

September 21, 1984

MEMORANDUM FOR: T. M. Novak, Assistant Director
for Licensing
Division of Licensing

FROM: R. Wayne Houston, Assistant Director
for Reactor Safety
Division of Systems Integration

SUBJECT: LICENSE CONDITIONS REGARDING HYDROGEN CONTROL MEASURES
FOR CATAWBA NUCLEAR STATION, UNIT 1

Proposed License Condition 11, Hydrogen Control Measures II.B.7, which was attached to Facility Operating License NPF-24 for Catawba Unit 1, would require that (1) the distributed ignition system be installed and operable prior to initial criticality and activated upon a safety injection signal, and (2) upgraded analyses be submitted for staff review and approval prior to exceeding 5% power.

By letter dated August 31, 1984, the applicant, Duke Power Company, confirmed that the Unit 1 distributed ignition system is installed and operable and that the system will be energized following verification of a valid safety injection signal. On this basis, the Containment Systems Branch (CSB) concludes that the first element of License Condition 11 has been satisfactorily resolved and may be removed from the Unit 1 operating license.

With regard to the second element of License Condition 11, the applicant submitted responses to all outstanding staff questions on hydrogen control measures on May 22, 1984. The CSB has reviewed the material provided in the applicant's submittal and concluded that the responses do not adequately resolve all the remaining staff concerns.

To further clarify the specific information and analyses required to complete our review of the distributed ignition system, we are providing as Enclosure 1 a Request for Information which we request be forwarded to Duke Power Company. Accordingly, we recommend that the second element of License Condition 11 remain as proposed, with one modification. The proposed license condition specifies that upgraded analyses be submitted for staff review and approval prior to exceeding 5% power. We recommend that the target date for completion of the upgraded analyses be changed from "prior to exceeding 5% power" to "by December 1, 1984". The basis for permitting full power operation prior to final resolution of these matters is our review of a virtually identical

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hydrogen mitigation system installed in McGuire Nuclear Station, and supplementary analyses submitted for Catawba, from which we conclude that there is reasonable assurance that the hydrogen control measures installed in Catawba will satisfactorily mitigate the consequences of the hydrogen release generated during the more probable degraded core accident sequences. We believe that a date of December 1, 1984, will provide adequate time for resolution of the remaining issues without undue risk to public health and safety. A marked-up License Condition reflecting the recommended changes is provided as Enclosure 2.

Original signed by *B. S...*
E. Wayne Houston

R. Wayne Houston, Assistant Director
for Reactor Safety
Division of Systems Integration

- cc: E. Adensam
- K. Jabbour
- T. Kenyon
- D. Wiggington
- C. Stahle
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REQUEST FOR ADDITIONAL INFORMATION
REGARDING HYDROGEN CONTROL MEASURES AT
CATAWBA NUCLEAR STATION, UNITS 1 AND 2

1. Recent containment analysis for degraded core accident sequences performed as part of the NRC Severe Accident Sequence Analysis program suggests the need to further address the survival of certain essential equipment for an expanded set of degraded core accident sequences. Specifically, analyses using the MARCH and HECTR computer codes indicate that for more-recent estimates of hydrogen and steam release rates for the S₂D sequence and certain other equally-probable degraded core accident sequences, the temperatures and differential pressures, to which certain essential equipment may be exposed, can exceed that calculated using the utility-developed release rates and combustion assumptions. The difference in calculated temperatures and pressures is due to changes in the timing, location, and magnitude of hydrogen burns as well as the mass and energy release rates for the blowdown.

Considering the above discussion, provide the results of analyses to determine the effectiveness of deliberate ignition for the Catawba plant. The analyses should address the effects of hydrogen combustion on containment integrity and equipment survivability, and should be based on accepted structural heat sink heat transfer models, as outlined in our May 8, 1984, Request for Information. Furthermore, the analyses should be performed to address a spectrum of appropriate degraded core accidents. Specific items that should be addressed include:

- a. Model input and analytical assumptions;
 - b. Calculated compartment atmosphere pressure, temperature, and gas concentration transients;
 - c. Equipment temperature response profiles; and
 - d. Differential pressure transients between compartments which will allow for an evaluation of ΔP effects on interior structures and mechanical components (e.g., doors, fans).
2. Provide a complete evaluation of fan (both air return and hydrogen skimmer) operability and survivability for degraded core accidents. An evaluation of fan operability and survivability was requested by the staff in Requests for Information dated May 8, 1984, and August 18, 1983, however, the utility responses are incomplete and do not provide an adequate basis for concluding on the matter. In this regard, discuss the following items:
- a. The identification of conditions which will cause fan overspeed, in terms of the magnitude and duration of differential pressures required to produce overspeeding and hydrogen combustion events.

- b. The consequences of fan operation at overspeed conditions. The response should include a discussion of thermal and overcurrent breakers in the power supply to the fans, the setpoints and physical locations of these devices, and the fan loading conditions required to trip the breakers.
- c. Indication to the operator of fan inoperability, corrective actions which may be possible, and the times required for operators to complete these actions.
- d. The capability of each of the key fan system components to withstand differential pressure transients (e.g., ducts, blades, thrust bearings, housing), in terms of limiting conditions and components.
- e. An assessment as to whether requisite conditions for overspeed, tripping, or failure of the fan systems, will occur for each of the spectrum of degraded core sequences, and the impact of anticipated fan behavior on the progression of the accident.

3. Utility responses to staff questions regarding reverse pressure differential loads on ice condenser doors indicates an apparent inconsistency in reported values for both reverse pressure capability for the doors, and the peak calculated differential pressures. For example, the reverse pressure capability for the intermediate deck doors was reported to be 6 psid for Catawba and 2.8 psid for D.C. Cook; the peak differential pressures across these doors resulting from an upper compartment burn was reported to be 1.2 psid for Catawba and 12 psid for D.C. Cook. Furthermore, the utility responses do not provide a quantitative assessment of the reverse-pressure differential loads across each of the doors resulting from an upper compartment burn. The door positions and pressure loads resulting from upper compartment burns needs to be further examined in light of the recent MARCH HECTR analyses which indicate a greater frequency for upper compartment burns than indicated in utility analyses.

Considering the above discussion, provide a quantitative assessment of the pressure differential loading on each of the ice condenser doors created by hydrogen combustion in a) the upper plenum and b) the upper compartment. Describe and justify the assumed or calculated door positions. Provide an evaluation of the ultimate capability of the ice condenser doors to withstand reverse differential pressures. Discuss the probable failure modes and the consequences of such failures; including the impact on a) adjacent equipment and structures, b) ice bed integrity, and c) flow maldistribution.

11. Hydrogen Control Measures, II.B.7 (Section 6.2.5, Appendix C, SER)

~~(a) Before initial criticality, the distributed ignition system for hydrogen control shall be installed and operable, and shall have been demonstrated to be activated upon a safety injection signal.~~

DECEMBER 1, 1984

(b) Prior to ~~exceeding 5% power~~, upgraded analyses shall be provided on the following issues and submitted for staff review and approval:

- (1) thermal response of the containment atmosphere and essential equipment for a spectrum of accident sequences using revised heat transfer models.
- (2) effects of upper compartment burns on the operation and survival of air return fans and ice condenser doors.
- (3) operability of the glow plug igniter in a spray environment typical of that expected in the upper compartment of the containment.

12. Quality Assurance Issues (ASLB PID)

a) Prior to exceeding 5% power, Duke Power Company shall:

- 1) upgrade its procedures for control of weld filler material to prevent the mix-up of carbon and stainless steel filler material.
- 2) confirm to the Staff whether or not socket welds made by a particular construction crew incorporated a required gap between components being welded and, if not, what the results were.
- 3) modify its instructions and procedures for walk-down inspections to remove any indications that such inspections are only for the purpose of discovering construction damage.

b) Within six months, or prior to full power operation (whichever is later), Duke Power Company is to modify and clarify its written policy on harassment of employees (which currently focuses on equal rights/equal opportunity issues) to make it clear that it precludes actions against QA/QC inspectors intended to impede the inspector's proper performance of his duties.

December 6, 1984

Note to: Guy H. Cunningham, III

Thru: Edward S. Christenbury
Joseph R. Gray

From: George E. Johnson

SUBJECT: HISTORY OF HYDROGEN CONTENTION IN CATAWBA PROCEEDING

The following is a concise history of the development of the hydrogen control issue in the Catawba OL proceeding:

1. December 9, 1981 - Intervenors proffered Palmetto Alliance (PA) Contentions 5, 9, and 31 (the latter also being Carolina Environmental Study Group (CESG) 2) addressing serious accidents and hydrogen generation. CESG 2/PA 31 stated:

The license should not issue until and unless the hydrogen release consequences from that range and variety of LOCA's which the Applicant is required by the NRC to consider have been dealt with so as to make impossible damage to public health and safety. The igniter system cannot perform this function.

PA Contention 9 was similar:

Applicants have failed to demonstrate that during the time period following a postulated LOCA but prior to effective operation of the combustible gas control system, either (i) an uncontrollable hydrogen-oxygen recombination would not take place in the containment, or (ii) the plant could withstand the consequences of that hydrogen-oxygen recombination without loss of safety function.

However, PA 5 was a more general contention addressing the RSS.

2. March 5, 1982 - The Licensing Board rejected PA 9, 31 (CESG 2), based on the ground that "the issue [of an explosive hydrogen-oxygen reaction produced within the reactor containment following a loss-of-coolant accident] is being addressed in the rulemaking process." 15 NRC at 584, relying on Rancho Seco, ALAB-655, 14 NRC 799. The Board noted that no credible accident scenarios for a LOCA producing hydrogen had been offered. PA 5 was also rejected based on lack of specificity, 15 NRC at 583-4.

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3. March 31, 1983 - Intervenors PA and CESG object to March 5, 1982 order and proffer 4 "credible accident scenarios."
4. July 8, 1982 (16 NRC 167, 169-170) - Licensing Board, on reconsideration noted that PA 5, 9, 31 (CESG 2) had been rejected for lack of specificity but the door was left ajar for possible consideration of site-specific credible accident scenarios. Noting March 31, 1982 scenarios could occur at any PWR, it asked for party comments. Party comments submitted 7/30/82. Applicants opposed, Staff said scenarios were sufficiently specific to litigate their credibility.
5. December 1, 1982 (16 NRC 1791, 1798, 1807-1810) - Licensing Board, on reconsideration rejected these contentions, and particularly the 3 hydrogen generation contentions, noting again they were generic issues in an ongoing rulemaking and need not be litigated. ASLB, while noting that the Commission permitted litigation of hydrogen issues in TMI Restart despite ongoing rulemaking, ruled that there was no substantial safety reason for litigating the generic issue since the rulemaking would be completed well before licensing. 16 NRC at 1809. It found "the pertinent rulemaking directly addresses the intervenors' hydrogen concerns."

The ASLB also ruled out an environmental contention, DES-22, based on similar reasoning, but also had a separate, independent basis, finding that the DES, with minor revision, adequately treated the risk of severe accidents involving hydrogen explosion. 16 NRC at 1798.

6. April 12, 1984 - PA and CESG seek to have original hydrogen control scenario contentions admitted based on the ground that the premise for earlier dismissal, the completion of rulemaking prior to licensing, had not proven to be viable. Intervenors also noted that the Staff considered the matter still an unresolved safety issue.
7. May 2, 1984 - The Staff responded that since completion of the rulemaking was likely within a short time, the ASLB's reasons for dismissing the contentions were still sound.
8. June 22, 1984 (19 NRC 1418, 1425) - In Partial Initial Decision, 19 NRC 1425, n.3, the ASLB rejected the hydrogen accident contentions

essentially for the reasons advanced by the Staff. See Staff Responses dated May 2, 1984. Briefly, the hydrogen accidents are rejected because final Commission action on a generic rule addressing the same concerns is expected before the anticipated date of full-power operation of Catawba.

9. November 1, 1984 - The Staff informed the Licensing Board that the Staff expected the rulemaking to be before the Commission within the month of November, but could not predict the date for approval.

PA 5,9,31
- CESC 2

As discussed above, CESC has not supported a charge of changed circumstances sufficient to warrant relitigation of the need for power and no possible public interest factor has been advanced which would warrant relitigating this issue for a plant that is substantially complete. 15/ Applicants submit that the time to discuss the need for power issue was at the time the construction permits were sought and not now when the plant is almost complete. 16/ Inasmuch as these issues were previously considered and resolved at the construction permit stage, not once but several times (and in the other proceedings discussed in Part II, supra), the matter warrants no further attention by this Board. Thus for reasons set forth above, CESC's proposed contentions 1 and 12 should be barred by application of the doctrine of collateral estoppel.

B. HYDROGEN GENERATION (CESC Proposed Contention 2)

CESC's proposed contention 2 reads as follows:

2. The license should not issue until and unless the hydrogen release consequences from that range and variety of LOCA's which the Applicant is required by

15/ As of Fall 1981, Catawba Unit 1 was 86.4% complete; Catawba Unit 2 was 35.5% complete.

16/ This is in accord with the Commission's proposal to amend 10 CFR Part 51 to eliminate in operating license proceedings, and in environmental reports submitted at the OL stage, an analysis of the need for power and of alternative energy issues. 46 Fed. Reg. 39440 (August 3, 1981)

the NRC to consider have been dealt with so as to make impossible damage to public health and safety. The igniter system cannot perform this function.

Applicants submit that to the extent CESH's contention questions Applicants' analysis of hydrogen generation consequences as set forth in Applicants' FSAR, CESH's contention lacks the requisite specificity and supporting basis required by Commission regulations, and thus, must be denied. 17/ In addition, to the extent CESH seeks to challenge the design assumptions set forth by Commission regulations and used by Applicants in their design analyses regarding hydrogen generation (e.g., 10 CFR §50.44), CESH's contention 2 is not subject to resolution in this proceeding in that it constitutes an impermissible challenge to Commission regulations, and is the subject of ongoing generic rulemaking. See Part IB, supra.

