^{84/} Id.

^{85/} Intervenor's Findings at Paragraphs 121-122.

cantly from the position taken by Applicants^{86/} on this question concerns the interface between Black & Veatch and GE. Intervenors state that the NRC Staff was not routinely provided with the interface control documents between Black & Veatch and GE.^{87/} Allegedly, this failure indicates that there has not been an adequate review by the NRC Staff of the responsibilities of the architect-engineer and the vendor with regard to the aspect of the design discussed in Board Question 5-1.^{88/} This conclusion is plainly contradicted by the record, however, While it is true that the NRC Staff was not routinely provided with the interface control documents,^{89/} Mr. John Kovacs testified for the NRC Staff to the effect that all of the interface questions has been responded to adequately in the portion of the NRC Staff review he conducted despite the absence of the interface control documents.^{90/} Furthermore, Mr. Harold Polk testified on behalf of the NRC Staff that the interface control documents would not have been of assistance to him in conducting his review.^{91/} In view of this testimony, it is clear that the conclusions drawn by

^{86/} Applicants' Findings at Paragraphs 157-158.

^{87/} Intervenors' Findings at Paragraph 122.

^{88/} Id.

^{89/} Tr. 8084.

^{90/} Tr. 8029.

^{91/} Id.

Intervenors regarding Board Question 5-1 are without foundation.

X. GENERIC SAFETY CONCERNS.

37. This section relates to the obligation of the NRC Staff under River Bend, supra, to review the Black Fox application in light of unresolved safety questions and identify a basis for issuance of the construction permits notwithstanding those safety concerns. Applicants take issue with several statements in Intervenors' Findings of Fact concerning generic safety concerns and the Task Action Plans (TAPs) which analyze them.^{92/}

38. First, Intervenors attempt to raise a non-issue by charging that the NRC Staff has not quantitatively evaluated the "cumulative risk" due to all the generic activities under consideration.^{93/} The short answer to this is that there is no requirement that the NRC Staff evaluate this "cumulative risk". Intervenors have pointed to no authority in River Bend or elsewhere that would mandate any such assessment, nor does it appear that a cumulative risk evaluation is even possible. Therefore, Intervenors' comments on this point should be disregarded.

39. The second issue on which Applicants disagree with Intervenors involves the question of whether TAP A-33

^{92/} Intervenors' Findings at Paragraphs 135-144.

^{93/} Id. at Paragraph 139.

must be addressed in the Black Fox proceeding.^{94/} This TAP, entitled "NEPA Review of Accident Risks", was found by the NRC Staff not to be relevant since A-33 is concerned with environmental and not safety issues.^{95/} Thus, River Bend imposes no obligation to discuss this subject. Intervenor, however, prefer to characterize TAP A-33 as involving the review of Class 9 accidents.^{96/} Starting from this premise, Intervenor proceed to challenge the NRC Staff's risk-based assessments and finish by concluding that there is no technical basis to exclude the consideration of Class 9 accidents.^{97/} At this point, it is clear that Intervenor have invented an argument out of whole cloth. No matter how Intervenor choose to describe TAP A-33, that task deals with accident situations in the context of a NEPA evaluation, not as design basis considerations from the standpoint of safe reactor design. Despite Intervenor's assertions to the contrary, it is crystal clear that River Bend is concerned only with unresolved safety issues.^{98/}

40. The final point on which Applicants dispute the Intervenor's Findings of Fact concerns the classification of TAP A-40, Seismic Design Criteria, as having no direct

^{94/} Intervenor's Findings at Paragraph 143.

^{95/} Written testimony of Aycock, Crocker and Thomas, p. TAP-14, following Tr. 8309; Staff Exhibit 12, pp. 34-35.

^{96/} Intervenor's Findings at Paragraph 143.

^{97/} Id. at Paragraph 143.

