

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
DUKE POWER COMPANY) Docket Nos. STN 50-488
(Perkins Nuclear Station) STN 50-489
Units 1, 2 and 3) STN 50-490

NOTICE OF APPEAL AND
FILING OF EXCEPTIONS TO
PARTIAL INITIAL DECISION
OF
FEBRUARY 22, 1980

NOW COME the Intervenor, through counsel, and do hereby give notice of appeal from the partial initial decision of February 22, 1980 on the question of alternative sites and files the following exceptions to that decision and to designated portions of said decision and to other matters in regard to said decision:

1. The Licensing Board erred in failing to allow intervenors sufficient time for discovery and preparation for the hearing as requested in its response to motion for hearing schedule dated the 13th day of November, 1978 and in setting the notice of hearing and a notice dated December 18, 1978 which failed to allow intervenors sufficient time to full prepare for said hearing.

2. The Licensing Board erred in denying intervenor's motion to continue the hearing which was filed on the 5th day of January. 1979^{1/} and which pointed out that the position of

1. Denied on January 22, 1979.

the State of North Carolina on the use of condenser cooling at Lake Norman had not been fully resolved and that a letter filed to the staff from an official from the State of North Carolina did not represent the position of North Carolina and was inaccurate and misleading and the failure to so grant this continuance led to the ~~con~~^{con}ventional use of said letter in the hearings and in the partial initial decision all to the extreme prejudice of the intervenors and the requirements of a full, fair and adequate hearing and record in this matter.

3. The Licensing Board erred its order of July 17, 1978 which limited the reopening of the record to evidence regarding staff's analysis of sites alternative and by failing to properly reopen the record to a complete consideration of site alternatives and particularly the water questions involved in comparing and contrasting the Perkins site with other sites.

4. The Licensing Board erred in its order of December 18, 1978 which set a five minute limit for the oral presentation by a public witness and that such a limit is a denial of ^{due} process and was unreasonable and arbitrary and specifically objected to by the intervenor at the beginning of the hearings as shown on transcript page 2828.

5. The Licensing Board erred in allowing the applicant to introduce testimony of his witness as part of his opening statement when such testimony was not subject to cross-examination and vigorously objected to by the intervenors as shown on transcript page 2932 and 2937.

6. The Licensing Board erred in overruling the intervenor's objection to the evidence offered by the staff panel for the reason that voir dire examination reveals that none of the witnesses had any independent experience as a witness, author, teacher, writer, or authority in regard to the question of alternative site consideration and the only background they could muster to support their opinions was experience that was totally on behalf of and in support of the nuclear industry (transcript page 2995-3011 for voir dire and objections and exceptions at page 3011, 3012 and 3048).

7. The Licensing Board erred in overruling intervenor's objection to staff panel's evidence for the reason that such testimony was composed of vague generalized comments on applicant's approach and was so thoroughly superficial in its admission that no independent analysis was made and no extensive material outside of applicant material was checked or researched (voir dire at 29-95 objections transcript page 3013 and intervenors preliminary response to staff testimony dated December 22, 1978 an exception at 3048).

8. The Licensing Board erred in overruling the intervenor's objection to the staffs' evidence for the reason that its analysis favored and considered the 78 study by applicant over the 73 study which study did not include the Perkins' site and which led to confusion and a failure to

properly take a hard look at the alternative sites as required by the Statutory and Regulatory Law (voir dire at 2995-3011 objection transcript page 3013 and 3014 and an exceptions at 3048).

9. The Licensing Board erred in overruling the intervenor's objection to staff evidence for the reason that staff failed to consider dollar cost on sites suitability and environmental factors and such is in violation of the applicable standards requiring an appropriate and hard look at the alternative sites (objection transcript page 3014 and 3048 and exceptions at 3048, the intervenors of dated December 22, 1978).

10. The Licensing Board erred in overruling the objection of the intervenors specifically to a letter by Mr. Benton of the Department of Natural and Economic Resources in the State of North Carolina regarding cooling towers for the reason that said evidence is heresay and is a conclusory opinion without foundation and completely erroneous as indicated by the remaining evidence. Unfortunately this evidence found its way into the proceedings and was improperly used as a finding of fact by the Board thereby revealing its highly prejudice and improper nature (transcript page 3015 and 3048).

11. The Licensing Board erred in overruling the intervenor's objection to the staff's evidence for the reason that the staff failed to visit all of the sites on Lake Norman and

only visited one of these sites in that such failure to visit was highly prejudicial and that it coincided with an improper approach taken by the applicant which was to eliminate alternate sites which were located on the same body of water and this failure by the staff witnesses was in violation of the standards required in alternate site analysis and was highly prejudicial to a proper and fair consideration of the alternate site issue in this matter (transcript page 3015 and 3048).

12. The Licensing Board erred in overruling intervenors objection to the staff testimony regarding its hydrological analysis for the reason that said testimony does not consider properly the site alternatives and in particular does not consider the possibility of lake cooling at one of the Norman sites. (Tr. p. 3015, 3048).

13. The Licensing Board erred in overruling intervenor's objections to the conclusions contained in the staff's written evidence page 24 as said conclusions conflict with the final environmental impact statement in this case and further evidence that the alternate site analysis was too superficial and not in compliance with the applicable case law and regulations (transcript page 3015 and 3048).

14. The Licensing Board erred in overruling the intervenor's objection to the staff's evidence for the reason that the staff panel used only 1/3 to 1/2 of the evaluation factors which are set out in the public literature and acknowledged by all witnesses to the preceding (transcript page 3016 and 3048).

15. The Licensing Board erred in overruling intervenor's objection to staff's evidence for the reason that the staff evaluation fails to include certain endangered species that were listed in the final environmental impact statement (objection page 3016 and 3048).

16. The Licensing Board erred in overruling the intervenor's objection to the staff's evidence for the reason that the staff panel admitted on voir dire that they did not take into account the Environmental Protection Agency's reports in regard to eutrophication on Lake Norman and High Rock Lake and other bodies of water in North Carolina which listed High Rock Lake at the very bottom in terms of quality and Lake Norman near the top also showed that the Catawba basin was in a much better condition than the Yadkin basin in regard to eutrophication (transcript page 3017 and voir dire at 2995-3011 and objections at 3017 and 3048).

17. The Licensing Board erred in overruling the objection to the intervenors to the staff evidence for the reason that staff panel admitted that they had not taken into account the fact that the Catawba River basin had extensive water regulation and water reservoirs upstream from the Norman sites and which regulation and reservoirs were not present or adequate upstream from the Perkins site and that this obvious difference in the hydrology of the Catawba and Perkins basin was taken into account, therefore, such staff evidence violated

the requirement that they take a hard look at the alternative sites and make an appropriate rigorous examination. (Tr. p. 3017, objections at 3048).

