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NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

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OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCHB. Paul Cotter, Jr., Chairman
Glenn O. Bright
Dr. Richard F. Cole

SERVED APR 22 1988

In the Matter of:	}	Docket No. 50-335-OLA
FLORIDA POWER AND LIGHT COMPANY	}	(ASL-BP No. 88-560-01-LA)
(St. Lucie Plant, Unit No. 1)	}	April 20, 1988

MEMORANDUM AND ORDER

Campbell Rich has petitioned to intervene in Florida Power and Light Company's application to expand the spent fuel pool at Unit 1 of its St. Lucie Plant. Mr. Rich has filed 16 contentions that he seeks to have litigated. We find herein that Mr. Rich has standing to intervene and admit several of his contentions.

I. Procedural History

On August 31, 1987, the Nuclear Regulatory Commission published a notice of: (1) Consideration of Amendment to facility operating license for St. Lucie, Unit 1; (2) a proposed finding of no significant hazards consideration; and (3) opportunity for hearing. 52 Fed. Reg. 32852 (1987). The notice advised in pertinent part that

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The amendment would authorize the licensee to increase the spent fuel pool storage capacity from 728 to 1706 fuel assemblies. The proposed expansion is to be achieved by reracking the spent fuel pool into two discrete regions. New, high-density storage racks will be used.

The St. Lucie plant is owned and operated by Florida Power and Light Company ("Licensee") on Hutchinson Island in St. Lucie County, 12 miles southeast of Fort Pierce, Florida.

Initially, and with the Board's approval, Licensee sought, without success, to resolve Mr. Rich's concerns by negotiation. Thereafter, pursuant to the Board's directions, Mr. Rich, by letter dated January 15, 1988, filed an amended petition to intervene setting forth 16 contentions challenging whether the health and safety of the public would be adequately protected by the license amendment applied for. Both Licensee and the Nuclear Regulatory Commission Staff ("the Staff") filed responses to the petition, opposing it in whole or in part. A prehearing conference was held on March 29, 1988 on Hutchinson Island, Florida to hear oral argument from the parties.

On March 17, 1988, Staff counsel informed the Board that the Staff had made a final "no significant hazards determination" pursuant to 10 C.F.R. 50.92(a)(4) [sic] (1987). The Staff had issued amendment number 91 to Facility Operating License No. DPR-67 on March 11, 1988, authorizing the requested spent fuel pool expansion at the St. Lucie, Unit 1 plant.

II. Criteria for Admitting Contentions

A. Standing

The requirements for intervention in Nuclear Regulatory (NRC) proceedings are set out in section 2.714 of Title 10 of the Code of Federal Regulations. A petitioner must have standing to participate, that is, it must demonstrate that its "interest may be affected" by the proceeding. 10 C.F.R. § 2.714(a)(1) (1987). That interest must be set forth "with particularity." 10 C.F.R. § 2.714(a)(2). In ruling on intervention petitions, Licensing Boards are required by subsection (d) of section 2.714 to consider

- ... (1) The nature of the petitioner's right under the Act to be made a party to the proceeding.
- (2) The nature and extent of the petitioner's property, financial, or other interest in the proceeding.
- (3) The possible effect of any order which may be entered in the proceeding on the petitioner's interest.

Mr. Rich resides in Stuart, Florida, approximately 10 miles from the St. Lucie plant. His standing to intervene in the proceeding was conceded by the parties at oral argument. Tr. 16; Staff Brief, 2-3; Licensee Brief, 5-6. We concur in the parties' view and find that Mr. Rich has standing to intervene in this proceeding within the meaning of 10 C.F.R. §§ 2.714(a) and 2.714(d) (1987).

B. Admissibility of Contentions

The criteria for admitting contentions to the proceeding are set out in section 2.714(b)(2) of Title 10 of the Code of Federal Regulations which provides in pertinent part that:

... the petitioner ... must include a list of the contentions ... and the bases for each contention set forth with reasonable specificity.