^{98/} 6 NRC at 774-75.

bearing on the licensing action for any particular facility.^{99/} Because TAP A-40 was so classified, the NRC Staff did not have to address it under the River Bend standard. Intervenor take issue with this classification based upon the fact that TAP A-40 is listed as an unresolved safety issue in NUREG-0510 (NRC Staff Exhibit 12).^{100/} A review of that document, however, reveals why Seismic Design Criteria is not an unresolved safety issue for the Black Fox Station. The comment in NUREG-0510 describing TAP A-40 states that for nuclear plants licensed before the NRC's current regulations and regulatory guidance concerning seismic design criteria were in place, re-reviews will be undertaken.^{101/} It is apparent that a nuclear facility such as the Black Fox Station, which is being licensed under current seismic design criteria, is unaffected by TAP A-40. Furthermore, NRC Staff witness, Michael B. Aycock, explained at length why TAP A-40 does not constitute an unresolved safety issue.^{102/} Mr. Aycock stated that TAP A-40 is one which involves an effort to consider the relaxation of certain NRC Staff requirements that may be overly conservative.^{103/} In view of this testimony and the comments in NUREG-0510, the categorization

^{99/} Written testimony of Aycock, Crocker and Thomas, pp. TAP 12-13.

^{100/} Intervenor's Findings at Paragraph 138.

^{101/} NRC Staff Exhibit 12, pp. A-16-17.

^{102/} Tr. 8401-04; Written testimony of Aycock, Crocker and Thomas, pp. TAP 12-13.

^{103/} Id.

of the seismic design criteria TAP as not involving an unresolved safety question is proper.

XI. LOAD COMBINATION METHODOLOGY

41. The NRC Staff continues to urge, with limited exceptions, that the Absolute Sums (AS) method of load combination be employed rather than the Square-Root-of-the-Sum-of-the-Squares (SRSS) method for combining dynamic responses.^{104/} This position is supported by the Intervenor.^{105/} Generally for the design of the Black Fox Station Applicants commit to using (i) AS for combining dynamic responses in the design of reactor structures and buildings, and (ii) SRSS for combining dynamic responses in the design of reactor piping and components.^{106/}

42. The position of the NRC Staff is founded on NUREG-0484, a preliminary report prepared by the Staff.^{107/} In their findings, both the NRC Staff and the Intervenor accord NUREG-0484 the weight and deference of an NRC regulation.^{108/} The NRC Staff in particular seems to believe that the controversy with Applicants can be decided in

^{104/} NRC Staff's Findings, Paragraphs 56-58.

^{105/} Intervenor's Findings, Paragraphs 123-134.

^{106/} Applicants' Proposed Findings of Fact Concerning Load Combination Methodology, Paragraph 2.

^{107/} Tr. 8266-67, 8271.

^{108/} NRC Staff's Findings, Paragraphs 56 and 28. Intervenor's Findings, Paragraph 125.

their favor based on the ipse dixit position that their review of the subject matter is incomplete and as a consequence, they cannot approve the use of SRSS to the extent proposed by Applicants. The NRC Staff does not enjoy a preferred position as a party to a licensing proceeding. They must sustain their positions by probative evidence unless, of course, the matter is covered by an NRC regulation. If the regulation is dispositive of the issue, the Staff need not submit evidence in support of their position. However, regulatory guides and other guidance of the NRC Staff such as NUREG-0484 do not have the force and effect of regulations. They merely represent the position of the NRC Staff -- one that must be supported by probative evidence.^{109/}

43. A review of NUREG-0484 indicates that it contains no probative evidence controverting the use of the Newmark-Kennedy Criteria for applying the SRSS method as proposed by Applicants.^{110/} The document simply does not address the subject. In such circumstances, the NRC Staff can hardly be said to have met their burden of going forward to support their position.

^{109/} Vermont-Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station), ALAB-217, 8 AEC 61, 68 (1974) and ALAB-179, 7 AEC 159, 174 (1974); and Philadelphia Electric Co., (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-216, 8 AEC 13, 28 (1974).

^{110/} NUREG-0484 is attached to the testimony of Dr. Rohini K. Mattu following Tr. 822.