18. The Licensing Board erred in overruling the Intervenor's objection of Staff's evidence for the reason that the Staff failed to consider the possibility of alternative cooling methods at the Lake Norman Sites and that the future possibility of lake cooling at two of the three Lake Norman sites was necessary in order to properly examine and consider the alternative sites and that this was not done by the Staff panel. (Tr. p. 3108, objections at 3048).

19. The Licensing Board erred in overruling Intervenors' objection to Staff's evidence for the reason that the Staff panel violated the appropriate standards placed on this by failing to take into consideration the recreational and residential property development being carried out by the Applicant and its subsidiary companies on Lake Norman and whether or not the Applicant's consideration of alternative sites was affected by this interest of the Applicant directly in recreational values relating to its own economic interests. The Staff refused to even consider this fact or the corresponding situation at High Rock Lake where the Applicant did not have the same economic interest in avoiding impact on recreational uses. This failure to reveal even a semblance of healthy skepticism and critical analysis of the Applicant's

approach to alternative sites on different bodies of water violates the appropriate hard look standard placed upon the Staff analysis. (Tr. p. 3018, 3019)

20. The Licensing Board erred in overruling the Intervenor's objections to Staff evidence for the reason that the law under the National Environmental Policy Act and the Nuclear Regulatory Commission regulations require a hard look and serious consideration of alternatives which cannot be shown on the voir dire or the evidence offered by the Staff and objected to by the Intervenors in that there is no foundation laid for its opinions and there is no combination of ingredients which would lead to a fair professional appraisal and that the ultimate product itself is so vague and general as to be virtually worthless. (Tr. p. 3019, 3048).

21. The Licensing Board erred in allowing the Staff to attempt to buttress and bolster its incorrect and superficial approach to the question of alternative sites in the additional testimony allowed over the objection by the Intervenors to such additional testimony which was a desperate attempt by Staff to paper over its shoddy work product. (Tr. p. 3054).

22. The Licensing Board erred in overruling the objections by the Intervenors to admission of Exhibit No. 10 in regard to conclusions contained therein on the alternate site issue as that was the very purpose of the hearing in question. (Tr. p. 3061).

23. The Licensing Board erred in overruling the objections of the Intervenors to the conclusions of the Staff witness in regard to the alternate site study in that said conclusions are based upon the irrelevant, incomplete and inadequate information and analysis previously objected to in the exceptions set out above and further said evidence did not have a proper foundation and such conclusion and opinion, and all such conclusions and opinions thereafter, were similarly invalid. (Tr. pp. 3063-3065).

24. The Licensing Board erred in overruling the Intervenors' objection to Staff Exhibit No. 11 for the reason that the conclusions contained therein on the alternate site issue as that was the very purpose of the hearing in question. (Tr. pp. 3076-3077).

25. The Licensing Board erred in allowing the Staff witnesses to give summary explanations of their inadequate testimony and after requesting the Staff witnesses to construct an objective model for their consideration in failing to require said model from the Staff witnesses and in accepting Staff counsel's explanation that such objective charts or

models was not called for by the requirements of the appropriate regulations and the Environmental Policy Act, even though the Board had indicated its serious reservations about the manner in which the Staff witnesses had proceeded and Intervenor had objected strenuously in these regards. (Tr. pp. 3264-3267, 3270).

26. The Licensing Board erred in overruling Intervenor's objection to testimony in regard to the actions of the Staff of the Department of Natural and Economic Resources for the State of North Carolina and the actions of the Environmental Management Commission as those agencies are not held to the same standard as required by the Staff of the Nuclear Regulatory Commission. (Tr. p. 3836).

27. The Licensing Board erred in finding that the Staff's panel of witnesses were experienced in appraisals of potential environmental impact and alternate sites in that the evidence does not support this finding and in fact all of the evidence indicates that the panel had absolutely no experience outside of previous testimony favoring the nuclear industry and had written no articles, taught no subjects or engaged in any other activity outside of that which had always approved the nuclear industry in environmental matters. (Finding No. 4, Tr. pp. 2995 to 3011 for voir dire on qualifications and objections on Tr. pp. 3011-3012 and Exception at p. 3048).

28. The Licensing Board erred in the remaining portions of Finding of Fact No. 4 in that the two pieces of the evidence presented by the panel did not have a proper foundation and were not a result of the hard look analysis required by the law and regulations applicable to the hearing in question and further contain conclusions based upon said inadequate and illegal foundation.

29. The Licensing Board erred in its finding in Finding No. 6 which reads as follows "because EPA regulations had yet to be promulgated, Applicant did not want to use cooling towers when the lake cooling might be an alternative, or to select sites on existing or new lakes when regulations might require cooling towers. Thus, Applicant was seeking nuclear generation sites suitable for either once-through lake cooling or using cooling towers in that these sentences are not supported by the evidence and are contradictory and confusing." The Possible EPA regulations meant only that cooling towers might be required and to state that the Applicant did not want to select a site on an existing or new lake because regulations might require cooling towers is a non sequitur. A cooling tower could certainly be used on an existing or new lake and in fact an existing or new lake

would offer the possibility of using once-through or cooling towers or a combination of the two. This finding by the Licensing Board indicates that it fell into the applicant's trap of mental confusion or either the applicant itself is mentally confused about the effect of the EPA regulations on nuclear plant siting. The "thus" part of the above sentence does not follow from the previous sentence the Applicant's dichotomy stated by the Board in the last sentence of Finding of Fact No. 6 that the site would either be a once-through lake cooling site or a cooling tower site is simply a contrived bit of confusion which was used to down-play the Lake Norman sites where the Applicant had a vested interest in land development and recreational uses in comparisons with sites on the Yadkin River such as Perkins. and is not supported by the evidence.

30. The Licensing Board erred in its Findings No. 6 through 21 in that the detailed narrative in regard to Applicant's procedures for choosing sites in 1978 and in 1973 was not the subject of the reopen hearing and is not relevant or material to a consideration of the analysis by the Staff. In fact, the twelve pages of these findings in narrative form simply confuses the issue which was the subject of this hearing and is an attempt to buttress and fill in the gaps of Staff's woefully inadequate evidence and analysis. It is simply a narrative based upon Applicant's filings and is about

a matter which is not contested in the hearing. Therefore, such findings are highly prejudicial, irrelevant and improper. In addition, there are specific findings contained within the said twelve pages which will be referred to hereinafter as being objectionable for additional and more specific reasons.