The foregoing provision has been exhaustively interpreted in an extensive body of Commission case law holding, inter alia, that only those contentions which fall within the scope of issues set out in the Federal Register notice of opportunity for hearing may be admitted for litigation in Commission proceedings. See, e.g. Commonwealth Edison Co., 12 NRC 419, 426 (ALAB-516, 1980). If a petitioner states the bases of the contention proffered with reasonable specificity, the section 2.714(b) requirement is met. Whether or not the contention is true is left to litigation of the issues admitted, and it is not the function of the Presiding Officer to reach the merits of the issue proposed in deciding whether the contention is admissible. Mississippi Power and Light Co., 6 AEC 423, 426 (ALAB-130, 1973); Houston Lighting and Power Co., 11 AEC 542, 548 (ALAB-590, 1980).

Reasonable specificity means articulating the theory of the contention with sufficient clarity that the reasons for the petitioner's concern are apparent and the parties "will know at least generally what

they will have to defend against or oppose." Id., at 20. Thus, for example, a proposed contention challenging solutions to identified problems in the license application must state why the solution is inadequate. Commonwealth Edison Co., 16 NRC 183, 188 (LBP-82-52, 1982). The contention must address concrete issues and may not consist of "vague generalized assertions, drawn without any particularized reference to the details of the challenged facility." Philadelphia Electric Co., 6 AEC 173, 174 (CLI-73-10, 1973).

At the same time, our case law allows some "leeway in judging the sufficiency of intervention petitions" from counsel new to the field and pro se intervenors. Kansas Gas and Electric Co., 1 NRC 559, 576-577 (ALAB-279, 1975). The degree of specificity required to form the basis for a contention must be judged on a case-by-case basis. As Licensee and Staff correctly note, however, that does not mean that this board has any obligation "to recast" a contention to make it acceptable. Licensee Brief, 8-9; Commonwealth Edison Co., 8 AEC 381, 406 (ALAB-226, 1974).

III. Rulings on Contentions

Of the 16 contentions submitted, two were withdrawn at oral argument. Tr. 68, 95-96. Accordingly, Contentions 7 and 12 are dismissed from the proceeding, and we do not address them herein. The remainder of the contentions are discussed below, seriatim.

A. Contention 1

The Contention avers

That the expansion of the spent fuel pool at St. Lucie, Unit No. 1 is a significant hazards consideration and requires that a public hearing be held before issuance of the license amendments.

Petitioner recites three bases for the contention, namely, that:

- (1) the spent fuel pool expansion increases the possibility of certain accidents, reduces the margin of safety, and creates the possibility of "a new and different type of accident ... which would cause the pool to lose its structural integrity"; (2) Commission case law holds that expansion of a spent fuel pool involves significant hazards; and
- (3) Congress intended such expansions to be "a no significant hazards consideration." Request for Hearing and Petition for Leave to Intervene ("Amended Petition"), pp. 1-2.

At the prehearing conference, petitioner modified the contention to ask that the Board suspend the Staff's March 11, 1988 determination of no significant hazards on the ground, inter alia, that the Staff had not adequately considered the safety implications of the use of Boraflex. Petitioner argued that Boraflex should be viewed as an unproven technology based on Applicant's October 20, 1987 response to questions from the Staff Project Manager. Tr. 17-24.

Both Licensee and Staff renewed their written opposition to the modified contention at the prehearing conference. Both take the position that the Board lacks jurisdiction to reverse or otherwise act on the Staff's no significant hazards determination itself. Tr. 27-29. Licensee's Answer in Opposition to Amended Petition to Intervene ("Licensee's Opposition") 14-19; NRC Staff Response to Amended Petition to Intervene ("Staff Response"), 6-9.

The issue is governed by section 50.58(b)(6) of Nuclear Regulatory Commission ("NRC") regulations which provides that

No petition or other request for review of or hearing on the staff's significant hazards consideration determination will be entertained by the Commission. The staff's determination is final, subject only to the Commission's discretion, on its own initiative, to review the determination.