44. Applicants' evidence shows that the Newmark-Kennedy Criteria justify and provide the important link between the application of SRSS in earthquake engineering (an application approved by the Staff) and the application of SRSS for combining other dynamic responses.^{111/} The rationale is simple, the NRC Staff has justified and approved the use of SRSS for combining earthquake responses based on the characteristics of those responses and an accepted non-exceedance probability of 84%.^{112/} Newmark and Kennedy have simply applied these NRC Staff approved parameters to other dynamic responses. Simply stated, if other dynamic responses can be shown to meet the underlying rationale supporting the use of the SRSS method for combining earthquake responses, it necessarily follows that such other dynamic responses can be combined using the SRSS method. No contrary evidence was introduced by either the Staff or Intervenor to dispute this obvious and logical relationship. The fact that the Staff's approval of the Newmark-Kennedy Criteria awaits its future action, perhaps in the supplement to NUREG-0484, cannot serve to defeat Applicants' position in this case.

^{111/} Written testimony of Kennedy, pp. 9-20 following Tr. 8113.

^{112/} Id. at 6-8.

45. Intervenor state that the decision on the use of the AS versus the SRSS methods involves a trade-off between balanced design and adequate design conservatism.^{113/} It should be pointed out that Applicants advocate the use of both AS and SRSS in the design of the Black Fox Station -- AS for structures and SRSS for components and piping.^{114/} Since the SRSS method will lead to lower calculated combined responses than the AS method^{115/}, the Intervenor and the NRC Staff presume that (i) the use of the AS method will always increase conservatism in reactor design whereas SRSS will only maintain the conservatisms included in other steps of the design process, and (ii) that the increased conservatism realized through the AS method is desirable and/or required for safe reactor design. On the first point, Dr. Kennedy pointed out that the AS method could not be relied upon to yield increased design conservatism, sometimes it did and sometimes not.^{116/} This uncertainty led to Dr. Kennedy's conclusion that design conservatism should be included in other steps of the design process. It was sufficient if the response combination

^{113/} Intervenor's Findings, Paragraph 130.

^{114/} Testimony of Vaughn L. Conrad following Tr. 8113.

^{115/} Tr. 8171.

^{116/} Written testimony of Kennedy, pp. 13-14 following Tr. 8113; Tr. 8153, 8169-70.

method maintained such design conservatisms.^{117/} The witness for the NRC Staff, Dr. Mattu, agreed.^{118/} On the second point, the NRC Staff simply assumes the more conservatism the better. They offered no testimony to support the proposition that any conservatism realized from the use of the AS method was needed for a safe reactor design. On the other hand, Applicants offered substantial testimony that for the design of reactor components and piping it was necessary to obtain a balanced design between the need for a sufficiently strong or rigid system to withstand certain dynamic loads with one with sufficient flexibility to withstand thermal stresses. SRSS is more likely to achieve a balanced design.^{119/} Again, Dr. Mattu agrees.^{120/}

46. The attacks of the NRC Staff on the credibility of Applicants' testimony lack merit.^{121/} The Staff suggests that the Newmark-Kennedy Criteria have not been finalized, and therefore, the Criteria are not yet appropriate for use.^{122/}

^{117/} Tr. 8119-23, 8149, 8152-54, 8167-70, 8173-78, 8185-86 and 8208-10.

^{118/} Tr. 8288.

^{119/} Written testimony of Kennedy, pp. 12-14; written testimony of Fuller, pp. 12-14 and Section A.6 of Attachment I; and Transcript citations in n. 14 *supra*.

^{120/} Applicants' Exhibit No. 42; and Tr. 8252-62, 8269-70, 8281-83.

^{121/} NRC Staff Findings, Paragraphs 57-58.