31. The Licensing Board erred in its Finding of Fact No. 7 in that the evidence does not support the conclusions contained in this finding in regard to the procedure whereby the Applicant carried out a review in 1972 and 1973 to reach a conclusion as to the Perkins site. Specifically, the finding that condenser cooling alternatives were considered "is not supported by the evidence which shows the contrary." It is particularly significant that one of the very desirable Lake Norman sites dropped out of the fine screening at this point for no plausible reason.

32. The Licensing Board erred in Finding No. 8 in that the so-called "method" described in said Finding No. 8 was based on the assumption that Perkins would be built, which of course is an assumption that an alternate site analysis of those particular factors showed Perkins to be superior which was obviously to beg the question inherent in these proceedings. Therefore, the entire 1978 study should have been ruled out of order as clearly having bootstrap implications for the very hearing in question and rather than

being very independent of Perkins was totally dependent on Perkins. If those who are making the 1978 study assume that Perkins was to be built, then the bad analysis which had been attacked by Intervenor and questioned by the Board had no standing. Therefore, Finding No. 8 and all of the remaining findings through Finding No. 21 led to a bias in the perspective of the Board and was ultimately revealed in its conclusion.

33. The Board erred in Finding of Fact No. 10 in that Site N. 18 on Lake Norman dropped out at this point without any reasonable basis which is another example of the bias and unfairness of Duke Power's siting process and is not supported by the evidence.

34. The Licensing Board erred in Finding No. 14 and especially in its accepting the criteria that if two sites were located near each other on the same body of water only the better one was chosen in that this is one of the reasons for the incorrect dropping of some of the Lake Norman sites despite the enormous size of Lake Norman and the fact that later considerations would have made it extremely helpful and perhaps determinative to have all of the credible sites on the same lake held for a final decision.

35. The Licensing Board erred in Finding No. 15 in that the Applicant's analysis and conclusion in regard to the Perkins site was based on the unsupported assumption

which was later accepted by the Staff that if a water issue at the Perkins site passed the minimum requirements then it would be rated as having exactly the same score as a water issue at Lake Norman, even though the Lake Norman alternative did not have present many weaknesses and water contingencies that had been considered by the Board over several years and the State of North Carolina in which weaknesses and contingencies were not present at the Lake Norman sites. This violates NEPA standards.

36. The Board erred in Finding No. 16 in that it accepts the specious assertion that a study done without Perkins is independent rather than deeply analyzing the contradiction involved in having an evaluator make his considerations assuming that the Perkins decision was correct. In point of fact, if the Perkins decision was correct, there would have been no reason for the reopened hearings of January, 1979.

37. The Board erred in Finding of Fact No. 17 in that the Carter Creek Reservoir provided only limited water regulation whereas the Catawba River contains more than a half million acre feet of regulated water upstream from the Norman sites, while the Perkins site only had one-twentieth the reservoir capacity for water regulation above said site.

38. The Licensing Board erred in Finding No. 18 and in particular its finding that if the 1,000 CFS stream flows are exceeding 97 percent of the time and 1,100 CFS stream flows are exceeded 96.7 percent of the time, the concern under question was directed to a situation which would occur only eight-tenths of 1 percent of the time. This finding and statement is utterly unsupported. The evidence was that the Applicant could withdraw up to 25 percent of the water with its pumps capable of pumping 300 CFS at any time that the net reduction did not fall below 1,000 cubic feet per second. What this means is that the concern expressed by Intervenors and others was over that 25 percent of the water which would be far in excess of the supposed standard of 10 percent originally set by the applicant in that at 1,200 CFS, 1,300 CFS, 1,400 CFS, 1,500 CFS and thereafter the Applicant could be withdrawing upwards of 25 percent of the water. This would certainly be more than any eight-tenths of 1 percent of the time and to have such a finding indicates that the Board did not understand and did not pay proper attention to the water problems at the Perkins site. Again, the reference to percentages of average stream flow refuses to consider the effect of water regulation which was pointed out by the Intervenors' witness.

39. The Licensing Board erred in its Finding No. 19 in regard to ratios between people and river basins and evaporation of water in that this formula put forth by the Applicant is totally irrelevant and prejudicial and ignores the differences in water regulation and reservoirs in the Catawba Valley compared to the Yadkin Valley. This formula introduced by Duke Power Company was a meaningless and highly prejudicial point and was particularly unsupportable in that Duke Power Company prevented the construction of additional water reservoirs on the Yadkin River that would have avoided the only true and fair ratio which was ignored by the Board and that is that the Catawba River had twenty times as much water which was regulated and controlled as was available in the Yadkin Valley.

40. The Licensing Board erred in Finding No. 20 in that said alleged good engineering judgment was based upon testimony which first stated that preliminary studies had been made which indicated a marginal condition and then later the Applicant changed its testimony and admitted that the studies suggested by the Intervenor's expert witness had in fact not been carried out. The Board made this finding even though Duke Power admitted that it had not carried out the studies which Intervenor's witness indicated would have revealed whether or not condenser cooling could have

been used on Lake Norman and that its so-called "good engineering judgment" was based upon incomplete tests and a failure to perform the final tests which Intervernos' witness indicated could be conclusive.

41. The Licensing Board erred in Finding No. 21 in that this finding is simply a narrative of questionable arguments and positions by the Applicant and the final portions of it which refer to its weight given in the site analysis has no meaning or relevance in that, despite the high number given to water quality and quantity by the Duke matrix in comparing the Perkins plant site to the Norman site, the Applicant gave the same rating to Perkins, with all of its known problems, as it did to Norman, even though the Norman site had none of these problems on the simple theory that meeting the minimum requirements entitled the Perkins site to the same number of quality points.

42. The Licensing Board erred in Finding of Fact No. 22 in that the subject of the hearing is the Staff analysis and not the Applicant's analysis. Again, this finding is confusing and prejudicial.

43. The Licensing Board erred in its Finding No. 23 in that, again, this is a narrative of an uncontested matter as no one has suggested that there is anything wrong with the Applicant's matrix of factors any more than the matrix

been used on Lake Norman and that its so-called "good engineering judgment" was based upon incomplete tests and a failure to perform the final tests which Intervernos' witness indicated could be conclusive.

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used by Mr. Joplin of Florida Power and Light of Mr. Lipkin of the Perkins hearing. If the matrix was any question in this proceeding, it was the lack of a matrix by the Staff testimony. This consideration by Staff of Duke's matrix is again an attempt to bolster the lack of foundation and proper testimony by the Staff by taking the Applicant's matrix and pulling it through the back door by giving this narrative about what the Staff thought of the Duke matrix.