With regard to hydrogen generation, current Commission regulations require that Applicants only consider the release consequences of an amount of hydrogen as set forth in 10 CFR §50.44. Applicants have set forth such analyses in Sections 6.25 and 15.6.5 of the FSAR and thereby have demonstrated compliance with the Commission's regulations. To the extent that CESH contends otherwise, CESH must

17/ To the extent CESH seeks to raise a new standard of "impossibility of damage to public health and safety," CESH's efforts are clearly in conflict with the Atomic Energy Act of 1954 and Commission regulations, and must fail.

Palmetto Alliance's proposed contention 8 must be denied.

G. HYDROGEN GENERATION (Proposed Contentions 9 and 31)

Palmetto Alliance's proposed contention 31 is identical to CESC's proposed contention 2. For the reasons set forth in Applicants' response to CESC's proposed contention 2, as contained in "Applicants' Response To CESC" incorporated herein by reference, Applicants submit that Palmetto Alliance's proposed contention 31 must be denied.

Palmetto Alliance's proposed contention 9 reads as follows:

9. Applicants have failed to demonstrate that during the time period following a postulated LOCA but prior to effective operation of the combustible gas control system, either (i) an uncontrollable hydrogen-oxygen recombination would not take place in the containment, or (ii) the plant could withstand the consequences of that hydrogen-oxygen recombination without loss of safety function.

Applicants submit that to the extent Palmetto Alliance's proposed contention questions Applicants' analysis of hydrogen generation consequences as set forth in Applicants FSAR, Palmetto Alliance's proposed contention lacks the requisite specificity and supporting basis required by Commission regulations, and thus, must be denied. See Part IA, supra. In addition, to the extent Palmetto Alliance's proposed

D. RISK EVALUATION AND SEVERE ACCIDENTS (Proposed Contention 5 and 32)

Palmetto Alliance's proposed contention 32 is identical to CESG's proposed contention 3. For the reasons set forth in Applicants' response to CESG's proposed contention 3, as contained in "Applicants' Response To CESG" incorporated herein by reference, Applicants submit that Palmetto Alliance's proposed contention 32 must be denied.

Palmetto Alliance's proposed contention 5 reads as follows:

5. No reasonable assurance can be had that the facility can be operated without endangering the health and safety of the public through occurrence of a serious accident, beyond design basis. The probabilistic risk assessment which might serve as a basis and standard for finding a reasonable assurance of an acceptable risk to the public cannot be carried out because human errors and common mode failures are not susceptible to that method of analysis and because the complexity and number of nuclear plant systems defies such analysis. Such serious issues have been raised and shown regarding the conceptual, methodological, statistical, and data underpinnings of the RSS that its use in licensing proceedings for decision-making is entirely inappropriate. NUREG/CR 0400, the Lewis Report, supra; Union of Concerned Scientists, "The Risks of Nuclear Power Reactors: A Review of the NRC Reactor Safety Study WASH 1400" (NUREG 75 014), pp. 113-130. Serious accidents with releases of radioactivity to the environment inimical to the health and safety of the public are now plainly credible after Three Mile Island.

Commission regulations are based upon a statutory mandate to assure "the common defense and security" and

contention (which are rejecting) does not refer to the vulnerabilities of small owners.

This contention about costs of decommissioning is similar to the one in the Staff's report; it is admitted subject to deletion of the last sentence and subject to further specification following discovery.

It is unclear to the Board whether or to what extent the Department of Health and Environmental Control will be monitoring the operational effects of Catawba, either as a condition of the safety regulations or as a factor in the environmental analysis. Various aspects of monitoring activities are discussed in Chapter 6 of the Environmental Report, including a requirement for a pre-operational monitoring program by the Department of Health and Environmental Control. Because this contention is tied in with this discussion and is objectionable on its merits, it is disallowed, with one possible exception. The contention refers to the State agency's "responsibilities in the event of an emergency because the off-site emergency plans are not yet available, and what role the agency may play in an emergency. This limited aspect of the contention is admitted conditionally, subject to further specification, or withdrawal, following discovery.

Contentions 8, 9, 13 and 16 and 17¹² are admitted, in whole or in part, under the following conditions:

Palmetto 35: The first sentence of this emergency planning contention is premature because the ten mile plume exposure pathway boundary for the emergency zone has not yet been drawn by State and local officials. The remainder of this contention is admitted, subject to the condition that the State and local plans when they are available as to the location of that EPZ boundary. The second sentence alleges that "the 30 mile plume exposure pathway EPZ prescribed in the Staff's report means that the plume exposure pathway EPZ prescribed in the Staff's report for a plume that extends out ten miles" should be expanded to 30 miles in the case of Catawba. This is an impermissible attack on the Commission's authority (10 CFR 50.47(c)(2)). Should the Intervenor wish to pursue this contention, the proper course would be to file appropriate papers seeking a modification of the rule, pursuant to 10 CFR 2.758.

The first sentence of this contention is similar to Palmetto 35. The remainder of this contention is admitted conditionally, subject to further specification, or withdrawal, following discovery.

Contentions are also advanced by Palmetto as their contentions numbered 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100. These Palmetto contentions are also admitted, subject, of course, to the conditions stated above.

Contention 5: The Staff's discussion of serious accidents. We do not, by this conditional admission, necessarily endorse the need to consider the entire spectrum of PWR accidents; the scope of the Staff's obligation is basically contained in the Commission's Policy Statement. The second sentence of this contention is rejected. The abilities of local officials to cope with the consequences of serious accidents would be more appropriately explored in the emergency planning context. New contentions concerning the functions and capabilities of local officials can be submitted promptly after the local area plans become available.

CESG 13: This contention alleging irregularities in welding practices is similar to Palmetto Contentions 6, 7 and 18. It is admitted conditionally, subject to further specification, or withdrawal, following discovery. The conference transcript indicates that further specificity could be provided. Tr. 348-350.

CESG 16: This contention is similar to parts of Palmetto Contention 22. It is quite vague as drafted. However, it is being admitted conditionally, subject to further specification or withdrawal after the Applicants have supplied to CESG a copy of the control room design review promised in Section 1.9-1(3) of the FSAR.

CESG 17: This contention lacks specificity in that it fails to state how an infestation of the Asiatic clam *Corbicula* might affect the performance of the cooling tower system and why such an effect should be of health and safety concern or impact the environment. The potential for *Corbicula* infestation was brought out in the FES (p. 2-36) at the construction permit stage. However, the Applicants do not refer in their pleading to any discussion of *Corbicula* in their FSAR or ER. In these circumstances, we admit this contention conditionally, subject to clarification of the issue and much greater specificity following discovery.

Palmetto Contentions Rejected.

Palmetto 5: This diffuse contention expresses a generalized concern about serious accidents at Catawba. It questions the use of the Reactor Safety Study in accident analyses, and contends that serious accidents (presumably at reactors generally) are "plainly credible" after Three Mile Island. This proposed contention falls short of specificity requirements, whatever standard one applies. There is no nexus of any kind, direct or indirect, between the very generalized concerns being expressed and the specific licensing actions we are considering. The possibility of accidents at a particular reactor can only be meaningfully analyzed with reference to specific scenarios and the design of that particular facility. Were Palmetto to postulate a specific serious and credible accident scenario at Catawba, we might accept a contention based upon it. Cf. *Public Service Co. of*

1986. (Black Fox Station), CLI-80-8, 11 NRC 433 (1980). In the absence of such a credible scenario, this contention must be rejected.

Palmetto 9 and 31 (CESG 2): These contentions address an explosive hydrogen-oxygen reaction produced within the reactor containment following a loss-of-coolant accident. As held in *Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), ALAB-655, 14 NRC 299, these contentions are denied because the issue is being addressed in the rulemaking process. As recently as December 23, 1981 (46 Fed. Reg. 62281), the Commission published a proposed rule for comment. It is recognized, however, that hydrogen issues may be litigated in individual licensing proceedings provided the challenger postulates a credible scenario for a loss-of-coolant accident producing hydrogen. Absent such a scenario and in view of the pending rulemaking, these contentions are rejected.

Palmetto 11: This contention seeks to inject increased costs of construction into the environmental cost/benefit analysis at the operating license stage. The second sentence makes it clear that it is an attempt to reopen the cost/benefit analysis conducted at the construction permit stage. While construction costs can be significant at the construction permit stage when it comes to choosing among alternatives, they are usually irrelevant at the operating license stage. In the first place, costs of construction of all power plants have risen sharply in the past several years. The costs of the benefits associated with building a plant have also risen. No claim is made that the costs of construction of Catawba have risen any faster than those of other nuclear plants, or of other goods and services in the economy. More fundamentally, the attempt to inject increased costs into the cost/benefit equation at the operating license stage simply comes too late. Even assuming that the costs of construction of Catawba have gone up an inordinate amount, the fact remains that those funds have already been spent or are committed at this late stage of construction. Thus there is no practical point in considering such "sunk" costs now. *Cf. Public Service Co. of New Hampshire* (Seabrook Station), CLI-77-8, 5 NRC 503, 530-536 (1977).

Palmetto 12: This contention states that capital-intensive forms of energy (presumably including nuclear power plants) place added burdens on a tight capital market and increase interest rates in the economy as a whole. This may or may not be true. However, exploration of this broad economic thesis is far beyond the relatively narrow scope of this proceeding. The argument would be more appropriately put to an economic committee of the Congress.

Palmetto 13: This contention about the effect of Catawba on the area labor market is also beyond the scope of this operating licensing proceeding. We are concerned with whether the Catawba nuclear power plants meet the safety rules of the NRC and whether their benefits will outweigh the environmental costs of operation. We are not concerned, at least at this

junction, with the number of jobs Catawba creates, either as a construction project or as an operating facility, and, by comparison, how many job investments in conservation might have created had Catawba not been built.

Palmetto 19 and 45 (CESG 19): These contentions address the Catawba Emergency Core Cooling System. 10 CFR Part 50, Appendix K. Palmetto 19 first alleges that the expected performance of the system has not been correctly predicted and in support cites what are described as published criticisms of the methodology embodied in the analysis put forth in the Commission's Reactor Safety Study (WASH-1400). Additionally, Palmetto 19 together with Palmetto 45 and CESG 19 allude in an unclear manner to a part of the reactor and allege that part is so poorly supported as to, at the limit of complete support failure, result in blockage of ports providing for entrance of emergency cooling water for the reactor core. The contention is so unclearly stated, even in the oral presentation (Tr. 179 ff, 30) as to preclude identification of the item of equipment under discussion. Therefore, both as a challenge to Commission regulations for emergency core cooling and as a collection of unclear statements lacking specifics regarding equipment, these contentions are rejected.

Palmetto 20: This contention postulates that occupational radiation exposures will not be as-low-as-reasonably-achievable (ALARA) because certain equipment (specifically the steam generator, the reactor vessel, and neutron shield bolting) will require extensive repairs and because the FSAR does not adequately consider occupational exposure from various other occurrences that are not specifically described.

This contention is disallowed because it fails to provide any reasonable specific basis for the assertion that ALARA requirements of 10 CFR 20.101 will not be met. The Applicants have set forth in Section 12.1 of the FSAR their program for "(e)nsuring that occupational radiation exposures are as low as reasonably achievable (ALARA)." The contention, however, does not question this program or any part of it. Speculation that large collective doses of radiation might be received by repairmen at some future time because of the premature failure of equipment is not grounds for showing that ALARA principles were ignored.

The Commission has under development, but has not yet published a proposed rule concerned specifically with occupational ALARA. Should the Palmetto Alliance wish to pursue the subject matter of this contention, participation in the making of the proposed occupational ALARA rule would be an appropriate avenue.

Palmetto 28: This contention seeks to raise "ATWS" (Anticipated Transients Without Scram) issues into this individual licensing proceeding. The thrust of the allegation is that the Applicants have failed to demonstrate that the risk from an ATWS event is such that there

Hydrogen Accident
Scenarios
By [unclear]

PA/CESG
Scenarios

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of
DUKE POWER COMPANY, et al.,
(Catawba Nuclear Station
Units 1 and 2),
PALMETTO ALLIANCE, CAROLINA
ENVIRONMENTAL STUDY GROUP and
CHARLOTTE-MECKLENBURG ENVIRONMENTAL
COALITION,
Intervenors,

Docket Nos. 50-413-OL
and
50-414-OL

March 31, 1982

II
Johnson / S. Goldberg
Gray / Tourtelotte
RP

PALMETTO ALLIANCE AND CAROLINA ENVIRONMENTAL STUDY GROUP RESPONSES AND
OBJECTIONS TO ORDER FOLLOWING PREHEARING CONFERENCE

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Pursuant to 10 CFR 2.751 a(d) and at the direction of the Board Intervenor Palmetto Alliance and Carolina Environmental Study Group hereby file their objections to the Board's Memorandum and Order (Reflecting Decisions Made Following Prehearing Conference), dated March 5, 1982; seek revision of the order in light these objections or the certification of such matters to the Commission or Appeal Board for determination as permitted by 10 CFR 2.718(i); and further respond to the Board as directed.

Intervenors object to the Board's Memorandum and Order to the extent that it either rejects or accepts only conditionally contentions which these Intervenor have filed for litigation in this proceeding, and to the extent that it denies relief sought by them in their pleadings or on the record before the Board. In support of this Response and these Objections Intervenor reiterate those matters set forth in their Petitions, Supplements and their statements of record at the prehearing conference held January 12 and 13, 1982 at York, South Carolina, which are incorporated herein by reference.

Intervenors Palmetto Alliance and Carolina Environmental Study Group generally agree with the Board's view that its contentions can not properly be rejected for lack of specificity or basis where the subject matter of a contention is to be addressed only later in Applicant or Staff filings or other documents not yet produced. Intervenor object, however, to the limited and conditional acceptance of their contentions at this time and the burden of further specifications

required of them later. It is the prerogative of Duke Power Company, et al., to choose the time for filing its application for operating licenses for the facilities and the prerogative of the Nuclear Regulatory Commission Staff to schedule the environmental and safety analyses which it performs as a basis for the agency action sought by Duke and opposed by the Intervenor. Intervenor control neither process, yet are required to assert their interest and plead their contentions for litigation years in advance of plant completion and long before agency environmental and safety reviews are performed.