10 C.F.R. 50.58(b)(6) (1987). In promulgating the rule, the Commission made it clear that the reference to "Commission" meant the Commissioners themselves and that this Board had no authority to act on the Staff's finding as such. That limitation on this Board's authority is distinguished from our authority, after a finding is made and the license issued, to consider and take corrective action on any threat to the public health or safety disclosed at any subsequent hearing. 51 Fed. Reg. 7745, 7759 (1986). Thus, this Board is barred as a matter of Commission regulation from acting on or granting the relief requested by

Contention 1. Accordingly, Contention 1 is denied admission to this proceeding.

B. Contention 2

Contention 2 states that

Expansion of the spent fuel pool at the St. Lucie facility, Unit No. 1 constitutes a major Federal action and requires that the Commission prepare an environmental impact statement in accordance with the National Environmental Policy Act of 1969 (NEPA) and 10 CFR Part 51.

Petitioner alleges that the spent fuel pool expansion increases the probability of a radioactive release to the environment as a result of normal operation and a total or partial loss of coolant. Petitioner also alleges that Staff has not examined the effects of long-term or permanent storage of wastes in the pool nor of alternatives to expanding the pool's storage capacity. Amended Petition, 3. At oral argument, petitioner asserted that the consequences of a zirconium cladding fire are so severe as to warrant an environmental impact statement.

Petitioner argued that the environmental assessment of the spent fuel pool expansion was inadequate because of: (1) the use of Boraflex; and (2) a severe accident such as a cask drop causing the structural failure of the pool as postulated in the Brookhaven National Laboratories Report titled "Severe Accidents in Spent Fuel Pools in Support of Generic

Safety Issue 82" (NUREG/CR-4892, BNL-NUREG-52093) ("the BNL Report").

Tr. 29-37.

At the prehearing conference, Licensee and Staff reiterated their written opposition to the admission of Contention 2. They argue that an environmental assessment satisfies the requirements of the regulations and that the more extensive environmental impact statement is not required for low probability accidents. Tr. 32-33. Licensee's Opposition, 20-23; Staff Response, 10-12.

Contention 2 asserts that Section 102(2)(C) of the National Environmental Policy Act, 42 U.S.C. 4332(2)(C) ("NEPA"), requires that an Environmental Impact Statement (EIS) be prepared because the spent fuel pool expansion is a major federal action and thus, conversely, that the less rigorous environmental assessment prepared does not satisfy regulatory and statutory requirements. In support of the assertion, Petitioner cites essentially three bases: (1) a severe accident; (2) failure to analyze the effects of permanent waste storage at the site; and (3) failure to consider alternatives to onsite storage.

Licensee asserts that expansion of a spent fuel pool is not a major federal action within the meaning of NEPA, citing, inter alia, Portland General Electric Co., 9 NRC 263, 264-268 (ALAB-531, 1979). Because of the state of the law concerning the requirement of a NEPA EIS in the instant case, we do not reach the issue.

The severe accident postulated is based on the BNL Report. The accident assumes a cask drop causing the structural failure of the pool leading to loss of coolant, a fuel rod zircaloy cladding fire, and ultimately large radiation releases. The scenario describes an accident beyond the design basis of the plant and the spent fuel pool. However, the scenario does not identify any deficiencies in cask handling procedures that would result in such a drop and offers nothing to connect the "generic" scenario in the BNL Report with the cask handling procedures at the St. Lucie plant.

In the first instance, a contention must set forth its basis "with reasonable specificity." 10 C.F.R. 2.714(b) (1987). Absent an explanation as to why or how the cask might drop in the first place at the St. Lucie spent fuel pool, we cannot just assume it will happen and then continue on to consider all the possible consequences. The possible accident postulated thus remains too speculative to satisfy the specificity requirement for admission to the proceeding. Pacific Gas and Electric Co., 26 NRC 449, 454-457 (ALAB-880, 1987).