44. The Licensing Board erred in Findings of Fact Nos. 24 and 25 in that, again, these are uncontested matters which are irrelevant to the question before the Board, which was the Staff's analysis of alternative sites. The question was simply not the Applicant's analysis of alternative sites, and surely it was not the Staff's analysis of the Applicant's analysis.

45. The Licensing Board erred in the Finding of fact No. 27 when it finally got down to making some statement about the review by the Staff in that the statement that the environmental and site suitability factors were the initial parameters considered by the Staff in its review of the siting study are not supported by the evidence in that all of the evidence indicates that the Staff studies and analyses were woefully inadequate, shallow and incomplete.

46. The Licensing Board erred in Finding No. 29(c) in that the evidence does not support the finding that the only cooling option available to the Applicant at this time is closed cycle in that all of the evidence is that the matter was altered by Duke's successful lawsuit in the Fourt Circuit in Appalachian v. Train and that the matter is now a case by case consideration in that the Applicant has available such possible sites on Lake Norman.

47. The Licensing Board erred in Finding No. 31 in that all of the evidence shows that the Staff made no independent analysis and did not properly consider the water impacts, particularly the differences between the Perkins and the Lake Norman sites in that all of the witnesses admitted that they did not take into account the eutrophication studies at High Rock Lake and its comparison with eutrophication at Lake Norman, the potential growth and water uses in the future, the water regulation on the Catawba River Basin compared to the Perkins site and the size of Lake Norman, which is four times that of High Rock Lake, and numerous other matters, invalidates said matters.

48. The Licensing Board erred in Finding of Fact No. 32 in that the State's testimony is flawed as it has been pointed out previously in other exceptions and further

that in particular the State witnesses admitted that they were influenced by recreational uses that they noted at Lake Norman and that they refused to consider the interest of Duke Power in continued sales of property at Lake Norman and in residential and recreational uses and further that their opinion in this finding in regard to no other obviously superior site is not supported by the evidence in that the Staff did testify that they found several sites that were more than roughly equal and, in fact, were better or slightly superior to the Perkins site.

49. The Licensing Board further erred in its accepting the simple and incomplete Table 1_A^{of 14 33} which did not contain sufficient analysis or thorough examination to satisfy the Board originally at the hearing and certainly should not be used as a finding leading to a conclusion about this matter.

50. The Licensing Board erred in Finding No. 34 in that the Board accepted the minimum threshold procedure used by the Staff which rated water availability the same no matter how many problems could be foreseen or weaknesses revealed in the water conditions present at a proposed site such as had been shown at the Perkins site and which was not present at the Norman site and others.

51. The Board erred in Finding of Fact No. 75 in that despite the factors listed on that finding the Staff witnesses admitted that they had not read the EPA eutrophication survey and that this, in addition to other weaknesses and in particular the fact that some of the witnesses tried to argue that the poorer quality of the Yadkin water and its problem with fish kills and other difficulties was a reason for adding to the impact rather than a reason for having the water impact in a location such as Norman that had not reached the same stage of eutrophication and had not experienced fish kills and other quality problems.

52. The Licensing Board erred in Finding No. 37 in that the differences between the Perkins site on account of the water problems were not subtle but were obvious and these differences which were finally accepted by the Staff witnesses required the Board to rule that such site was obviously superior and to reject a finding such as Finding No. 37 which is simply a blind following of the Staff's position and which contradicts the fact of the examination of the Staff and is not supported by the evidence.

53. The Licensing Board erred in its Finding No. 38 in that, once again, it is simply a narrative of what the Staff told it it had done in its purported analysis of the

alternate sites and a string of conclusions none of which are supported by the evidence.

54. The Licensing Board erred in its Finding No. 39 in that, once again, it is simply a narrative of what the Staff told it it had done in its purported analysis of the alternate sites and a string of conclusions none of which are supported by the evidence.

55. The Licensing Board erred in its Finding No. 48 in that the previous Findings Nos. 40-47 support the contentions of the Intervenor that the Staff evidence and analysis is woefully inadequate. Therefore, Finding No. 48 is without foundation and support in the evidence and is not based on the Record.

56. The Licensing Board erred in the sentence of its finding of Finding No. 53 which stated, "It is apparent that the State of North Carolina will not license once-through cooling." This finding is not supported by the evidence and is based upon hearsay and incorrect information which has previously been objected and excepted to and is contrary to the evidence produced at the hearing and subsequent to the hearing.

57. The Licensing Board erred in its conclusion in Finding No. 54 that there was no clear evidence that the

Catawba River would be less affected by the consumptive use of water in that all of the evidence in regard to water regulation indicates that the Catawba River would be less affected by the consumptive use of water.

58. The Licensing Board erred in stating in Finding No. 54 that there is no evidence that the higher water quality in the Catawba Basin is an important consideration in that this finding is not supported by the evidence. In fact, the evidence is to the contrary that the greater eutrophication in the Yadkin Valley is an important consideration and the impact of the cooling towers as proposed at Perkins would have a greater impact on the Yadkin Basin on account of the lower water quality than it would have on a younger and less eutrophic circumstance in Lake Norman.

59. The Licensing Board erred in finding that the flow of the Yadkin River is more than the Catawba River and that the Catawba has a greater variation in flow rate in that this finding is not supported by the evidence and specifically the Catawba is subject to water regulation by the Applicant. This regulation prevents such greater variation and gives the Applicant more control over the water conditions in the Catawba Basin.

60. The Licensing Board erred in its finding or argument that the greater volume of Lake Norman is not a

consideration in that Perkins is located upstream from High Rock Lake. Perkins is only located approximately eight miles north of High Rock Lake and thus the removal of the water would have an immediate and obvious affect on High Rock Lake and it is error for the Board to use a previous finding which has yet not been made subject to exception or appeal to base its findings in this matter.

61. The Licensing Board erred in its conclusion in Finding No. 56 in that the evidence does not support its conclusion as all of the credible evidence supports the conclusion that Lake Norman E would be superior to the Yadkin River site.

62. The Licensing Board erred in its conclusion ⁵⁷ that Dr. Lipkin's formulation was not convincing in that his testimony which was unaffected by the previously mentioned threshold bias and other unarticulated defects in the Staff's analysis showed in a graphic form the deficiencies in the Staff proposal.

63. The Licensing Board erred in its findings in Conclusion No. 62 by again not being supported by the evidence, particularly using a 5 percent stream flow figure which contradicts all of the evidence that up to 25 percent of the stream flow for much of the time will be taken by the Perkins plant

when the flow is in excess of 1,000 cubic feet per second , which is approximately 96 percent of the time by their own testimony. The conclusion that the comparison of the two sites is unbiased is not supported by the evidence and clearly flies in the face of the evidence previously cited.