While the Board acknowledges the unreasonableness of the Applicants' and Staff's views that Intervenor must plead its contentions with full specificity now on pain of surmounting the barriers to late filing later; it imposes the burdens of this analysis on Intervenor in refusing the unconditional admission of contentions now which are otherwise fully litigable. Intervenor object to the requirements that they make further revisions of contentions because of the present unavailability of materials not within Intervenor's control. Such contentions should be admitted unconditionally now. Intervenor properly face the burden of withstanding discovery and summary disposition in due course, but not the continued burden of establishing the threshold appropriateness of their contentions for litigation.

With respect to contentions for which the Board expressly requires revision after initial discovery Intervenor assert the adequacy of those contentions as plead and specifically object to the requirement

that they employ possibly limited discovery opportunities for their revision. In the event that the Commission adopts proposed limits on discovery, intervenors request that this required round of discovery not be charged against these parties.

SERIOUS ACCIDENTS, Palmetto 5, 9, 31; CESC 2.

Intervenors object to the Board's rejection of contentions which question the assurance that Catawba can be operated without endangering the public health and safety through the occurrence of serious accidents. Intervenors believe that a variety of plainly credible, Catawba specific, accident scenarios are implicit in their contentions as originally filed but are herewith postulating explicitly several such scenarios in response to the Board's view that further consideration of these contentions requires such a showing at this time. We request that the Board either revise its Order accordingly or certify the question of the litigation of these issues for determination by the Commission or Appeal Board.

Intervenors have been of the opinion that the Staff has regarded serious accidents as credible in view of NRC funded studies on the subject currently in progress at Brookhaven on LOCA's, at Battelle - Columbus on core melt/core slump and at Sandia National Labs on hydrogen release, combustion and detonation. We are providing scenarios with a variety of sequences. It is obvious that some elements in these sequences may be recombined to form many other credible accident scenarios.

Initiating events from outside the station in the form of loss of offsite power, or from within the station in such events as feedwater loss as at TMI-2, steam generator tube rupture as at Ginna or electrical insulation combustion as at Brown's Ferry. These accidents have taught us that sequential events contribute to the development of serious

accidents such as sticking PORY's and disabled electrical systems. Subsequent events can lead to reactor pressure vessel breach, hydrogen release and containment breach.

I. OFFSITE POWER FAILURE

Stations main transformer burns out as it did recently at Duke's Marshall Steam Plant or the transmission line is brought down by a tornado or a heavy lightening strike in the switchyard disables the switch gear. Both reactors are operating at full power. Half of the diesel electric generating capacity fails to start. There is an insufficiency of on site power for safe shut down. Decay heat removal is inadequate due to inoperable feed water and reactor coolout pumps. This results in excessive reactor temperature and pressure. The reactor vents through the pressurizer spring loaded relief valves. The ECCS accumulator water is soon exhausted. The reactor coolout system continues to vent steam with the result of core exposure and subsequent melt down and core slump. There is massive hydrogen release, a metal-water reaction at least 80% complete. The air recirculation fan is inoperative. The igniters do not reach ignition temperature. Hydrogen accumulates in the containment. Diffusive mixing of hydrogen and containment air results in a combustible mixture. The temperature of the reactor surface is increased by the melted fuel to a temperature sufficient to cause ignition of the hydrogen-air mixture. Containment is breached, the estimated failure pressure of 67.5 psi being exceeded. The reactor vessel melts through and releases essentially the entire inventory of radioactive volatiles to the atmosphere as the

molten fuel drops into the sump water vaporizing explosively on contact and forming a substantial amount of particulates carried outside by the steam generated from the sump water. This scenario represents a PWR-1 as denominated in the Reactor Safety Study.

II. ATWS

Catawba has been operating for 10-15 years. The nil ductility temperature of the reactor pressure vessel has increased to greater than 200 degrees F as commonly occurs with reactors of this age. The turbine generator throws a blade, puncturing the turbine case and making the feed water system temporarily inoperative. The control system calls for reactor trip but the reactor does not SCRAM due to common mode failure of SCRAM systems leaving control rod solenoids activated. Pressure builds in the reactor coolant system due to decay heat, load loss and cessation of feedwater flow. The PORV opens, the pressure rises to the set points of relief valves which operate. The ECCS actuates. The accumulators and high pressure injection pumps perform according to design. Large quantities of cold water entering the reactor pressure vessel chill parts of it to below the high nil ductility temperature. Temperature differentials in the pressure vessel induce higher levels of stress, the effluent from the core is still at a high temperature. The combination of high internal pressure-high pressure injection pumps still operating, spring loaded relief valves now being closed, and the PORV partially closed - cause brittle failure of the junction of the reactor vessel and cold leg nozzle,

the weld having developed cracks. With the reactor breached ECCS flow no longer traverses the core. The core heats up, hydrogen evolves from the zirconium-steam reaction. Steam-hydrogen release rates are so great that the air return fan does not appreciably dilute the lower containment steam-hydrogen atmosphere with air and flowing through the ice condenser the steam condenses. Almost pure hydrogen emerges from the condenser. It is bouyant, having only 1/14 the density of the upper containment atmosphere. The hydrogen rises to the dome. The dome igniters operate using up the oxygen in the ignition region. Hydrogen continues to accumulate in the upper containment. Hydrogen flow slows as zirconium is depleted. The hydrogen and oxygen in the upper containment inter-diffuse broadening the interface and increasing the volume of combustible gas mixture. When a portion of the combustible mixture reaches an igniter most of it will combust due to the turbulent mixing which will occur in the initially combustible region. The containment pressure exceeds the expected average rupture pressure of 67.5 psi. Radioactive volatiles will be released to outside atmosphere from the burst containment. Subsequent core slump will release additional steam and radioactive particulates resulting in a PWR-1 release.

III. FATIGUE FAILURE OF THE REACTOR PRESSURE VESSEL

The steam generator tube problem encountered in Westinghouse's D Series Steam Generators is not satisfactorily fixed. The reactor requires shutdown and restart on a much greater rate than designed for - namely greater than a rate of 200 cycles in 30 years. The resultant fatigue

carries an even more rapid increase in nil ductility temperature than encountered in normal operation. Cracks develop in the pressure vessel welds: a common occurrence as in Oconee 1. The many problems with the aging Oconee reactors and the steam generator problems at McGuire result in low nuclear plant capacity factors for the Duke system. To meet Winter peak Catawba is operated, although a shutdown to deal with nil ductility temperature well in excess of 200 degree F would be prudent. The turbine trip relieves an overload condition. The reactor SCRAMS and is directed toward a cold shutdown. After several hours the load problem is remedied. Parts of the reactor have fallen below the nil ductility temperature. Restart is too rapid in the effort to get the unit back on line. The excessively rapid pressure escalation and the excessive temperature gradients result in stresses in the vessel which are sufficiently large enough to cause a crack to propogate in brittle failure. Reactor is breached. From this point the scenario is similar to the ATWS scenario - resulting in a PWR-1 release.

IV. STUD BOLT FAILURE

An AEC licensed plant experienced corrosion induced stud bolt failures, "An Investigation of the Failures of LACBWR Pressure Vessel Closure Studs," SWRI-2154-20, December 1971. The fix was a change in stud bolt alloy composition. Catawba bolts are sensitive to corrosion by borated water. The FSAR requires bolts to be moved to a dry area during refueling and bolt holes in the pressure vessel flange to be plugged while immersed in borated water. In this refueling the plugs

used are defective. The presence of borate-water in the bolt holes is undetected. On resumed operation corrosion of the bolts takes place. The intrinsic strength of the bolting material vary appreciably. FSAR Table 5.3-12. About one year after refueling a turbine trip causes a pressure excursion in the reactor. The reactor SCRAMS. Although the PORV set point is not reached the increased load on bolts is sufficient to cause the weakest bolt to fail. Almost instantly the remainder of bolts fail due to load increase from decompression of the flange at a failed bolt and the initial load increase in the vicinal bolts. (the compression of the flange under normal loading is approximately 0.1 inches) As a result of the unzipping of the lid closure, the lid becomes a projectile, reaching a velocity of several hundred mph. As a result of steam thrust greater than one million pounds the lid is not deflected by the polar crane and strikes the containment dome, breaching it. Because the reactor lid thrusts asside the pie shaped cement blocks which close off the lower containment from the upper containment there is negligible steam suppression in the ice condensor. If not already breached by the reactor lid, steam pressure breaches the cement outer containment which is not designed to withstand appreciable internal pressure. The ECCS is defeated. Water pumped in to the reactor vessel flows out over the flange, kept from entering the core by steam blocking. The core melts discharging volitales and particulates to the atmosphere. The release qualifies as a PWR-1.

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d's April 30, 1982, memorandum and order is

ie as 16 NRC 167 (1982)

LBP-82-51

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

James L. Kelley, Chairman
Dr. A. Dixon Callihan
Dr. Richard F. Foster

FOR THE APPEAL BOARD

C. Jean Shoemaker
Secretary to the
Appeal Board

In the Matter of

Docket Nos. 50-413
50-414

DUKE POWER COMPANY, *et al.*
(Catawba Nuclear Station,
Units 1 and 2)

July 8, 1982

The Licensing Board overrules various objections to its Order issued following a prehearing conference pursuant to 10 CFR §2.751a. The Board also denies requests for referral of certain issues to the Appeal Board.

RULES OF PRACTICE: SECURITY PLANS

Where an Intervenor seeking to challenge an Applicant's security plan does not produce a qualified expert to review the plan and declines to submit to a protective order, its vague contentions must be dismissed for failure to meet conditions that could produce an acceptably specific contention.

NRC at 159-160. We share intervenor's interest that the
ord and agree that issues of public health and safety must
June 7, 1982). But she has failed to convince us that the
goals in jeopardy so as to warrant acceptance of her late

uris' appeal and brief should also be stricken for failure to
62(a), (c), and (d). See 10 CFR 2.762(f).

MEMORANDUM AND ORDER

Following Prehearing Conference, Denying
Appeal Board, and Addressing Certain
Questions)

INTRODUCTION

Applicants, the NRC Staff and Intervenor
Charlotte-Mecklenburg Environmental Study Group (CESG)
Memorandum and Order of March 5, 1982
Alternative, sought referral of some of those
Memorandum and Order of June 30, 1982
the Applicants' and the Staff's objections
and referred those rulings to the Appeal
other objections, the objections of the
Intervenor.

ask us to dismiss Palmetto Contentions
objections of small owners and to costs of
these contentions are barred by new rules
March 5 Order. See 47 Fed. Reg. 13750.
by the new rules; they are dismissed.

our Order that requires service on all
intervenors by the Applicants or the Staff.
adhere to our Order and reject the
objections by the Staff at pp. 17-19 of their
reason to refer this part of our Order to

effects of *Corbicula* on the perform-
er of March 5, 1982 admitted this

contention provided it was clarified and made much more specific following
discovery. Applicants object, believing that the Board has placed a burden on them
to provide the necessary specificity. Applicants have misinterpreted the Board's
ruling. The burden for clarification and specificity of this contention remains with
Intervenors. It was evident to the Board from the pleadings, the CP-FES and the
FSAR that:

- (a) *Corbicula* is present and may infest the cooling tower system;
- (b) fouling of the Nuclear Service Water System by *Corbicula* is of suffi-
cient concern to require control measures;
- (c) precisely where and to what extent fouling will occur is speculative. If
the consequences of such fouling are safety related this issue should
clearly be litigated.

Our March 5, 1982 Order did not say that the lack of specificity in the contention
was grounds for rejection under 10 CFR 2.714. Rather we have attempted to focus
discovery so that it would be clear as to whether the kind and magnitude of the
consequences of a clam infestation would justify litigation. We reaffirm our
conditioned admission of this contention. Intervenor has the burden of clarifica-
tion and greater specificity.

B. Intervenor's Objections¹

1. The Burden of Further Specifications

The Intervenor objects to the conditional acceptance of most of their contentions
and to the "burden of further specification" later when relevant information
becomes available, or, in some cases, when discovery is complete. We reject this
objection. Given the availability of information, the Commission's requirement of
specificity in contentions is certainly reasonable. Assuming as we do the serious-
ness of the Intervenor's intentions, they will have to read and analyze relevant
material as it becomes available. In that context, it is not unfairly burdensome to
require them to add more specificity to their presently vague contentions. Indeed,
the burdens involved in that task will be minor compared to those involved in the
eventual litigation of this case.

2. Serious Accidents (Palmetto 5, 9, 31; CESG 2)

Although these contentions were rejected by the Board for lack of specificity,
the door was left ajar for possible consideration of a site-specific credible accident

¹ The Intervenor Palmetto and CESG filed a single joint response and objections to the March 5 Order.
Charlotte-Mecklenburg Environmental Coalition did not file objections.

at C Intervenor now return with descriptions of accidents which presumably occur at any pressurized water reactor. The Applicants and the Staff are now asked to comment on whether any of these scenarios may form the basis for an acceptable contention. Comments shall be filed by July 30, 1982.

3. Operator Qualifications

We admitted conditionally Palmetto's Contention 8 on operator qualifications, subject to the responses we called for concerning whether this contention might be the equivalent of an impermissible attack on a Commission rule. Palmetto and the Staff urge the admission of this contention. The Applicants see it as an attack on the rules. This is a rather close question because the Commission did not make its intentions clear in its most recent rulemaking on the subject. However, we find the Staff's arguments persuasive and endorse the following summary of those arguments:

[W]hile litigation of Palmetto Contention 8 might ordinarily be barred as a challenge to the operator licensing requirements in 10 CFR Part 55, the Commission has, through its Revised Statement of Policy on TMI Action Plan requirements, authorized the litigation of such a contention and that authorization is not affected by the fact that TMI Action Plan requirements are now the subject of rulemaking. Palmetto Contention 8 may properly be admitted and litigated in this proceeding. Staff Response at 7. Palmetto Contention 8 is now admitted unconditionally.