^{122/} *Id.*

The Newmark-Kennedy Criteria are firmly established. Dr. Kennedy did advise and explain one revision to the Criteria. He also indicated that the matter might be a non-problem. In any event, he clearly stated that a very conservative adjustment would be applied to the Criteria for use at the Black Fox Station. This adjustment would more than compensate for the matter under consideration.^{123/}

47. The NRC Staff also asserts that the Applicants' position should be rejected because the "conservatism of the [SRSS] method are uncertain and still under review."^{124/} Applicants' witnesses indicated no such uncertainty. The fact that the NRC Staff refused to join the issue on this docket, i.e., litigate their concerns, if any, on SRSS and the Newmark-Kennedy Criteria and instead chose to consider these matters internally at their own pace^{125/} on a generic basis, cannot serve to defeat Applicants' position.

48. The Intervenor's attacks on the credibility of Applicants' evidence is equally without merit and can be dismissed as mere quibbling. Their discussion of

^{123/} Written testimony of Kennedy, pp. 11-12; and Tr. 8118-19.

^{124/} NRC Staff's Findings, Paragraph 58.

^{125/} If needed, the NRC Staff could have moved for additional time to address the issues presented by Applicants' evidence.

randomness or independent events in Paragraph 131 of their Findings misconstrues the subject. Under the Newmark-Kennedy Criteria, time phasing of responses must be random in order to use the SRSS method.^{126/} Randomness is assumed to occur for certain events because the likelihood of the peak response from one loading, such as an operating basis earthquake being coincident with the loadings from the safety relief valve(s), which is expected to discharge during the course of the OBF, is very low.^{127/} With respect to Paragraph 132, a reading of page 8191 discloses no mistaken premise as asserted by the Intervenor. Finally, the Intervenor's criticisms of Applicants' evidence are belied by their admission in Paragraph 129 that "Applicants offer substantial justification for their position."

^{126/} Written testimony of Kennedy, p. 15 and Attachment C.

^{127/} Tr. 8114-18.

XII. CONTENTIONS 7, 8 AND 9 -- FIRE PROTECTION

49. Applicants' disagreement with Intervenor's Findings on the subject of fire protection relates chiefly to Contention 7, which states:

Intervenor's contend that in order for the Applicants to meet 10 C.F.R., Part 50, Appendix A, Criterion 3, Black Fox, 1 and 2 must utilize cables with fire retardant insulation.

The regulatory guidance applicable to Black Fox Station for compliance with Criterion 3 as it relates to fire protection is the May 1, 1976, version of Branch Technical Position APCSB 9.5-1 (BTP 9.5-1).^{128/} With respect to the fire retardance of cable insulation, BTP 9.5-1 requires that insulation in electrical cables used at nuclear plants meet IEEE 383 - 1974.^{129/} This standard describes a test which measures the distance a fire ignited by a 70,000 Btu flame propagates along the cable.^{130/} Applicants have committed to meeting this standard using a 210,000 Btu source, which exceeds NRC requirements.^{131/} In the Power Generation Control Center (PGCC), 90% of the wiring is insulated with

^{128/} Tr. 6848-53, 6965, 7016-20. See also "Applicants' Response to NRC Staff Motion for a Preliminary Ruling Relating to the Initiating Causes for the Design Basis Fires," pp. 7-9 and Attachment A thereto.

^{129/} Written testimony of Giardina and Behn, p. 7, following Tr. 7015.

^{130/} Id.; Tr. 6742-43.

^{131/} Written testimony of Giardina and Behn, p. 7.

Tefzel and the remainder is insulated with Flamtrol, both of which meet the IEEE 383 - 1974 standard.^{132/} For the balance of the plant, Black and Veatch will specify that the insulation meets IEEE 383 - 1974.^{133/}

50. Intervenors do not suggest that the insulation for the wiring in the Black Fox Station will not meet the BTP 9.5-1 standards for fire retardancy. Rather, Intervenors criticize some of the alleged properties of one of the types of cabling to be used in the nuclear facility, flame-retardant cross-linked polyethylene (FR-XLPE).^{134/} This argument is outside the scope of Contention 7 and should be disregarded for that reason. If the Licensing Board chooses to consider what Intervenors say in this regard, however, Applicants wish to point out some of the mischaracterizations of the record found in Intervenors' Findings.