64. The Licensing Board erred in Finding No. 73 in that once again it is contrary to the evidence and simply makes an argument which is not supported by the evidence. To base a part of this finding on the 7 Q 10 flow in the Catawba is incredible. Obviously, the Catawba is controlled by the Applicant and has been controlled by the Applicant for many years and therefore the 7 Q 10 flow is a creature of the Applicant and not of nature, such as is found in the Yadkin River.

65. The Licensing Board erred in Finding No. 64 which again accepts the threshold theory which assigns as high a value to the Perkins site as to Norman and the other sites even though the State of North Carolina went through extensive hearings and only by a 7 to 4 vote decided that a capacity use designation was not proper in December of 1976.

66. The Licensing Board erred in its Finding and Conclusion No. 66 in that it appears to place a burden

on the Intervenors' witness, Dr. Medina, to prove a point. Dr. Medina obviously and clearly pointed out that the Catawba Basin had more reservoirs and more water control and Lake Norman was obviously a larger downstream and control reservoir under the control of the Applicant than High Rock Lake and that this made the Catawba Basin better able to accommodate the loss of water from a large nuclear station. This is uncontradicted evidence and therefore Finding No. 66 is not supported by the evidence and the Record.

67. The Licensing Board again erred in Finding No. 67, which is similar to an earlier finding in which it accepts and repeats the formula offered by Duke in regard to ratios of power and river basins which has no logical relationship to the question before the Board, especially in light of the fact that the Catawba Basin has adequate water reservoirs and water control and that is obviously the reason for the extensive thermal power and hydropower development in that basin. By this finding and previous findings similar to this, the Licensing Board is legitimizing a "dog in the manger" policy which was carried out by the Applicant in the 1930's and 1940's when it prevented municipalities and the corp of engineers from developing the Yadkin River Basin for hydroelectric purposes and water reservoir purposes.

68. The Licensing Board erred in Finding No. 68 in that the wet industries area that was referred to in the evidence was the area below High Rock, Badin, Narrows and Tuckertown. Therefore, this evidence was not relevant to the Perkins site and thus this finding is not supported by the evidence.

69. The Finding No. 69 is not supported by the evidence in that the evidence supports a conclusion that several sites are obviously superior to the Perkins site.

70. The Licensing Board erred in its factual conclusion No. 70 that there is no evidence to support this factual conclusion and all of the reliable, competent and relevant evidence supports one

and perhaps more than one site superior, clearly superior, to the Perkins site.

71. The Licensing Board erred in failing to find the facts which were presented by Intervenors and which satisfied the hard look and rigorous consideration of alternative sites required by the National Environmental Policy Act and the regulations of the Nuclear Regulatory Commission and the Administrative Procedure Act applicable to this proceeding.

72. The Licensing Board erred in failing to find facts as supported by competent, material and relevant evidence produced by a strict compliance with the rigorous examination and hard look standard set by the statutory and regulatory law.

73. The Licensing Board erred in failing to find and ~~conclude~~^{conclude} that the Staff's analysis was inadequate and failed to comply with the appropriate statutory and regulatory standards.

74. The Licensing Board erred in failing to find and to conclude that there was at least one site obviously superior to the Perkins site.

75. The Licensing Board erred in failing to find as follows:

(a) The Staff witnesses admitted that their role was to criticize, verify, supplement and seek a different assessment in these reopened hearings. (Tr. 3083).

Dr. Gilbert mentioned using the Final Environmental Impact Statement and was vaguely familiar with a New York State Utility matrix system for evaluating sites (Tr. p. 3080 and 3082). In its testimony the Staff used no detailed matrix system to illustrate or explain its information, evaluation and conclusions. (See Staff testimony following Tr. P. 3049). Dr. Gilbert and the other members of the Staff panel stated that there were no strict guidelines for the weighing and rating of alternative sites. Mr. Robertson further admitted that he was not in a position to answer whether the United States geodetic survey figures on stream flows was a reliable basis for predicting adequate water supplies in the future. (Tr. pp. 30-96).

76. The Board erred in failing to find as follows:

Dr. Gilbert testified that no additional reservoir would be required for the siting of the Perkins Plant at either Lake Norman Sites D or E and that each of these Lake Norman sites had the potential for lake cooling in addition to cooling towers (Tr. pp. 3105 and 3107). Dr. Gilbert further admitted that the site at Lake Norman E was more level than the Perkins site and that the Staff did not know if the Applicant actually owned the land at the Lake Norman E site (Tr. pp. 3109 and 3110). In regard to a consideration of water and its availability at the Lake Norman sites compared to the Perkins site, Dr. Gilbert testified as follows:

Question:

Now, Mr. Gilbert, in considering the E site, and considering Perkins, were you aware of the fact when you made your independent analysis that Duke has four dams upstream from Lake Norman to control the river flow, the Catawba basin north of Lake Norman?

Answer:

I am aware that there is some control by Duke of the water flowing above.

Question:

Alright, but that is not mentioned in any of your testimony or your analysis, is it?

Answer:

Frankly, Mr. Pfefferkorn, water is not an issue in this particular analysis. We are agreed that Lake Norman is potentially licensable with cooling towers.

Question:

Well, are you saying that it doesn't matter that you didn't consider the water availability in considering the site alternatives?

Answer:

We did consider water availability. We consider them all licensable with cooling towers.

Question:

Alright, but are you saying that you didn't evaluate any of them differently? You didn't use any judgment as to water availability and water control? Is that what you are saying?

Answer:

Water, in terms of cooling towers, is a go-no-go situation. And, in this case, they are all "go" with the possible exception of the Board.

77. The Licensing Board erred in failing to find as follows: Mr. Robertson of the Staff testified that the storage volume of High Rock Lake is 250,000 acre feet and Lake Norman is 1,093,600 acre feet and that the consumption of water by a nuclear facility such as Perkins would amount to approximately 27,000 acre feet during the recreational months of the year (Tr. pp. 3115 and 3118). Mr. Robertson further testified as follows:

Question:

Now Mr. Robertson, when you made your independent evaluation of this material submitted to you by the Applicant, starting in August of this year, did you consider in comparing and contrasting the Lake Norman sites with the Perkins site that the amount of water consumed by cooling towers from Lake Norman would be a much smaller percentage of the total water in Lake Norman as opposed to High Rock, under the same circumstances? In other words, the percentages, because of the greater volume of Lake Norman, did you consider that difference?

Answer:

No, that was not vital to our analysis. Our concern was whether there was an adequate supply of water to supply the cooling tower.