4. Cost vs. Benefits

The Intervenor object to our disallowance of Palmetto's Contentions 11, 12, 13, 30, 33, 34 and 39 and CESG's Contentions 1, 5, 6 and 12 concerning need for power, certain broad economic issues and financial factors said to affect the NEPA cost/benefit balance struck at the construction permit stage. We have considered their objections and adhere to our prior rulings. Most of the Intervenor's objections are, in substance, objections to the Commission's recently adopted rule barring litigation of need for power and alternative power sources in operating license cases.

In the alternative, the Intervenor ask us to "certify" (refer) to the Commission or Appeal Board the cost/benefit contentions we do not admit. Referral is an exception to the normal rule against interlocutory review of Licensing Board orders. The burden is on the movant to demonstrate that an issue meets established standards for referral (discussed briefly at 15 NRC 1754 of our Order of June 30, 1982). Here, the Intervenor simply ask for referral without any attempt to meet that burden. We see no obvious reasons for referral. The Staff opposes referral and

makes a persuasive showing that referral standards are not met. Staff Response April 28, 1982 at 9-10. The Intervenor's request for referral of the admission of these cost/benefit contentions is denied. Following this denial, the Intervenor may seek directed referral from the Appeal Board. See *Public Service Company of New Hampshire, et al.* (Seabrook Station), ALAB-271, 1 NRC 478, 482.

5. Spent Fuel Transportation and Storage (Palmetto 14-17, 38; CESG 14-17, 38)

Palmetto has five contentions and CESG one contention about these facilities. Their concerns involve not only the spent fuel storage facilities at Catawba but also the potential transport of spent fuel from other Duke Power Company power stations to Catawba. In our Order of March 5 this Board directed the Applicants and the Staff to address questions about Duke's plans to use these facilities to store fuel from other stations and to comment on our jurisdiction over applications to store or transport spent fuel from other facilities. Although the parties' submissions show, this Board lacks jurisdiction over shipment of spent fuel from other Duke facilities, we must consider the environmental effects associated with its transport to, and storage at Catawba.

Palmetto Contention 14 asks for "... a full description and detailed analysis of the environmental effects of the transport of spent fuel shipments to the Catawba Plant from other Duke Power Company facilities and of the contributory effects to the environmental costs of licensing Catawba ...", as set forth in Summary Table S-4 does not apply because the destination of the spent fuel in transit would be the Catawba facility rather than a fuel reprocessing plant. The Board, in its Order of March 5, 1982, disallowed this contention because it has been advanced as to why Table S-4 values would not adequately describe environmental effects.

Intervenor object (Response and Objections to Order Following Pre-hearing Conference, March 31, 1982) to this rejection, citing the wording associated with 51.20(g)(1) and Table S-4 which relates to the method of shipping. Intervenor do not assert that the method of transport will be different than that called for in 51.21(g)(2)(v) (truck, rail, or barge). No new information has been presented which invalidates the kind or magnitude of effects presented in Summary Table S-4. Therefore, we reaffirm our rejection of this contention.

Palmetto Contention 15 asserts that "... the favorable cost/benefit balance struck at the construction permit phase ..." is compromised by expansion of Catawba fuel storage facilities to accommodate fuel from other Duke stations by the transport of such fuel. We admitted this contention provided that the "Away From Reactor" were stricken. We need also to confine this issue to the action now before us, which is a license to operate the constructed plant. The Intervenor Alliance may resubmit this contention based on the OL Environmental S

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

James L. Kelley, Chairman
Dr. A. Dixon Callihan
Dr. Richard F. Foster

In the Matter of

Docket Nos. 50-413
50-414
(ASLBP No. 81-463-01-OL)

DUKE POWER COMPANY, *et al.*
(Catawba Nuclear Station,
Units 1 and 2)

December 1, 1982

**RULES OF PRACTICE: DEFERRAL OF RULINGS ON
CONTENTIONS**

A Licensing Board has broad discretion to defer rulings on contentions which may later be made more specific on the basis of information not yet available, or to proceed with rulings on such contentions without waiting for more information.

**RULES OF PRACTICE: CONTENTIONS BASED ON NEW
INFORMATION**

Where a contention is advanced on the basis of new information following the original deadline for filing contentions, its proponent has the burden of explaining — in appropriate detail and separate from the contention's text — what is new about the contention and why it could not have been advanced previously.

9. Whether and under what circumstances reliance on feed and bleed is necessary at TMI-1 (from the licensee and the staff).
 10. Results of the effort by EG&G to demonstrate the ability of the RELAP5 computer code to predict the results of Semiscale test S-SR-2 (from the staff).
 11. Results of a RELAP5-type analysis to determine whether feed and bleed will successfully provide core cooling at TMI-1 (from the staff).
- though we direct the presentation of testimony by only the licensee and the on selected issues as indicated above, any party may offer testimony on any of matters listed. (UCS may file written testimony in accordance with the rule below if it wishes to present its own witnesses rather than rely upon examination.)

Procedure

We intend to proceed promptly to supplement the record and to complete the appellate process in this phase of the case. All supplemental written testimony shall be in our hands and in the hands of other parties no later than the close of business on Monday, January 26, 1983.

The evidentiary hearing will be held in the NRC Public Hearing Room, Fifth Floor, East-West Towers Building, 4350 East-West Highway, Bethesda, Maryland, at 9:00 a.m. on Tuesday, February 8, 1983. We expect to complete the hearing within a day or two. Parties will be afforded an opportunity to file briefs, which shall include any proposed findings of fact or conclusions of law that they wish us to make. Briefs shall be in our hands by no later than the close of business on Friday, February 28, 1983.

It is so ORDERED.

FOR THE APPEAL BOARD

Barbara A. Tompkins
Secretary to the
Appeal Board

er; many such contentions probably would be withdrawn later and never have to be considered. On the other hand, deferred contentions are relegated to a procedural limbo and complicate the posture of a case that is complicated enough without them. Where, as here, we are dealing with only a handful of contentions, it is simpler procedurally and therefore preferable not to defer — to rule the contention in or out — as we have done. Of course, new information contained in documents yet available may later provide a basis for more specific contentions.

Contentions on the Draft Environmental Statement

Our Order of September 1, 1982 (unpublished), directed the Intervenor to file revised or new contentions based on new information in the Staff's Draft Environmental Statement (DES) by September 22, 1982. In a joint filing, Palmetto and CESG filed 23 contentions concerning various aspects of the DES. CMEC filed a revised version of its Contention 4.

The new and revised contentions on the DES were not accompanied by a discussion of the five lateness factors in Section 2.714(a) and, under the circumstances, we did not expect such a discussion. Neither, however, were these contentions accompanied by an explanation why they could not have been advanced earlier, or, in the Appeal Board's words, how they are "wholly dependent" on a previously unavailable document. We believe that the proponent of a contention at this or some later stage of the proceeding should have the burden of explaining clearly, in appropriate detail, and separate from the rest of the contention, just what is new about the contention and why it could not have been advanced previously. It should not be the Board's or the other parties' job in the first instance to sort through old documents and pleadings for that purpose. In this case we did not call explicitly for such an explanation in our prehearing conference order. But henceforth all parties are on notice that such a statement is required and that, in its absence and also in the absence of a showing on the five lateness factors, additional contentions will not be considered.

Palmetto/CESG Contentions

In order to avoid confusion with the numbers of contentions previously submitted separately by Palmetto and CESG, we will refer to their jointly submitted contentions on the Draft Environmental Statement as "DES-1, DES-2, etc."

DES-1 and DES-22

These two contentions fault the Reactor Safety Study (WASH-1400) and the reliance placed by the Staff upon it in the DES analysis of accidents more severe

than design basis. With two exceptions noted below, the contentions cite no specific shortcomings of the methodology nor of the details of the calculations, such as the CRAC Code for describing meteorology. In this respect the contentions lack specificity.

The apparent assumption underlying these contentions is that WASH-1400 should not be used at all in risk analysis for licensing; as DES-22 puts it, such use is "entirely inappropriate." This assumption is incorrect. The discriminating use of WASH-1400 is not contrary to Commission policy. In accepting the report of the Risk Assessment Review Group (NUREG/CR-0400), which concluded that WASH-1400 provides the best available method for determining accident probabilities, the Commission stated that

With respect to the component parts of the Study, the Commission expects the staff to make use of them as appropriate, that is, where the data base is adequate and analytical techniques permit. Taking due account of the reservations expressed in the Review Group Report and in its presentation to the Commission, the Commission supports the extended use of probabilistic risk assessment in regulatory decisionmaking. NRC Statement on Risk Assessment dated January 18, 1979, p. 4.

Shortcomings in the original WASH-1400 are taken into account in the Staff's DES analysis in various ways, including updated ("rebaselined") results for relevant risks.

DES-1 seeks to place in issue the characteristics of the accidents at Browns Ferry and Fermi, contending that they were "serious." It is beyond the scope of this proceeding to explore in any detail the characteristics of those accidents, at least in the absence of some showing that the Staff's analysis was dependent upon them. We find nothing in the DES to suggest that it was, and the Intervenor points to no such link.

The reactor modeled in the analysis is similar to that under construction at Catawba (DES at 5-36), except that it has an ice condenser containment. One specific shortcoming cited in Contention 22 is that the DES does not include a separate analysis of the ice condenser feature for its possible contribution to accidents. The Staff's position on this point appears at DES E-1, third paragraph, and is not clearly stated. Citing a Staff assessment of Sequoyah, also an ice condenser containment, the Staff acknowledges that that design feature is significant in relation to hydrogen control. The Staff goes on to say, however, that the Catawba applicant "has plans to satisfy the Commission's requirement on hydrogen control." We naturally assume the Applicants "plan" to meet present Commission requirements. The quoted language may be intended as an oblique reference to the pending rulemaking on hydrogen control measures, and the fact that Catawba will be subject to its outcome. See *Interim Requirements Related to Hydrogen Control*, 46 *Fed. Reg.* 62281. In any event, "planned" compliance with

rules is not a complete answer in this context, where accidents beyond design basis are being considered.

We do not believe, however, that any detailed accident analysis of the ice condenser feature is necessary in this DES. A more meaningful accident analysis of ice condensers and hydrogen control than could possibly be done here is now being done in the pending rulemaking; for that reason we are declining to litigate hydrogen accident scenarios as a safety issue in this individual case. See discussion at 1807-10, below. There is an additional reason not to consider in any detail hydrogen-ice condenser accidents in the DES "severe accident" discussion, namely, that the DES discussion necessarily treats accident mechanisms with a broad brush. It will suffice if the Staff clarifies in the FES its vague and summary reference to the ice condenser feature and provides a brief description of the pending rulemaking. Thus, we view this part of Contention 22 as a valid comment on the DES, but it is not accepted as a contention.

Even though the final emergency plans have not been issued, the Staff includes some pessimistic assumptions in its analyses (DES F-1), including an example where no early evacuation occurs (DES F-3, Fig. F-1). This aspect of the DES conforms to the Commission's requirements for environmental impact statements. See *Public Service Company of Oklahoma, et al.* (Black Fox Station, Units 1 and 2), ALAB-573 10 NRC 775, 779 (1979)). It is not necessary for purposes of the DES analysis to consider accidents in the context of the details of emergency plans that will be adopted later.

The only portion of these two proposed contentions in which we find a valid contention is the third paragraph of DES-22, concerning the so-called "smoothing technique" in WASH-1400 and whether the Staff has compensated for its deficiencies in the DES. The Staff's response to DES-22 does not include any specific response to this part of the contention. The Applicants ignore this point. Although it could be more specific, the paragraph does raise a criticism about analytical methodology which warrants response. We are admitting the third paragraph of DES-22 as a contention, but we are staying any discovery on that contention until after the FES is available. We expect that the FES will contain discussion of this point which may satisfy the Intervenor.

Except as stated in the preceding paragraph, Contentions 1 and 22 are denied for lack of specificity and bases.

DES-2

This proposed contention refers to an addition of sulfuric acid to the coolant stream in excess of the quantity necessary to react with a stated mass of sodium hypochlorite for the production of free chlorine intended as a biocide. Although the contention acknowledges the absence of a specified concentration of the sulfuric acid to be added, it proceeds to establish a firm rate of release of unreacted sulfuric

acid. Sulfuric acid has a low vapor pressure and, accordingly, that part rer from the coolant system in the drift settles out in the nearby soil or onto of Sulfuric acid is described as a corrodant of many things, including the respiratory system.

The characteristics of the water in the cooling tower system are, in measure, like those of the blowdown, which is a liquid effluent subject National Pollutant Discharge Elimination System Permit issued by the St South Carolina. This permit establishes a pH for the effluent in the range 6.0 (DES Table 4.5 at 4-29; DES at I-2). The pH of the drift blown from the tower to the atmosphere should be substantially the same. The State's determination in regard is binding on the Board. The Board must then factor the environmental effects of the State's determination into its overall NEPA cost/benefit analysis. *Public Service Company of New Hampshire, et al.* (Seabrook Station, Units 2), CLI-77-8, 5 NRC 503, 543 (1977). Under this scheme, it is theoretically possible but unlikely as a practical matter that these effluents could significantly affect the environment and thus the cost/benefit balance.

Apart from these considerations, however, this contention is untimely. The cooling system and its operation were considered at the CP stage (CP FES, 5.5.2.3, at 5.40 and Sec. 3.6, Table 3.12; OL DES Sec. 4.2.3.4, at 4-3). The current intervenors proposed litigation of the sulfuric acid discharge at the hearing. *Duke Power Company* (Catawba Nuclear Station, Units 1 and 2), 74-5, 7 AEC 82, 93 (1974). Most significantly, the subject is also discussed in OL-ER Sec. 3.6.2. The ER and DES do not differ in material respects in discussions of this topic.