51. First, contrary to the assertion in Paragraph 72, FR-XLPE will not be used in more than 50% of the cables for the Black Fox Station. What the record shows is that that type of cable will be used in more than 50% of the cabling within the Black and Veatch scope of supply.^{135/}

^{132/} Tr. 6741, 6757.

^{133/} Written testimony of Engmann, p. 3, following Tr. 6835.

^{134/} Intervenors' Findings at Paragraphs 72-73, 75. FR-XLPE meets IEEE 383-1974, Tr. 6751, 6892.

^{135/} Tr. 6902.

52. Second, Intervenor mis-cite the Fire Hazard Analysis Report for the Black Fox Station ^{136/} in paragraph 75 of their Findings. What this report actually says is that "To the maximum extent practicable, cable construction that does not give off corrosive gases while burning should be used."^{137/} While FR-XLPE gives off corrosive gases like any other cable construction when it burns,^{138/} the amount of corrosive gas given off depends upon the substance with which cross-linked polyethylene is halogenated.^{139/} Furthermore, in order to obtain flame retardant properties in cable construction, there is no practical substitute for using halogenated compounds.^{140/} Thus, notwithstanding the fact that FR-XLPE gives off corrosive gases, the superior electrical insulation properties of that substance recommend it as a compound to be used at the Black Fox Station.^{141/} It should also be noted that Mr. Engmann testified that what he has read about the evolution of corrosive gases during the burning of cable constructions does not lead him to believe that it is a severe problem.^{142/}

^{136/} Applicants' Exhibit 33.

^{137/} Id. at p. 1.6-5.

^{138/} Tr. 6915.

^{139/} Tr. 6917.

^{140/} Tr. 6913.

^{141/} Tr. 6917-18.

^{142/} Tr. 7006.

XIII. MISCELLANEOUS MATTERS

53. Paragraphs 231-236 of the NRC Staff's Findings addresses the so-called "geological anomaly" that was the subject of advice to the Licensing Board in September and October, 1978. None of the technical information concerning this matter was introduced into evidence, and no witnesses appeared on behalf of any party. As a consequence, the findings and conclusions of law set forth in the Licensing Board's Partial Initial Decision^{143/} remained undisturbed, and Paragraphs 231-236 should be disregarded by the Licensing Board.

54. The conclusion of law set forth in Paragraph 255 of the NRC Staff's Findings should be disregarded. The subject of Radon-222 and its environmental impact on the Black Fox Station was considered and decided by the Licensing Board's Memorandum and Order, dated August 14, 1978.^{144/}

55. As demonstrated in Applicants' Proposed Findings of Fact Concerning Load Combination Methodology, dated March 28, 1979, and Section XI of this reply, the license condition set forth in Paragraph 257 of the NRC Staff's Conclusions of Law should be rejected.

^{143/} 8 NRC 102 (1978)

^{144/} LPB-78-28, 8 NRC 281 (1978).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of the Application of)
Public Service Company of Oklahoma,)
Associated Electric Cooperative, Inc.) Docket Nos. STN 50-556
and) STN 50-557
Western Farmers Electric Cooperative)
(Black Fox Station, Units 1 and 2))

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing NOTICE OF FILING APPLICANTS' REPLY TO PROPOSED FINDINGS OF FACTS AND CONCLUSIONS OF LAW OF THE NRC STAFF AND THE INTERVENORS, APPLICANTS' REPLY TO PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW OF THE NRC STAFF AND INTERVENORS and NOTICE OF APPEARANCE has been served on each of the following persons by deposit in the United States mail, first class postage prepaid, this 26th day of April, 1979.

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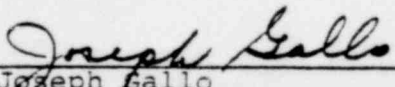
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