Question:

But, wouldn't an analysis of the adequate supply of water consider the amount of supply and the effect of your evaporation on the water supply?

Answer:

Well, if both sites had adequate water, then other factors, the decision of whether it was suitable or not, would hinge on other factors in the water supply.

Question:

Are you saying that you basically agree with Dr. Gilbert, that you just didn't really consider the difference in effect because of the amount of the water, once you decided enough is enough, you didn't go into how much effect it would have, did you?

Answer:

No.

Question:

Alright, so the fact that Lake Norman has a much larger reservoir and contains over four times as much water supply was not considered by you or Dr. Gilbert or anybody in the analysis of alternative sites in your testimony for this year; is that right?

Answer:

Well, as I said earlier, we felt like other factors had considerably more importance.

Question:

Is it your testimony that the factor of upstream control such as that present on the Catawba Basin by Duke Power Company, is that a factor that you didn't consider important in looking at these alternative sites?

Answer:

That's true.

78. The Licensing Board erred in failing to find as follows:

(Tr. p. 3120). Mr. Robertson further admitted that he did not penalize the Perkins site in his evaluation on account of the need to construct an additional reservoir known as the Carter Creek Reservoir at the Perkins site and that he considered Perkins an equivalent site to Norman in regard to the water use and water impact question (Tr. pp. 3122 and 3123).

79. The Licensing Board erred in failing to find as follows:

Staff witness Dr. Gough testified that high turbidity and high nutrient loading is higher in High Rock Lake than it is in Lake Norman and that from the standpoint of turbidity and nutrient loading the water quality at High Rock Lake is poor (Tr. p. 3126). Dr. Gough admitted that his written testimony did not show whether the lower water quality at High Rock Lake compared to Lake Norman was a factor in his evaluation and conclusions.

80. The Licensing Board erred in failing to find as follows:

Staff witness Dr. Robertson testified that he did not consult the North Carolina water framework study done in 1977 in order to evaluate the alternative sites and that he did not consider future water uses in the Catawba and Yadkin River Basins (Tr. pp. 3139 and 3141). Dr. Gilbert admitted that his evaluation of alternative sites in regard to water use and impact used a threshold test which meant that, if a particular site was satisfactory, it got the highest rating and there could be no differences in rating beyond a satisfactory level. In short, Dr. Gilbert stated that if a particular site was satisfactory from a water point of view it got the highest rating and no site could be more satisfactory on this crucial question (Tr. p. 3149).

81. The Licensing Board erred in failing to find as follows:

Staff witness Gough stated that there was no explicit weighing of factors in his analysis and witness Zittel

stated that the two short form charts used by Staff witnesses were adequate, even though the possibility of additional charts was admitted by Dr. Zittel (Tr. pp. 3168 and 3169). Dr. Zittel further admitted that there were no time constraints on the work by the Staff (Tr. p. 3175). Dr. Zittel further stated that the Staff witnesses never received a copy of the Intervenors' interrogatories, which were filed on the 10th day of October, 1978.

82. The Licensing Board erred in failing to find as follows:
Dr. Zittel stated that he was familiar with matrix systems for evaluation of plant sites but did not identify any of these systems and stated that there was no ultimate method (Tr. p. 3178).

83. The Licensing Board erred in failing to find as follows:
Staff witness Zittel stated that the understanding of the Staff regarding the standard for determining whether or not an obviously superior site existed was such that, since no significant effects were determined from the Perkins siting there could not be an obviously superior site. Dr. Zittel only qualified this definitional impasse with the hypothetical case of a site in which "all of the impacts would be absolutely minimized, you couldn't get any smaller." (T. p. 3216).

84. The Licensing Board erred in failing to find as follows:
The Staff panel of witnesses admitted through the staff attorney that they could not prepare a matrix evaluation of the alternative sites in this proceeding similar to the evaluations done by the Applicant, Dr. Joplin and Dr. Lipkin for the reason that this would not represent what they actually did and for the reason that they did not understand their task to rank the sites and compare and contrast the sites with each other (Tr. pp. 3265 and 3267).

85. The Licensing Board erred in failing to find as follows:
Staff witness Gough admitted that the eutrophication water problem at High Rock Lake downstream from the Perkins

site was not considered in any detailed sense in his comparison of the Perkins site with other sites (Tr. p. 3280). Dr. Gough further admitted that he had no detailed information on water quality for either the Catawba Basin or the Yadkin Basin in reaching his conclusions (Tr. p. 3281). Dr. Gough further admitted that he obtained no information in regard to future water uses in his evaluation (Tr. p. 3284). Dr. Gilbert admitted that the Staff made no independent analysis of all twenty-five potentially licensable sites listed by the Applicant other than the eight which are mentioned in the filed testimony (Tr. p. 3286). Witness Gough admitted that EPA Region IV, Working Paper 381, listed High Rock Lake as having the most problems of eutrophication of all of the sixteen lakes analyzed in North Carolina and rated Lake Norman as only number 6. In addition to that, two other lakes in the Catawba Basin were rated 5 and 7, whereas Badin Lake, which is below High Rock, is listed as number 15. The EPA Working Paper indicates that according to the Vollenweder analysis the phosphorous loading level is dangerous above 1.52 and High Rock Lake shows 7.98.

86. The Licensing Board erred in failing to find as follows:
Staff witness Dr. Gough admitted that the data is inadequate to rank the Lake Norman sites against the Perkins site and that he is unable to make a judgment as to which is the best site (Tr. p. 3345). Witness Gough further stated that since Perkins had been determined to have no significant impacts it would not be possible for him to find an obviously superior site anywhere (Tr. p. 3346).

87. The Licensing Board erred in failing to find as follows:

Dr. Medina testified that he had assisted in preparing impacts statements and that he was testifying as a paid consultant and that he favored nuclear power (Tr. p. 3395 and p. 3396). Dr. Medina stated that he had reviewed the information supplied the Applicant, which is set out as Exhibit 10 of this proceeding. He also stated that he had examined the the Final Environmental Impact Statement for the Perkins Site and the North Carolina Water Resources Framework Study issued in 1977 and other information from open literature (see p. 1 of Medina testimony). Dr. Medina further stated that he personally inspected the Yadkin River Basin from the Yadkin College gauge down the River past the Perkins site all the way to the High Rock Reservoir and on below to the Tucker Town Reservoir. He also stated that he has personally inspected the Lake Norman sites (Tr. p. 3444). Dr. Medina testified that the alternate site evaluation by the NRC Staff was inadequate and that the Lake Norman site and the Wateree site were clearly superior (see p. 1 of Medina testimony and Tr. p. 3445). Dr. Medina testified that the basis for his conclusion of the obvious superiority of Lake Norman was the difference in size between Lake Norman and High Rock , which are the affected reservoirs, the flow rates and the control of water flow in the respective Catawba and Yadkin Basins, and the lack of the requirement for a Carter Creek Reservoir at the Lake Norman sites (Tr. p. 3455, testimony of Dr. Medina at p. 2). Dr. Medina further testified that the average flow rates which were relied upon in the Yadkin Basin, where there is nor reservoir control by the Applicant is extremely unreliable in that no risk analysis was done by the Applicant in regard to the Yadkin flow rates,