This contention is denied as untimely. The Intervenor may seek reconsideration upon an appropriate showing under 2.714(a)(1), if they continue to believe that this contention has merit.

DES-3

This contention asserts that the DES is deficient because it does not address impact that vapor state chlorine discharged from the cooling towers will have on people or on the corrosion of metals. The proffered reason for considering this subject at this time is that the OL-DES differs from the CP-FES in the amount and manner of chlorine addition.

Applying the guidance given in ALAB-687, this contention is not "vital" dependent upon the content of the OL-DES; it could have been advanced at the first prehearing conference. The use of chlorine in the cooling tower system described at the CP stage and the modifications to the original method of application were explained in the Applicants' ER (§3.6.2.3). Although the quantities and kind of reagents now proposed differ from the CP specifications, the concentration of free available chlorine remains the same (DES at 4-3). The description

f DES-10 and -5, above.

that the Staff has seriously underestimated the health effects of radiation because of reliance on BEIR-I and III, and because the dose coefficients along food chains may be greater than assumed. This is essentially a resubmission of Palmetto's original Contention No. 1, with the addition of BEIR-I and reference to some pages in the DES-21. The Staff admitted Palmetto 1 on the condition that it be made more specific in light of the availability of the DES. Our implementation of ALAB-687 concerning Palmetto 1 for lack of specificity. The complaints in DES-21 are more specific than those in its rejected predecessor. Although DES-21 is a swipe at Appendix C to the DES concerning uranium fuel cycle issues, it does not follow up with any specific criticism. Similarly, the references to "radiation dose assessment" and "food chain analysis" are not tied to any discussions in the DES. This contention is rejected for lack of a specific basis.

DES-1, above.

alleges that the Staff can no longer rely on Table S-3 for its assessment of the environmental impacts of the uranium fuel cycle (see DES 5-47, as modified by decision by the U.S. Court of Appeals for the District of Columbia Circuit in *Natural Resources Defense Council, Inc. v. EPA*, 690 F.2d 1163 (D.C. Cir. 1982)). The mandate in that case has been stayed pending a decision by the Supreme Court. In light of these developments, the Commission recently issued a new policy (Licensing and Regulatory Policy and Procedures for Uranium Fuel Cycle Impacts, 47 Fed. Reg. 50593) which continues to rely on the Final S-3 rule until further order from the Commission, provided that any license authorizations or other decisions based on the rule are conditioned on the final outcome of the proceeding. This contention is rejected.

CMEC Contentions

CMEC did not file any additional contentions on the Staff's DES. CMEC Contentions 1-3 were originally admitted subject only to the condition that CMEC would review the DES when it became available and make any appropriate revisions in light of that statement. That condition has been met and those contentions are now admitted unconditionally.

The original version of CMEC-4 concerning long-term health effects of radiation was somewhat vague and was admitted subject to the condition that it be made more specific or withdrawn in light of the Staff's DES. A revised and more specific version of CMEC-4 has now been submitted. The Applicants have no objection to its admission. The Staff had some initial reservations about the revised contention but worked out a stipulation with CMEC. Tr. 443-444. Under that stipulation, Revised CMEC-4, as submitted in their pleading dated September 19, 1982, is admitted by the Board subject to the Staff-CMEC stipulation that the second numbered paragraph on page 2 be deleted.

Summary of Admitted Contentions

The following contentions have been admitted to date:

CMEC: 1-4.

Palmetto: 6 (in part), 7, 8, 16 (in part), 27.

CESG: 8 (in part), 18.

Palmetto/CESG Joint DES Contentions: 17, 22 (in part).

C. Serious Accident Contentions

Serious accident contentions were included in the initial Palmetto and CESG contentions. Palmetto 5 questioned the use of the Reactor Safety Study (WASH 1400) in the assessment of probabilistic risk and contended that serious accidents are "plainly credible after Three Mile Island." Palmetto 9 and 31 (CESG 2) are concerned with the possibility of an explosive hydrogen-oxygen recombination, resulting in failure of the containment.

This Board's Memorandum and Order of March 5 rejected these contentions pointing out that (1) the very generalized concerns expressed in Palmetto 5 were not specifically related to the current licensing actions for Catawba and (2) the hydrogen issues postulated in Palmetto 9 and 31 (CESG 2) are the subject of an ongoing rulemaking process (15 NRC 583, 584). We recognized, however, that the hydrogen issues might be litigated in this individual licensing proceeding if, in the Commission's words, "— a credible loss-of-coolant accident scenario entailing hydrogen generation, hydrogen combustion, containment breach or leaking, and

offsite radiation doses in excess of Part 100 guideline values" were to be advanced. *Metropolitan Edison Company* (Three Mile Island Nuclear Station, Unit No. 1), CLI-80-16, 11 NRC 674, 675 (1980) (*TMI Restart*). No such scenario was advanced with the subject contentions, but our March 5 Order left the door ajar should the Intervenor come forward with credible hydrogen or other serious accident scenarios. The Intervenor thereafter postulated several accident scenarios in their Responses and Objections to the March 5 Order. We then asked the Applicants and the Staff to comment on whether any of the Intervenor's scenarios might form the basis for an acceptable contention. Both argue, although for different reasons, that the Stud Bolt Failure scenario should be rejected. We agree with the Applicants' position that yet another relitigation of this particular scenario is barred by the doctrines of *res judicata* and *collateral estoppel*. CESC has been unsuccessfully attempting to challenge the safety of Duke Power Co.'s reactor stud bolts since the McGuire construction permit proceeding in 1972-73. The basic scenario — a stud bolt failure, followed by an "unzipping" of the reactor head, followed by the reactor head's penetrating containment as a speeding projectile — has been the same since then. The McGuire Licensing Board heard evidence on this scenario and rejected it. *Duke Power Company* (William B. McGuire Nuclear Station, Units 1 and 2), LBP-73-7, 6 AEC 92, 106-108 (1973). In the construction permit proceeding for Catawba, the Licensing Board again considered the CESC stud bolt scenario, limited, however, "to the extent that new information has become available since the McGuire decision." *Duke Power Company* (Catawba Nuclear Station, Units 1 and 2), LBP-75-34, 1 NRC 626, 642-46 (1975). Once again, CESC's contention was rejected on the merits. We see nothing in the present stud bolt scenario to differentiate it from its predecessors, and CESC points to nothing new. Therefore the proffered contention — a matter already litigated between the same parties at the construction permit stage — may not be relitigated now. *Alabama Power Company* (Joseph M. Farley Nuclear Plant, Units 1 and 2), ALAB-182, 7 AEC 210 (1974); *Southern California Edison Company, et al.* (San Onofre Nuclear Generating Station, Units 2 and 3), LBP-82-3, 15 NRC 61, 78-82 (1982). The fact that Palmetto is also sponsoring this scenario is irrelevant. The two organizations are joint sponsors and their interests for present purposes are indistinguishable.

The remaining three accident scenarios concern hydrogen control and present a somewhat different problem. The Applicants oppose admission of these scenarios as contentions primarily on the ground that they presuppose successive failures of

systems that comply with the rules, and that therefore they should be viewed as impermissible attacks on these rules.⁵ The Staff takes the position that these scenarios are sufficiently specific and should be admitted for the purpose of litigating their credibility.

The applicable law on this question is not entirely clear. As a general proposition, generic issues that are the subject of an ongoing rulemaking need not be litigated in individual cases. We relied on that proposition and the Appeal Board's *Rancho Seco* decision⁶ in dismissing the hydrogen control contentions on March 5. On the other hand, the pendency of a generic rulemaking does not necessarily preclude litigation of related issues in individual cases. In the *TMI Restart* case,⁷ for example, the Commission allowed certain hydrogen control issues to be litigated when a broad rulemaking proceeding on hydrogen control was in the immediate offing. The Commission can and sometimes does remove any doubt on this score by specifically stating whether boards should continue to litigate generic issues while a rulemaking on them is pending. But since the Commission has provided no explicit guidance here, we must exercise an informed discretion in the circumstances of this case.

The basic criterion is safety — is there a substantial safety reason for litigating the generic issue as the rulemaking progresses? In some cases, such as *TMI Restart*, such litigation probably should be allowed if it appears that the facility in question may be licensed to operate before the rulemaking can be completed. In such a case, litigation may be necessary as a predicate for required safety findings. In other cases, however, it may become apparent that the rulemaking will be completed well before the facility can be licensed to operate. In that kind of case there would normally be no safety justification for litigating the generic issues, and strong resource management reasons not to litigate.

The present case is clearly in the latter category. The pertinent rulemaking directly addresses the intervenor's hydrogen concerns. Among other things, the proposed rule would impose "improved hydrogen control systems for . . . pressurized water reactors with ice condenser-type containments" like Catawba. 46 *Fed. Reg.* 62281. The technical review being conducted in the rulemaking features both depth and breadth, including "review of the deliberate ignition systems installed at Sequoyah and McGuire . . . , a spectrum of degraded core accident scenarios . . .

⁵ There may be some merit in this argument, although it seems to be contradicted by the Commission's allowance of "credible scenario" contentions in the *TMI Restart* case. Similarly, one could argue that the scenarios are an outgrowth of Palmetto 9 and therefore an impermissible attack on 10 CFR 50.44 because Palmetto 9 is taken almost verbatim from §50.44. Conversely, one can argue that the hydrogen scenarios themselves should be read as contentions under Part 100. We do not reach these rather legalistic arguments, preferring to rest our decision on the more practical considerations discussed in the text.

⁶ *Sacramento Municipal Utility District* (Rancho Seco Nuclear Generating Station), ALAB-655, 14 NRC 799, 816 (1981).

⁷ *Metropolitan Edison Company* (Three Mile Island Nuclear Station, Unit No. 1), CLI-80-16, 11 NRC 674, 675 (1980).

and several hydrogen combination phenomena." *Id.* at 62282. It now appears that a final rule will be adopted in the next several months.* Given the present status of this proceeding, no operating licenses for Catawba are likely to issue before sometime in 1984, a year or more after the final rule. Thus we see no safety justification for litigating the Intervenor's hydrogen scenarios in this case, and we are rejecting them as proposed contentions.

This does not mean that the Intervenor may not have their hydrogen scenarios considered at all. They were free to submit those scenarios as timely comments in the rulemaking. If they did not choose to do so before the comment period expired, they can be submitted now and still be considered, if that is practical for the rulemaking staff. *Id.*

D. Discovery

Our Memorandum and Order of July 8, 1982 (LBP-82-51, 16 NRC 167) suspended all discovery pending further order of the Board, except with respect to Palmetto Contentions 8, 16 and 27. That suspension order is now lifted and discovery may be resumed on all but one of the admitted contentions, as listed on page 1807, above. Discovery on the admitted part of DES-22 is stayed until the FES is available.

Several discovery motions and related pleadings are pending before the Board. Rulings on these matters will be issued shortly.

FOR THE ATOMIC SAFETY AND LICENSING BOARD

James L. Kelley, Chairman
ADMINISTRATIVE JUDGE

Dated at Bethesda, Maryland,
this 1st day of December, 1982.

* A recent notice in the *Federal Register* provided a timetable for the rulemaking, indicating that a final rule was expected in October 1982. 47 *Fed. Reg.* 48968. The Chairman of this Board telephoned Counsel for the Staff about the present timetable and was advised that a final rule is now anticipated by the Staff in January or February, 1983.

We regret that we were not able to foresee all of these developments in March, when we suggested that credible accident scenarios might be considered. In any event, it makes no sense to consider them under present circumstances.

Cite as 16 NRC 1811 (1982)

LBP-1

UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Peter B. Bloch, Chairman
Jerry R. Kline
Hugh C. Paxton

In the Matter of

Docket No. 50-266-1

WISCONSIN ELECTRIC POWER
COMPANY
(Point Beach Nuclear Plant,
Unit 1)

December 10,

The Licensing Board declares intervenor Wisconsin's Environmental Decision in default of its hearing obligations and dismisses its petition to intervene. The Board also considers intervenor's contentions and finds each to be irrelevant without basis.

RULES OF PRACTICE: DEFAULT; PRINCIPLES AFFECTING APPROPRIATE SANCTIONS

When an intervenor failed to appear at a Special Prehearing Conference, the Board applied factors found in the *Statement of Policy on Conduct of License Proceedings*, 46 *Fed. Reg.* 28533 (May 27, 1982), in order to determine what sanction was appropriate.

RULES OF PRACTICE: DEFAULT; ADEQUACY OF EXCUSE FOR NONATTENDANCE AT SPECIAL PREHEARING CONFERENCE

A party wishing to attend an alternate engagement instead of a Special Prehearing Conference must establish the importance of that engagement and that it

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

I
Johnson/McGurran
Gray
FF
Reply due
May 2, 1984

In the Matter of)
DUKE POWER COMPANY, et al.)
(Catawba Nuclear Station,)
Units 1 and 2))

Docket Nos. 50-413
50-414

April 12, 1984

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PALMETTO ALLIANCE AND CAROLINA ENVIRONMENTAL STUDY GROUP
MOTION TO READMIT CONTENTIONS REGARDING
SEVERE ACCIDENTS, CONTROL ROOM DESIGN DEFICIENCIES
AND LACK OF FINANCIAL QUALIFICATIONS

Pursuant to 10 C.F.R. Sections 2.714(a)(1), 2.718, and 2.730

Palmetto Alliance and Carolina Environmental Study Group hereby move to readmit and provide for the litigation of previously admitted contentions on the subjects of severe accidents, control room design deficiencies and lack of financial qualifications. Contentions on these subjects were previously filed by Intervenor pursuant to 10 C.F.R. Section 2.714(a)(3)(b) and the Licensing Board's Order of November 5, 1981 providing for the timely submission of the contentions which Intervenor sought to have litigated in this proceeding. In that same pleading Intervenor sought the opportunity to amend or expand that filing on the basis of information not then known to Intervenor. This motion is advanced now on the basis, in part, of such new information, as well as on the basis of subsequent changes in applicable law and regulation.

1. SEVERE ACCIDENTS

In their December, 1981 filing Palmetto and CESG advanced four contentions on the subject of severe accidents at the Catawba Nuclear Station:

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Palmetto Alliance contentions No. 5, 9 and 31 (CESG 2). In the Board's March 5, 1982 Memorandum and Order (Reflecting Decisions Made Following Prehearing Conference), pp. 27-28 the Board rejected the contentions on the basis of the failure of Intervenors to advance a site specific "serious and credible accident scenario," and the December 23, 1981 proposed Commission rule, 46 F.R. 62281 on the subject of hydrogen control measures. In their March 31, 1982, Responses And Objections To Order Following Prehearing Conference, Palmetto and CESG advanced a series of "plainly credible, Catawba specific, accident scenarios," pp. 5-10: 1. offsite power failure; 2. ATWS; 3. fatigue failure of the reactor pressure vessel; and 4. stud bolt failure. By Order of July 8, 1982 this Board sought comments by Applicants and NRC Staff with respect to Intervenors posited scenarios. Finally, the Board reviewed these scenarios and confirmed its rejection of these contentions in its Memorandum and Order (Reflecting Decisions Made Following Second Prehearing Conference) of December 1, 1982 16 NRC 1791 at 1807 et seq. The Board, there, rejected the capitalized stud bolt failure scenario on the grounds of res judicata, as having been previously litigated by CESG. With respect to the other three scenarios, the Board noted that the NRC Staff supported admission of these as sufficiently specific for litigation, but rejected their admission on the grounds of the pending rulemaking:

The basic criterion is safety -- is there a substantial safety reason for litigating the generic issue as the rulemaking progresses? In some cases, such as TMI Restart, such litigation probably should be allowed if it appears that the facility in question may be licensed to operate before the rulemaking can be completed. In such a case, litigation may be necessary as a predicate for acquired safety findings. In other cases, however, it may become apparent that the rulemaking will be completed well before the facility can be licensed to operate. In that kind of case there would normally be no safety justification for litigating the generic issues, and strong resource management reasons not to litigate. . . . It now appears that a final rule would be adopted in the next several

months (fn 8: January or February, 1983.) Given the present status of this proceeding, no operating licenses for Catawba are likely to issue before some time in 1984, a year or more after the final rule. Thus we see no safety justification for litigating the Intervenors' hydrogen scenarios in this case, and we are rejecting them as proposed contentions.

Id., 16 NRC at 1809-1810.

Subsequent developments make clear that the premise underlying this Board's rejection of Intervenors' hydrogen control accident scenarios is no longer viable, and more recent information makes clear that the serious safety issues involved in the adequacy of hydrogen control measures and the effects of hydrogen burns on safety equipment must be resolved through litigation in this proceeding prior to licensing the Catawba Station. The hydrogen control issue has been denominated unresolved safety issue A-48. Its status and application to Catawba as of February, 1983 is described at pages C-22 and 23 of the Safety Evaluation Report, NUREG-0954. The Staff, there, reflects the unresolved character of the pending proposed rulemaking and its conclusion that interim measures are satisfactory at Catawba in the meantime. Of course, Intervenors disagree and seek to litigate the adequacy of such measures through the vehicle of the contentions and accident scenarios submitted. In its Aqua Book, "Unresolved Safety Issues Summary," NUREG 0606, Vol. 5, No. 4 (November 18, 1983) the NRC Staff projects a scheduled completion for unresolved safety issue A-48 of June 30, 1985. There, the Staff described the problem as follows:

postulated reactor accidents which result in a degraded or melted core can result in generation and release to the containment of large quantities of hydrogen. The hydrogen is formed from the reaction of the zirconium fuel cladding with steam at high temperature and/or by radiolysis of water. Experience gained from the TMI-2 accident indicates that we may want to require more specific design provisions for handling larger hydrogen releases than currently required by the regulations, particularly for smaller, low pressure containment designs.

Id., at p. 38.

Finally, the most recent Board Notification No. 84-057 of April 2, 1984, reflects the potentially troubling results of ongoing technical studies by Sandia National Laboratory of likely excessive temperature effects on safety equipment under several postulated hydrogen ignition accident scenarios in ice condenser containments. Such an effect would likely exacerbate accident scenarios by degrading the operability of such engineered safety features as containment recirculation fans and spray systems as well as the other components.

In light of these regulatory developments including the matters included in the referenced Board Notification as further basis Palmetto and CESC seek readmission and an opportunity to litigate the plainly credible accident scenarios in order to establish our earlier claims that Applicants have not established reasonable assurance that the Catawba Station can operate safely.

2. CONTROL ROOM DESIGN DEFICIENCIES

In its March 5, 1982 Memorandum and Order (Reflecting Decisions Made Following Prehearing Conference), at pp. 23-24 this Board initially admitted a portion of Palmetto Alliance control room design contention No. 22 conditioned upon later detail after submission of further licensing documents reflecting Applicants' control room design review. Subsequently, in light of the Appeal Board's rejection of the device of conditional admission of contentions, this Board determined to reject, rather than defer rulings on these control room design issues observing that new information contained in documents not yet available might provide a later basis for more specific contentions. Memorandum and Order (Reflecting Decisions Made Following Second Prehearing Conference) 16 NRC at 1795-6. The basis for such specific contentions has recently been provided by Applicants and the NRC Staff.

By letter of March 9, 1984, Thomas M. Novak, Assistant Director for Licensing, of the NRC Staff transmits for review and comment to Applicants a Preliminary Draft Safety Evaluation Report for the detailed control room design review at Catawba Unit 1. There the Staff expresses its conclusions as to Applicants' satisfaction of the nine requirements of Supplement 1 to NUREG 0727. While expressing general satisfaction with Applicants' efforts to meet the requirements of these standards for control room design, the Staff expresses questions regarding the scheduling of implementation and the verification of corrective actions until the end of the first refueling outage after fuel load licensing. It is on the basis of this analysis that Intervenors seek the readmission of previously filed contentions challenging the adequacy of Applicants' control room design.

Palmetto and CESG offer the following revised contention for litigation:

Applicants have failed to demonstrate reasonable assurance that the Catawba Nuclear Station can operate safely since they have failed to adequately meet regulatory requirements for the correction of Human Engineering Deficiencies (HED's) in the Catawba control room design and instrumentation in the absence of sufficient attention to the interaction of human factors and efficiency of operation considerations. As reflected in the "Human Engineering Factors Engineering Branch - Detailed Control Room Design Review For Catawba Nuclear Station Unit 1," transmitted by cover letter of March 9, 1984, Applicants have failed to demonstrate the justification for delaying correction of identified human engineering deficiencies until the end of the first refueling outage, and have failed to provide adequate verification that the implemented corrective actions in fact resolved identified identified human engineering deficiencies. Id., pp. 14-15.

Palmetto and CESG submit that this revised control room design deficiency contention should be admitted pursuant to 10 C.F.R. 2.714(a)(1) on the grounds that the balancing of the five factors warrants its admission for litigation. First, good cause is established by the contention's dependence on a licensing analysis by the NRC Staff available to Intervenors for less than one month. It is this "Preliminary Draft SER" which first iden-

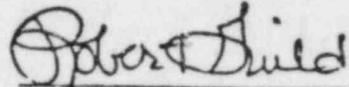
tifies the scheduling and corrective action deficiencies in Applicants' control room design review. Second and fourth, as is commonly the case, the interest of petitioners can only be adequately protected by their own representation in this proceeding in support of this issue. While the NRC Staff can cease to represent the public interest outside this proceeding, petitioners' interest is best protected by their own efforts. Third, petitioners identified this issue of inadequate control room design as one of concern to them at the very earliest. We stand ready, now, to assist this Board in developing a sound record for decision on this important safety issue. Palmetto and CESC ask the Board to note the effectiveness of the participation by their representatives and counsel in this and other proceedings on the basis of which this Board should conclude that they may reasonably be expected to assist in developing a sound record. Fifth, while the introduction of a new issue, inevitably will expand the proceeding and require time for resolution Palmetto and CESC submit that such a commitment of time and resources is well founded to resolve such an important safety issue. Furthermore, the Staff itself observes that resolution of the scheduling and corrective action deficiencies in Applicants' control room design review program must precede licensing authorization. Thus, a commitment to litigation of this contention could not only be productive but a necessary predicate to reasonable assurance of safe operation. On the foregoing basis Palmetto and CESC ask that the revised control room design deficiency contention be admitted for litigation. Intervenors are prepared to commit their time and resources to the identification of expert technical assistance to support their litigation of this contention.

3. LACK OF FINANCIAL QUALIFICATIONS.

By its March 5, 1982 Memorandum and Order (Reflecting Decisions Made Following Prehearing Conference) this Board conditionally admitted Palmetto Alliance contention No. 24 questioning the financial qualifications of the small municipal and cooperative owners of the Catawba facility. Id. at p. 24. However, upon reconsideration as sought by Applicants and the NRC Staff the Board determined to dismiss Palmetto contentions Nos. 24 and 25 relating to financial qualifications and decommissioning on the basis of the subsequently adopted new Commission rule barring consideration of such contentions, 47 F.R. 13750. Memorandum and Order (Overruling Objections Following Prehearing Conference, Denying Requests For Referral To The Appeal Board, In Addressing Certain Related Questions) at p. 2, July 8, 1982.

On February 7, 1984, the United States Court of Appeals for the District of Columbia Circuit struck down the Commission attempt to eliminate the financial qualifications requirements in licensing proceedings. New England Coalition on Nuclear Pollution v. Nuclear Regulatory Commission, No. 82-1581 (February 7, 1984). It is the position of Palmetto and CESC that in the absence of a valid rule barring our previously filed financial qualifications contention these matters should be readmitted for litigation in this proceeding at this time. While we are aware of proposals by the Commission to reinstitute rulemaking in an effort to remedy the evidentiary deficiencies identified by the Court of Appeals, we urge that the proper course for this Board is to admit and litigate issue of financial qualifications in this proceeding at this time. Palmetto and CESC would be prepared to demonstrate that the lack of financial qualification of the small municipal systems which are co-owners of this facility will likely adversely affect the safe operation and shutdown of the Catawba facility.

On the foregoing basis, Palmetto Alliance and Carolina Environmental Study Group request that this Board admit the above contentions for litigation in this proceeding at the present time.



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Jesse Riley
Carolina Environmental Study Group

April 12, 1984

May 2, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
DUKE POWER COMPANY, ET AL.)	Docket Nos. 50-413
(Catawba Nuclear Station,)	50-414
Units 1 and 2))	

NRC STAFF RESPONSE TO INTERVENORS' MOTION
TO READMIT CONTENTIONS ON HYDROGEN GENERATION
ACCIDENTS, CONTROL ROOM DESIGN DEFICIENCIES,
AND LACK OF FINANCIAL QUALIFICATIONS

I. INTRODUCTION

On April 12, 1984, Intervenors served "Palmetto Alliance and Carolina Environmental Study Group Motion to Readmit Contentions Regarding Severe Accidents, Control Room Design Deficiencies and Lack of Financial Qualifications" ("Motion"). In their Motion, Intervenors seek to show that certain changed circumstances or new information warrants readmission of contentions on the referenced subjects which were previously rejected by the Licensing Board. The legal basis for admission of the severe accidents (hydrogen control) and financial qualifications contentions is not clearly stated; however Intervenors' objectives appear to be in the nature of reconsideration of earlier Board rulings rejecting the contentions, based on changed regulatory circumstances, rather than consideration of the contentions under the late-filing criteria. Admission of the control room design deficiencies contention is sought based on asserted "new" information in an allegedly previously unavailable licensing document, under 10 C.F.R. § 2.714(a)(1).

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As described below, the Staff opposes admission of the hydrogen control and control room design deficiencies contentions. In addition, the Staff believes the Licensing Board should now rule on the admissibility of the financial qualifications contentions, in light of ALAB-687 and CLI-83-19, with regard to the specificity and basis standards of 10 C.F.R. § 2.714(b), and reject these contentions as failing to meet those standards.

II. DISCUSSION

A. The Board Should Reaffirm its Rejection of the Severe Accidents/ Hydrogen Control Contentions

By its motion, Intervenors seek to litigate the adequacy of hydrogen control measures based on their specification of several "plainly credible, Catawba specific, accident scenarios". Motion, at 2, 3-4. As discussed by Intervenors, they offered four severe accident scenarios in an effort to obtain readmission of three of their original contentions (Palmetto Contentions 5, 9 and 31 (CESG 2)).^{1/} One such scenario, "stud bolt failure", did not involve hydrogen generation and combustion, and was rejected by the Board on the basis of res judicata. Duke Power Company, et al. (Catawba Nuclear Station, Units 1 and 2), LBP-82-107A, 16 NRC 1791, 1808. (Intervenors do not appear to seek readmission of this matter.) The other three scenarios, implicating the adequacy of hydrogen control measures, were rejected in the same

^{1/} See, Palmetto Alliance and Carolina Environmental Study Group Responses and Objection to Order Following Prehearing Conference, March 31, 1982, pp. 5-10.

prehearing conference order. Applicants, on the one hand, had argued that the scenarios presupposed successive failures of systems which complied with the rules and were therefore an impermissible attack thereon. The Staff, on the other hand, had argued that since the Commission had permitted litigation of "credible" accident scenarios in light of the TMI-2 accident, and that the proffered scenarios were sufficiently specific for purposes of litigating Intervenors' contentions on their credibility, they ought to be admitted. The Licensing Board, however, found that there was no safety justification for litigation since completion of rulemaking regarding hydrogen control was likely to come well before licensing of the Catawba plant. Catawba, LBP-82-107A, supra, 16 NRC at 1809-10. The Board particularly noted that the technical review being conducted was considering "the deliberate ignition systems installed at Sequoyah and McGuire . . . , a spectrum of degraded core accident scenarios . . . and several hydrogen combustion phenomena [citing the Federal Reporter notice]. Id.