which was an additional weakness in the Perkins site (Tr. p. 3459). Dr. Medina testified that he had studied for his Ph.D. under one of the professors who designed the Ryan and Harleman model which had been used by the Applicant to measure the environmental impact of lake cooling on Lake Norman and that a computer model of a proposed Perkins Plant on Lake Norman could be run in two to three weeks and should be done to determine the likelihood of using surface cooling as an alternative to cooling towers on one of the Lake Norman sites (Tr. pp. 3701, 3702, 3703, and 3704). Dr. Medina further testified that the Lake Norman site was preferable on account of the greater volume of Lake Norman which provided four times the dilution factor as that of High Rock Lake (Tr. p. 3696).

88. The Licensing Board erred in failing to find as follows:

In answer to Board questions Dr. Medina summarized his position as follows:

Question by Dr. Jordan:

Are you saying - and I don't want to put words in your mouth - are you saying that in the view of the large storage capacity, both at Lake Norman and the lakes above Lake Norman, that the fluctuations on the river from mean flow will be smaller; therefore, there will be fewer times when the flow will be down to 1,000 cubic feet a second?

Answer:

That's not in the river, sir. You have above Lake Norman a dam, Lookout Shoals, and below - downstream the bottom part of Lake Norman, you have Cowans Ford Dam. What that essentially means is that you have upstream and downstream control, so you can make up any water that is lost from that stream by a release, for example, from Lookout Shoals, or by reducing that release at Cowans Ford Dam.

It's a perfect situation. You have the most perfect control you can possibly have over a reservoir.

Question:

So are you saying, therefore, that even the flows in the river are essentially the same and therefore the number of people, industries that could be supported, are perhaps somewhat similar.

Answer:

The reliability?

Question:

The reliability of the water supply is very much higher?

Answer:

Yes sir.

Question:

In your opinion, then, is this a distinct plus for locating a nuclear or other plant, cooling tower or once through, on Lake Norman, rather than on the Yadkin River?

Answer:

Yes sir. Because supposing that for operating conditions, it turns out that there is more consumptive use than anticipated or for whatever reason you can increase the release upstream or decrease the release downstream, you have total control of your amount of water. Other than evaporation, which you really don't have control over, unless you spread chemical polymers over the surface, and that's very expensive.

Question:

Have you seen where the Staff or the Applicant has taken this into account and rated Lake Norman, therefore, better in this respect, considerably better than Yadkin?

Answer:

I have not seen anywhere a discussion about upstream, downstream control, and the reliability of the water supplies.

Question:

Would you say this was an inadequacy of the Staff's evaluation?

Answer:

I would.

89. The Licensing Board erred in failing to find as follows:
Dr. Allen H. Lipkin is an Assistant Professor of Chemistry at Winston-Salem State University. He received a Ph.D. in organic chemistry and has been teaching general chemistry, organic chemistry, investigations and research in chemistry, and seminars in chemistry since 1973. He has been a consultant for

private and public agencies, and specifically has been involved in organic synthetic procedures, glassware, glass blowing and glass sculpture, and he has set up analytic procedures for certain metals. He has written four publications in addition to his thesis and is an active chess champion (professional qualifications of Dr. Lipkin attached to the testimony of Dr. Lipkin). Dr. Lipkin testified that the Staff evaluation was deficient in many particulars and prepared a detail matrix which was based upon an article written by Mr. Joplin of Florida Power and Light Company, which was obtained from the files of Duke Power Company. Dr. Lipkin factored the Applicant's raw material into the Joplin matrix and in certain portions of the matrix factored in his own evaluations and reached the conclusion that there were several sites obviously superior to the Perkins site. (See testimony of Dr. Lipkin and attached exhibits following record page 3436, and the testimony of Dr. Medina).

90. The Licensing Board erred in failing to find as follows:
Dr. Lipkin testified that he considered the Perkins site to be an adequate site, but that the other sites which he evaluated in his matrix were better sites. (Record page 3513). Dr. Lipkin explained that he used the Joplin method and Duke Power Company information as much as possible and that he supplemented this with his own knowledge of the material provided by the Applicant in Exhibit No. 10. (Tr. 3554 and 3556, Tr. 3605 and 3614). Dr. Lipkin identified some of the obvious factors of comparison between Lake Norman and the Perkins site for the considerable difference in size of the two reservoirs and the possible

versatility of once through cooling at the Norman site (Tr. 3527 and 3530). He also referred to the requirement of a Carter Creek impoundment at the Perkins site which was not required at the Lake Norman sites. Dr. Lipkin further pointed out that the Joplin matrix which he used was conservative on the crucial water question in that the Joplin matrix only provided for a 32% consideration of water matters and the Duke matrix provided for approximately twice that much consideration to water (Tr. 3645). The Lipkin matrix rates the Perkins site at 168 and the Lake Norman E at 202, which represents, according to Dr. Lipkin and his use of the Joplin matrix and the Applicant's information, an obvious superiority for the Lake Norman site (Tr. 3645).

91. The Licensing Board erred in failing to find as follows:
Dr. deSylva applied the Joplin-Lipkin matrix using

only Duke Power figures and making no allowance for differing evaluations and considerations which were recommended by Dr. Medina and by Dr. Lipkin and reached a result that placed Lake Norman D site at 127 and the Perkins site at 116. Mr. Donald Blackmon of Duke Power Company subsequently testified that by using the Joplin-Lipkin matrix with Duke information such as had been done by Dr. deSylva, but with the additional elimination of certain cost penalties which might be considered economic rather than environmental he came to a conclusion that Lake Norman D would be rated 175 and the Perkins site 168. (Tr. 3844). This reanalysis by Mr. Blackmon using the Joplin-Lipkin matrix did not provide any changes based upon the evidence adduced at the hearing with regard to the obvious differences in water impact

between Lake Norman and the Perkins site (Tr. 3859).