As Intervenors note, the hydrogen control rulemaking has not been completed, and is still pending. However, the Staff anticipates that the matter will come before the Commission for final action within approximately the next month. As noted in the attached March 15, 1984 memorandum, the Commission had scheduled an affirmation/discussion and vote on the final Hydrogen Control Rule (SECY-83-357) when the Staff, by memorandum from William J. Dircks, Executive Director for Operations, to the Commissioners, informed the Commission that the Staff was in the process of reviewing certain hydrogen combustion tests which reviews the Staff recommended be completed prior to the Commission's decision on

SECY-83-357. Attachment 1. The Staff now anticipates completing its review of the test data and forwarding its recommendation for action on the Hydrogen Control Rule by the first week in June. Counsel will supplement this pleading with the pertinent correspondence when it becomes available.

As a result, the Staff believes that the decision originally reached by the Licensing Board in December 1982 remains sound. Although the rulemaking at this point has not been completed as anticipated, it still appears that the rule will be forthcoming well before a full power operating license would be needed for Catawba. There is no basis for disturbing the Board's December 1, 1982 rejection of the hydrogen control contentions (and the supporting scenarios) and Intervenors' Motion to readmit their severe accident contentions should be rejected.^{2/}

B. The Board Should Reject Intervenors' Revised Control Room Design Deficiencies Contention Based on the Five Factor Test in 10 C.F.R. § 2.714(a)(1).

Intervenors also seek admission of the following contention on the adequacy of Applicants' implementation of its obligations to perform a

^{2/} Intervenors reference Board Notification No. 84-057, dated April 2, 1984, relating to calculational simulations of the effects of hydrogen generation and ignition accident scenarios on equipment operability in ice condenser containments, performed by Sandia National Laboratory. As noted in the Board Notification, the Sandia study is the subject of further Staff review based, in part, on questions raised concerning the accuracy of the calculations. The Staff cannot state, at this time, what impact these findings, if validated, will have on Commission requirements. However, the Staff is of the view that they would be more likely to affect the scenarios which are used in implementing and complying with the rule, rather than the format and content of the rule.

detailed control room design review (DCRDR):^{3/}

Applicants have failed to demonstrate reasonable assurance that the Catawba Nuclear Station can operate safely since they have failed to adequately meet regulatory requirements for the correction of Human Engineering Deficiencies (HED's) in the Catawba control room design and instrumentation in the absence of sufficient attention to the interaction of human factors and efficiency of operation considerations. As reflected in the "Human Engineering Factors Engineering Branch - Detailed Control Room Design Review For Catawba Nuclear Station Unit 1," transmitted by cover letter of March 9, 1984, Applicants have failed to demonstrate the justification for delaying correction of identified human engineering deficiencies until the end of the first refueling outage, and have failed to provide adequate verification that the implemented corrective actions in fact resolved identified identified (sic) human engineering deficiencies. Id., pp. 14-15.

Motion, at 5. A similar, though more general, contention was initially admitted on a conditional basis (pending further specification after availability of Applicants' review),^{4/} and subsequently rejected in light of the Appeal Board's directions on the subject of conditional admission of contentions lacking adequate specificity.^{5/}

Applicants were directed to provide Intervenors with a copy of their control room design review when it became available, which they did. See, Letter to Licensing Board, dated June 8, 1983 (also Attachment 3 to letter to Licensing Board, dated February 2, 1984).

^{3/} As a follow-up to the NRC Action Plan developed as a result of the TMI-2 accident, each applicant is required to conduct such a review, pursuant to Supplement 1 to NUREG-0737, dated December 17, 1982.

^{4/} Duke Power Company et al. (Catawba Nuclear Station, Units 1 and 2), LBP-82-16, 15 NRC 566, 581 (1982).

^{5/} Catawba, LBP-82-107A, supra, 16 NRC 1791, 1795 (1982), citing, Catawba, ALAB-687, 16 NRC 460, 467 (1982).

Intervenors' revised contention focuses on Applicants' failure "to demonstrate the justification for delaying correction of identified human engineering deficiencies until the end of the first refueling outage, and . . . to provide adequate verification that the supplemented corrective actions in fact resolved identified . . . human engineering deficiencies." Motion, at 5. These deficiencies were raised by the Staff in its Preliminary Draft Safety Evaluation Report for the Unit 1 DCRDR, and Intervenors rely principally upon the recent availability (March 9, 1984) of this licensing document as good cause for their late submittal, under 10 C.F.R. § 2.714(a)(1).^{6/} Intervenors also claim that the other late-filing criteria favor admission of this contention. On factors two and four, they assert that the Staff may "cease to represent the public interest outside this proceeding", and that only Intervenors can truly represent their own interest. On factor three, Intervenors ask the Board to "note the effectiveness of the participation by their representatives and counsel in this and other proceedings, and, on factor five, note that while there may be broadening of the issues and delay, the Staff has stated that resolution of the asserted deficiencies must precede licensing. Motion at 6.

6/ The factors to be applied in considering late-filed contentions are:

- (i) Good cause, if any, for failure to file on time.
- (ii) The availability of other means whereby the petitioner's interest will be protected.
- (iii) The extent to which the petitioner's participation may reasonably be expected to assist in developing a sound record.
- (iv) The extent to which the petitioner's interest will be represented by existing parties.
- (v) The extent to which the petitioner's participation will broaden the issues or delay the proceeding.

10 C.F.R. § 2.714(a).

The Staff is of the view, however, that, on balance, the five late-filing factors weigh heavily against admission.

Good Cause. First, to the extent Intervenors may rely on the unavailability of a licensing document, without which a reasonably specific contention could not have been raised, and on the prompt submittal of their contention following availability of the Staff's Preliminary Draft Safety Evaluation Report (draft SER),^{7/} their reliance on the Staff's draft SER is misplaced. While it is true that Intervenors' contention follows promptly on the Staff's evaluation, the information on which the Staff document is based is contained in the Duke Power Company Response to Supplement 1 to NUREG-0737 for Catawba Nuclear Station, submitted June 1, 1983, and transmitted to Intervenors by letter of the same date.^{8/} Specifically, in Appendix D, thereto, one finds the Implementation Priority Schedule criticized by the Staff, which Applicants submitted pursuant to ¶ 5.2.b. of Supplement 1 to NUREG-0737 (Generic Letter No. 82-33) of December 17, 1982. Similarly, it is the June 1, 1983 Applicants' submittal which the Staff relied on in its draft SER to find the lack of adequate identification of the method to verify corrective actions, as required by ¶ 5.1.d. of the Generic Letter/NUREG-0737 Supplement. However, Intervenors waited until April 12, 1984, over then months from the time the pertinent

^{7/} See, Catawba, ALAB-687, supra, 16 NRC at 460, as modified, CLI-83-19, 17 NRC 1041 (1983).

^{8/} See, supra, at 5.

licensing document--Applicants' submittal--was circulated, to further specify their concerns on the adequacy of Applicants' control room design review.

These circumstances were addressed by the Commission in this proceeding when it stated that "the institutional unavailability of a licensing-related document does not establish good cause for filing a contention late if information was available early enough to provide the basis for the timely filing of that contention." Catawba, CLI-83-19, supra, 17 NRC at 1048. Under that ruling, incorporating the Appeal Board's three-pronged test for good cause in cases involving institutional unavailability of license-related documents,^{9/} the Applicants' FSAR, rather than the Staff's SER "is the central document for formulation of safety contentions." Id., at 1048-49. An intervenor cannot wait until issuance of the SER before filing safety-related contentions which could have been timely raised based on information contained in the FSAR. Id. In these circumstances, Applicants first served a portion of their FSAR, their Response to Supplement 1 to NUREG-0737, relating to DCRDR, on June 1, 1983. To meet the Appeal Board's good cause standard, the contention should have been filed "with the requisite degree of promptness once the document [came] into existence and [was] accessible for public examination." Id., at 1044.

^{9/} The three prongs of the Appeal Board test are that the contention: "(1) is wholly dependent upon the content of a particular licensing document; (2) could not therefore be advanced with any degree of specificity (if at all) in advance of public availability of that document; and (3) is tendered with the requisite degree of promptness once the document comes into existence and is accessible for public examination." Catawba, ALAB-687, supra, 16 NRC at 469.

By waiting until April 12, 1984, Intervenors failed to satisfy the Catawba test for good cause. The good cause factor weighs heavily against admission of this contention in these circumstances.

Availability of Other Means to Represent Intervenors' Interests.

In view of the fact that the basis for Intervenors' contention is limited to the concerns expressed by the Staff, it is not at all clear that the resolution of these matters cannot be adequately left to the Staff. Even if it is assumed that there is no other party in the proceeding or other adjudicatory proceeding through which Intervenors' interest can be represented (factors two and four), the licensing review of the Staff may in reality provide another, non-adjudicatory, means whereby Intervenors concerns will be represented. While the recent Appeal Board decision in Washington Public Power Supply System, et al. (WPPSS Nuclear Project No. 3), ALAB-747, 18 NRC 1167, 1175-6 (1983), clearly holds that both an adjudicatory forum and individualized representation cannot be supplied through the Staff's non-adjudicatory review, the coincidence of the Staff and Intervenor concerns in this instance serves to minimize whatever weight is to be given to these factors in favor of admission. While these factors weigh in favor of admission of this contention, they should not be given much weight in the overall balance.^{10/}

Contribution to a Sound Record. On factor three, whether Intervenor can be expected to assist in developing a sound record, Intervenors have made a very weak showing, giving no indication that they have access to

^{10/} It should be noted, in any event, that factors two and four are normally of "relatively minor importance." The Detroit Edison Company, et al. (Enrico Fermi Atomic Power Plant, Unit 2, ALAB-707, 16 NRC 1760, 1767 (1982)).

expert witnesses, or that they have a case of their own to present. They certainly have not made a showing comparable to that required by this Licensing Board on the intervenors' now dismissed diesel generator contention. See, Memorandum and Order (Referring of Certain Diesel Generator Issues to the Appeal Board), dated February 23, 1984, containing transcript pages 12541-51; and Order, dated April 13, 1984, dismissing the contention for failure to make such a showing. At bottom, intervenors' showing on this factor amounts to an assertion that intervenors have, in the past, contributed to the development of a sound record. However, for admission of late-filed contentions, a substantially greater showing than mere past performance is required. See Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), Memorandum and Order (unpublished) (March 19, 1984), Slip op. at 11. No such showing has been made here and this factor weighs against admission of the contention.

Delay of the Proceeding and Expansion of Issues. Finally, introduction of control room design issues into the proceeding at this late stage would certainly broaden the scope of the issues under consideration and occasion substantial delay. Intervenors' argument that resolution of the Staff concerns will be required prior to licensing, thus mitigating the impact of broadening the issues and delay to the proceeding, is not well-founded. On February 20, 1984 Applicants provided certain improvements to the original schedule for implementation of corrective actions, and, on April 9, 1984, in response to the draft SER, provided evidence that all required Human Engineering Deficiency (HED) corrective actions are verified and that functional

performance of the control room is validated after the HED corrections have been made. See, Attachments 2 and 3. The Staff has reviewed the most recent submittals, and will shortly issue its final SER resolving concerns with scheduling and verification of corrective actions.

Thus, there are no factors mitigating the delay to the proceeding and expansion of the issues resulting from Intervenors having waited for over ten months to raise their concerns about the Catawba DCRDR. This factor weighs against admission of the contention.

In sum, factors one, three and five weigh substantially against admission of the control room design review contention, and factors two and four, which normally are given less weight, weigh only weakly in favor of admission. On balance, then, the late-filing factors weigh heavily against admission, and the contention should be rejected.

C. The Board Should Now Rule, Upon Reconsideration, That Intervenors' Financial Qualifications Contentions Lack the Requisite Specificity

In its March 5, 1982 prehearing conference order, the Licensing Board conditionally admitted two contentions addressing the issue of financial qualifications. The first, submitted as Palmetto Contention 24, dealing with the financial resources of the local power authorities and electrical cooperative which purchased portions of Catawba, was conditionally admitted as follows:

The sale of major portions of Catawba to consortiums of municipal power authorities and rural electrical cooperatives places an unknown and potentially impossible burden on municipalities and other entities which lack the resources and ability to raise the significant funds which will be required to safely operate, maintain, and decommission the plant in conformity with NRC rules and regulations.

As the experience of the Washington Public Power Supply System has shown, miniscule to modest size municipalities and rural electrical cooperatives cannot be relied upon as unlimited revenue sources for construction and operation of nuclear facilities. Moreover, local voters may at any time refuse authorization to their elected representatives to expend funds on Catawba.

The second contention, submitted as Palmetto Contention 25, dealt specifically with the costs of decommissioning, and, as conditionally admitted, read:

Applicants have made no plans for ensuring that funds will be available to safely decommission Catawba in conformance with NRC rules and regulations.

Duke Power Company utilizes an unfunded reserve for depreciation expense. Since Duke claims to have failed to match earnings to inflation, an unfunded reserve, which constitutes an investment in Duke plant, cannot be viewed as the safest investment which could be made to ensure the presence of adequate funds when needed. (William H. Grigg, Testimony for Duke Power Company, SC Public Service Commission, Docket No. 80-378-E, p. 14). Further, a planned unfunded reserve calculated upon present value assumptions will not match future cash requirements.

Attempts to collect decommissioning funds from a myriad municipalities and electrical cooperatives after Catawba has ceased generating revenues will prove fruitless in many cases.

See, Palmetto Alliance Supplement to Petition to Intervene, dated December 9, 1981; Catawba, LBP-82-16, supra, 15 NRC at 581-82. Both contentions were conditionally admitted subject to being further specified following discovery. Catawba, LBP-82-16, supra, 15 NRC at 576, 582.

However, upon reconsideration following a motion by Applicants, supported by the Staff, the Licensing Board dismissed both contentions based on the new Commission rule barring litigation of such contentions. Catawba, LBP-82-51, supra, 16 NRC 167, 168 (1982), citing 47 Fed. Reg. 13750. Thus, when the Appeal Board, in ALAB-687, subsequently ruled

that the Licensing Board had no authority to conditionally admit contentions lacking the requisite specificity,^{11/} the Licensing Board had no occasion, upon remand of its rulings, to reconsider its earlier conditional admission of the two contentions dealing with the financial qualifications of the small owners and the costs of decommissioning.^{12/}

Subsequently, the United States Court of Appeals for the District of Columbia Circuit, in New England Coalition on Nuclear Pollution v. NRC, No. 82-1581 (D.C. Cir., Feb. 7, 1984), concluded that the rule was not adequately supported by its accompanying statement of basis and purpose and remanded it to the agency. Thus, the rule upon which the Licensing Board based its dismissal of Palmetto Contentions 24 and 25 has now been questioned and the possible need for some consideration of financial qualifications in operating license review arises.^{13/}

The effect of this sequence of events concerning the Commission's financial qualification rules is to place the Board in the situation presented to it in the Fall of 1982, when it reconsidered its earlier

11/ Catawba, ALAB-687, supra, 16 NRC 460 (1982).

12/ See, Catawba, LBP-82-107A, supra, 16 NRC 1791 (1982).

13/ The Commission is currently preparing a policy statement to provide guidance on how financial qualification issues are to be treated and dealt with in licensing proceedings pending the completion of additional rulemaking on financial qualifications. In the event the Licensing Board herein determines to admit financial qualifications contentions, the forthcoming Commission policy statement will likely indicate the manner in which such issues are to be addressed. The Staff suggests that, should the Licensing Board admit financial qualifications contentions pursuant to Intervenor's motion, the parties should be given the opportunity to brief the question of how such contentions should be dealt with in light of the Commission's policy statement.

conditional admission of a number of contentions in light of the Appeal Board's ruling in ALAB-687. As the Licensing Board stated in its December 1, 1982 order:

. . . we did not make an unequivocal finding of a fatal lack of specificity on many of the contentions admitted conditionally by our March 5 Memorandum and Order. Moreover, when we made those findings we were operating on the assumption that we had the option of conditionally admitting vague contentions, subject to later specification, instead of rejecting them outright. The presence of that assumption in the contention-ruling calculus probably would incline a licensing board more toward findings of vagueness, and we cannot say that it did not have that effect on us.

Catawba, LBP-82-107A, supra, 18 NRC at 1794.

The Staff is of the view that it is appropriate, now that the basis for its original dismissal of the two financial qualifications contentions (the now invalidated financial qualifications rules) has been eliminated, for the Board to reconsider its initial conditional admission of these contentions in the same manner it approached the contentions reconsidered in its December 1, 1982 order.^{14/}

In the Staff's initial statement of its views on the admissibility of these contentions,^{15/} the Staff opposed admission of Palmetto Contention 24, principally on the ground that it lacked specific factual basis describing the financial obligations of the unnamed power authorities and electrical cooperatives and why these applicants would be unable to

^{14/} Thus, the Board need not reconsider those aspects of the originally proffered contentions which were rejected outright in its March 5, 1982 Order.

^{15/} NRC Staff Response to Supplemental Statements of Contentions by Petitioners to Intervene, dated December 30, 1981. For the convenience of the Board, the pertinent pages of this Staff pleading are attached hereto.

meet their obligations. (The Staff also opposed, as an attack on Commission regulations, that part of the contention, which was excluded, dealing with the costs of accidents.) The Staff continues to believe that Contention 24 lacks the requisite specific factual basis. This previously conditionally admitted contention should be rejected on that basis.

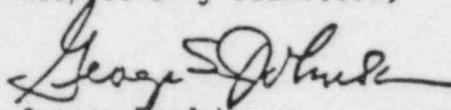
The Staff did not oppose admission of the first two paragraphs of Contention 25 as conditionally admitted by the Board. However, it did express the view that further "refinement" of the contention was needed. The remainder of that contention was viewed as speculation without basis or specificity. With respect to those portions of Contention 25 which the Staff did not initially oppose, the Staff views the Board's March 5, 1982 order directing that further specificity be provided following discovery as a finding of lack of sufficient specificity in these contentions as submitted. In view of the Appeal Board's direction in ALAB-687, discussed above, the Board should reconsider its March 5, 1982 ruling and, based on its earlier finding of insufficient specificity, reject the contention on that ground. In sum, the Licensing Board should reconsider its initial conditional admission of Palmetto Contentions 24 and 25 and dismiss them based upon the lack of requisite basis and/or specificity.

III. CONCLUSION

Based on the foregoing, the Board should deny Intervenors' Motion with respect to its severe accidents contention, based on the expectation of a Commission final rule on the subject prior to licensing

of Catawba, and with respect to the control room design deficiencies contention, based on balancing of the five late-filing factors. Finally, the Board should reconsider Palmetto Contentions 24 and 25 on financial qualifications in light of ALAB-687 and the specificity requirements of 10 CFR § 2.714(b) and reject Palmetto Contentions 24 and 25 as lacking the required basis and/or specificity.

Respectfully submitted,



George E. Johnson
Counsel for NRC Staff

Dated at Bethesda, Maryland
this 2nd day of May, 1984.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

James L. Kelley, Chairman
Dr. Richard F. Foster
Dr. Paul W. Purdom

In the Matter of

Docket Nos. 50-413
50-414
(ASLBP No. 81-463-06-OL)

DUKE POWER COMPANY, *et al.*
(Catawba Nuclear Station,
Units 1 and 2)

June 22, 1984

This operating license proceeding was contested with respect to a broad quality assurance contention, two relatively narrow technical contentions, and numerous emergency planning contentions. The Licensing Board decides the quality assurance contention (with certain reservations) and the technical contention concerning embrittlement of the reactor pressure vessel in the Applicants' favor. The other technical contention, concerning meteorology and accident analyses, is decided against the Staff and the Applicants and in favor of the Intervenor. Notwithstanding the findings adverse to the Staff and Applicants, the Board finds that, subject to the resolution of certain unresolved issues over which it retains jurisdiction, the reasonable assurances requisite to authorization of a low-power operating license are present. Accordingly, this Partial Initial Decision authorizes the Director of Nuclear Reactor Regulation to issue such a license, on condition that the unresolved issues are first resolved in favor of the Applicants. A separate Licensing Board will decide the emergency planning contentions at a later date.

RULES OF PRACTICE: TIME LIMITS ON EXAMINATION OF WITNESSES

Licensing boards are authorized to establish reasonable time limits for the examination of witnesses, including cross-examination, under 10 C.F.R. §§ 2.718(c) and 2.757(c), the Commission's *Statement of Policy on Conduct of Licensing Proceedings*, CLI-81-8, 13 NRC 452 (1981) and relevant judicial decisions.

RULES OF PRACTICE: DISCOVERY

Under 10 C.F.R. § 2.740(b)(1) discovery is available after a contention is admitted and it may be terminated a reasonable time thereafter. Litigants are not entitled to further discovery as a matter of right with respect to information relevant to a contention which first surfaces long after discovery on that contention has been terminated.

APPEARANCES

J. Michael McGarry, III, Anne W. Cottingham, and Mark S. Calvert, Washington, D.C., and Albert V. Carr, Jr., and Ronald L. Gibson, Charlotte, North Carolina, for the Applicants, Duke Power Company, *et al.*

Robert Guild, Columbia, South Carolina, and John Clewett, Washington, D.C., for the Intervenor, Palmetto Alliance.

Jesse L. Riley, Charlotte, North Carolina, for the Intervenor, Carolina Environmental Study Group.

George E. Johnson and Bradley Jones for the Nuclear Regulatory Commission Staff.

Richard P. Wilson for the State of South Carolina.

Charlotte, North Carolina city limits. The facility contains two pressurized water reactors, designed to operate at core power levels up to 3411 thermal megawatts, with a net electrical output of 1145 megawatts per unit.

B. The Parties

Permits to construct the facility were issued, following hearings, in 1975. *Duke Power Co. (Catawba Nuclear Station, Units 1 and 2)*, LBP-75-34, 1 NRC 626 (1975). In June 1981, the Commission published in the *Federal Register* (46 Fed. Reg. 32,974) a notice of receipt of an application for operating licenses for the Catawba facility. In response to that notice, petitions to intervene were filed by Palmetto Alliance (Palmetto), Carolina Environmental Study Group (CESG), Charlotte-Mecklenburg Environmental Coalition (CMEC), Safe Energy Alliance (SEA), and the State of South Carolina. The Board subsequently admitted Palmetto, CESG, and CMEC as parties to the proceeding.² The petition of the State of South Carolina to intervene as an interested state, pursuant to 10 C.F.R. § 2.715(c), was also granted.

C. The Contentions

The intervening parties filed a total of fifty-two different contentions, some of which were sponsored by two parties. The Applicants and NRC Staff separately opposed most of these contentions. The Board initially admitted twenty-five contentions subject to certain specified conditions, and admitted one contention unconditionally. LBP-82-16, *supra*, 15 NRC at 575-83. At the request of the Applicants and the Staff, we referred to the Appeal Board certain questions relating to standards for admission of contentions. LBP-82-50, 15 NRC 1746 (1982). Following the Appeal Board's decision (ALAB-687, 16 NRC 460 (1982)), we reconsidered our initial conditional-admission rulings and admitted unconditionally, in whole or in part, eleven of the twenty-five contentions previously admitted on a conditional basis.

Several important documents, including the Staff's Draft Environmental Impact Statement ("DES") and the offsite emergency plans, first became available following the Board's initial rulings on contentions. The Board issued a series of rulings on contentions lodged against the

DES, their effect being admission of three such contentions and rejection of twenty others. The net result was that the Board ordered seventy-five contentions (exclusive of emergency plan contentions), rejecting sixty-two and admitting thirteen, at least for discovery purposes.³

Toward the close of discovery, the Applicants and Staff filed motions for sanctions against Palmetto, seeking dismissal of several contentions for failure to meet discovery obligations. This motion was granted in part and two contentions were dismissed. LBP-83-29A, 17 NRC 1121 (1983). In June 1983, CMEC and the Applicants submitted a stipulation to settle CMEC's four contentions. The Board approved the stipulation and dismissed CMEC as a party to the proceeding.

After discovery on the remaining contentions was completed, the Applicants and Staff filed motions for summary disposition on all the remaining contentions. The Board granted several of those motions in whole or in part, leaving parts of four contentions for hearing:

- Palmetto Contention 6, relating to quality assurance (QA);
- Palmetto Contention 16, relating to the storage of spent fuel;
- CESG Contention 18 (also Palmetto Contention 44), relating to the embrittlement of reactor pressure vessels; and
- Joint Contention 17, relating to assessment of adverse meteorology in accident analyses.

The texts of these contentions are set forth in our discussion of each contention.

D. The Hearings

Hearings were conducted in Rock Hill, S.C., and Charlotte, N.C. for forty-five days, running continuously from October 4, 1983 to December 16, 1983 (with a recess week for Thanksgiving) and resuming on January 30 and 31, 1984. All parties were represented by counsel, presented

³ In addition, the Board has considered several late contentions filed after the evidentiary hearing relating to the backup diesel generators, financial qualifications, certain postulated hydrogen accidents and control room design. We rejected the Intervenor's initial diesel generator contentions based upon our balancing of the five "lateness" factors. Tr. 12,541-50. Order of April 13, 1984 (unpublished). This Board raised a diesel generator contention *sua sponte*, but that contention was found by the Commission to be inappropriate for *sua sponte* treatment. Order of June 8, 1984 (unpublished). As to the Intervenor's June 21, 1984 motions on diesel generator contentions, see note 50, below. All of the remaining late contentions are now, for various reasons, rejected. The Commission's Statement of Policy of June 7, 1984 requires rejection of the financial qualifications contention. We reject the hydrogen accident and control room design contentions essentially for the reasons advanced by the Staff. See Staff Response dated May 2, 1984. Briefly, the hydrogen accidents are rejected because final Commission action on a generic rule addressing the same concerns is expected before the anticipated date of full-power operation of Catawba. As to the control room design contentions, the Intervenor has failed to show good cause for their lateness or that they could make a substantial contribution to resolution of those issues.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

November 1, 1984

James L. Kelley, Chairman
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
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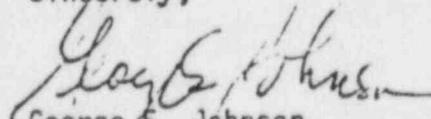
In the Matter of
DUKE POWER COMPANY, ET AL.
(Catawba Nuclear Station, Units 1 and 2)
Docket Nos. 50-413 and 50-414

Dear Administrative Judges:

In its Partial Initial Decision issued on June 22, 1984, (LBP-84-24, 19 NRC 1418), the Licensing Board rejected a contention on hydrogen control for the Catawba facility on the ground that final Commission action on a generic rule addressing the same hydrogen control concerns was expected before the anticipated date of full power operation of Catawba. LBP-84-24, 19 NRC 1418, 1425 at n.3. The Board's ruling in this regard was based on the NRC Staff's expectation that a final hydrogen control rule would be submitted to, and acted upon by, the Commission well before a full power operating license would be needed for Catawba.

This is to advise you of the current status of the hydrogen control rule-making. As of this date, the Staff expects to submit a final hydrogen control rule to the Commission in this month of November but cannot predict a date for Commission action on the rule. It is the Staff's understanding that Catawba Unit 1 will be ready for initial criticality by early December 1984, for exceeding 5% of full power by mid-December 1984, and for reaching full power several months later.

Sincerely,


George E. Johnson
Counsel for NRC Staff

cc: Service List

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