92. The Licensing Board erred in failing to find as follows:
Mr. Blackmon and Mr. Dail from Duke Power Company

mentioned some numerical figures which they had derived from the fact that there were more thermal power plants in the Catawba basin than the Yadkin basin and that the number of megawatts produced per unit of 7-Q-10 flow was approximately twice as much in the Catawba basin (Tr. 3677). However, Mr. Dail and Mr. Blackmon returned to the stand the following day and revealed that the Applicant owns and controls more than 500,000 acre feet of water storage capacity in the Catawba basin upstream from Lake Norman and excluding Lake Norman, which is twenty times the amount of owned and controlled water storage capacity which is projected for the Carter Creek reservoir upstream from the Perkins site (Tr. 3849). Mr. Dail further testified upon his return to the stand that Duke Power Company had not run the computer model on Lake Norman to test the sufficiency of the lake for surface cooling of a nuclear plant at either sites D or E (Tr. 3841).

93. The Licensing Board erred in failing to find as follows:
The Staff witnesses conceded upon being recalled

to testify that the Perkins water pumps could withdraw up to 25% of the stream flow from the Yadkin when the flow was at 1,000 CFS, and that the pumps were designed to pump up to 300 CFS from the river in order to supply the holding ponds and fill the Carter Creek reservoir. The pumping of 300 CFS would violate the criteria set out in the Duke Power matrix and discussion which limited a consideration of sites to those where water use would not exceed 10% of the average flow of the river (Tr. 3094 and 3095).

94. The Board erred in failing to find as follows:

The Staff evidence was not sufficient to sustain its burden of proof under the Environmental Policy Act. The Environmental Policy Act and the Nuclear Regulatory Commission require that the Staff engage in an independent, critical and sensible analysis of alternate sites. The Staff assumed that the Perkins site had passed the water impact hurdle and therefore they blindly followed the Applicant's position that no differentiation or weighing between the Norman site and the Perkins site could be done in regard to the water impact. The Staff did not properly understand that common sense and honest inquiry require that all of the examined sites receive a grade on this test and that the alternate site review course is not a pass/fail matter. The Staff failed to organize its presentation in such a fashion that it could be discussed and analyzed in a rational way. It is no excuse that subjective judgment is involved in the alternate site process. The Staff panel presented an incomplete and unformed series of impressions. There was no attempt to use a recognized matrix such as that used by the Applicant, by Dr. Joplin, by New York State Utilities, by Dr. Kipkin, and by other anonymous groups referred to by Dr. Zittel. Therefore, the Staff has not performed its required function in this matter.

95. The Board erred in failing to find as follows:

The Intervenors have presented evidence that definitively shows the several obvious areas of comparison between the Perkins site and the Lake Norman sites which must resolve the issues in this reopened hearing. Dr. Medina and Dr. Lipkin were operating under obvious limitations of time and resources. Despite these limitations, or perhaps on account

of these limitations, these witnesses focused on the two main issues of this alternate site review: (1) The obvious water impact, and (2) the cumulative impact of many factors. Dr. Medina based his evaluation that Norman was a much better site on the simple and obvious facts of water quantity and water control. Dr. Lipkin took all of the Duke information and organized it according to Joplin's unbiased matrix that was extremely conservative on the water question. The Perkins site revealed its chronic weaknesses under various reruns with the Joplin matrix. The matrix result confirmed the obvious differences in water impact.

96. The Licensing Board erred in failing to find as follows:

The Applicant has made a valiant effort to save the Perkins site in which it has invested much engineering and legal resources. Fortunately, the Perkins plant is a twin to the Cherokee plant, which is now under construction, and therefore the plans are being utilized. Also, there has been no limited work permit granted in the Perkins case and therefore no construction monies have been expended. The argument by Applicant for equivalent burdens to the river basins might carry some weight if other things were equal, however, the water storage factors are completely out of balance and explain rather easily the greater production of megawatts in the Catawba basin. Perhaps when additional water storage is constructed upstream on the Yadkin the potential for harm to the water quality in the Yadkin will be lessened so that a Perkins type facility can be judiciously sited. Until that time, the Board cannot ignore the obvious advantages and significant superiorities which support the siting of the Perkins plant on Lake Norman. This finding is not based upon the present ability to use surface cooling for a

Perkins facility on Lake Norman. However, Applicant has not run the computer models which could definitely rule in or out such a possibility, and the future legal regulations could ease or be changed, therefore, the potential or possibility for at least some amount of lake cooling, while not necessary to this finding, does provide future versatility which could never come to pass at the Yadkin site.

97 . The Licensing Board erred in its order of August 14, 1980, failing to grant intervention to David Springer and failing to reconsider the record or reopen the record on the basis of the Motion and Brief filed by David Springer and incorporated by reference in the Intervenor's Motion dated June 6, 1980.

98. The Licensing Board erred in failing to apply the proper standard of a "hard look" and "thorough and even-handed review" at the alternative sites to the Staff and Applicant evidence as required by the National Environmental Policy Act. (Finding of Fact No. 69, Factual Conclusion No. 70)

99. The Licensing Board erred in failing to apply the proper standard of "plain" or "simple" superiority mandated by NEPA alternate site consideration and instead applied the "obvious" or "substantial" superiority standard. (Finding of Fact No. 69, Factual Conclusion No. 70).

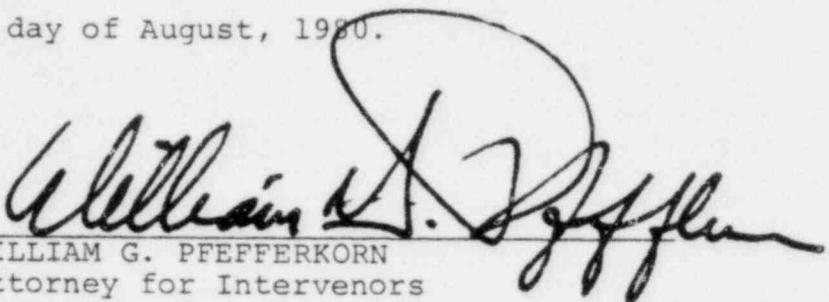
100. The Licensing Board erred in its Finding of Fact No. 69 and Conclusion No. 70 in that the evidence and the findings do not support these findings and conclusions.

101. The Licensing Board erred when it failed to find and conclude that the Applicant's consideration of

alternative sites was inadequate under appropriate NEPA standards.

102. The Licensing Board erred when it failed to find and conclude that the Staff's consideration of alternative sites was inadequate under appropriate NEPA standards.

This the 29th day of August, 1980.


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CERTIFICATE OF SERVICE

I hereby certify that copies of Notice of Appeal and
Exceptions

in the above-captioned matter have been served on the
following by deposit in the United States Mail this the
29th day of August, 1980.

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