Severe accidents are also known as "Class 9" accidents or "beyond design-basis" accidents. Because such scenarios are highly speculative and of low probability, Commission policy and case law generally hold that they are not required to be considered in an EIS. Long Island Lighting Co., 26 NRC 383, 393 n. 17 (CLI-87-12, 1987); see generally, "Policy Statement on Severe Reactor Accidents Regarding Future Designs

and Existing Plants," 50 Fed. Reg. 32, 138 (1985). The courts have upheld that policy. San Luis Obispo Mothers for Peace v. NRC, 751 F.2d 1287, 1300-1301 (D.C. Cir. 1984), aff'd. en banc, 789 F.2d 26, cert. denied, ____ U.S. ____, 107 S.Ct. 330 (1986). An almost identical contention was considered in Pacific Gas and Electric Co., supra. There the Appeal Board held that

There is nothing, therefore, to suggest that the loss of pool coolant and zircaloy cladding fire scenario ... is anything but a remote and speculative, beyond design-basis accident NEPA does not require the consideration of such an event and an EIS need not be prepared.

Id. at 460. We find that conclusion controlling and so hold in this instance.

Finally, Petitioner asserts as a basis for requiring an EIS that Licensee failed to consider other possible alternatives to spent fuel pool expansion. Licensee points out that there is no obligation to seek possible alternatives, citing Portland General Electric, supra, and noting that Petitioner has not alleged any basis for concluding that the alternatives suggested are environmentally superior to spent fuel pool expansion. We concur. Contention 2 will not be admitted to the proceeding.

C. Contention 3

Contention 3 states

That the calculation of radiological consequences resulting from a cask drop accident are not conservative, and the radiation releases in such an accident will no [sic] be ALARA, and will not meet with the 10 CFR Part 100 criteria.

As bases for this contention, Mr. Rich refers to the BNL Report, citing sections of that report which identify uncertainties in accident progression and radiological consequences. Mr. Rich argues that because of these uncertainties the accident consequences of a cask drop accident in the expanded pool are not conservative and will not meet 10 CFR Part 100 requirements. In Mr. Rich's view, the uncertainties preclude the possibility of a conservative estimate. Amended Petition, 4. At the prehearing conference, Mr. Rich agreed that his reference to ALARA was misplaced since it generally applies to routine operation, not accidents. Tr. 44.

Both Licensee and Staff oppose admission. Licensee argues that the sweeping and unsupported statement that a conservative estimate cannot be made is insufficient to establish basis for the contention. Licensee states that the leap from the existence of substantial uncertainty to the conclusion that such uncertainty cannot be provided for through the use of conservatisms is wholly inconsistent with both engineering practice and practice authorized by the NRC. Tr. 43; Licensee's

Opposition, 25. Mr. Rich responded that he is prepared to provide evidence related specifically to the inadequacy of the cask-drop accident calculations. Tr. 44-45.

The Board will afford Mr. Rich that opportunity. While Mr. Rich's written filing on this issue is not a model of specificity, it does raise an issue within the scope of the proceeding. The contention is accepted as modified by deletion of the reference to ALARA. Licensee's response to this contention should show that its analysis of a cask drop accident bounds those uncertainties that are identified in the BNL Report and listed as the bases for this contention. Thus, by such conservatisms and analysis, Licensee must demonstrate compliance with 10 CFR Part 100 (1987).

D. Contention 4

Contention 4 states that

That the consequences of a cask drop accident or an accident similar in nature and effect are greatly increased due to the presence of a large crane to be built inside the spent fuel pool building in order to facilitate the reracking.

As bases for this contention, Mr. Rich relies heavily on the contents of the BNL Report. He asserts that: (1) the presence of the temporary construction crane in the spent fuel pool area is contrary to Licensee's FSAR; (2) structural failure of the fuel pool due to a heavy

load drop is identified as a primary triggering event; (3) for heavy loads, human error probabilities, structural damage potentials, and recovery actions are the primary sources of uncertainties; and (4) the very presence of the crane inside the spent fuel pool building contributes to the potential for a heavy load drop accident and may inhibit the ability of the existing crane to operate in a recovery action. Amended Petition, 4-5; Tr. 45-47.

Licensee opposes admission stating that Mr. Rich uses a generalization from the BNL Report without even referring to the measures actually being taken to avoid such accidents. Licensee relies on portions of the SAR submitted with the amendment request and its responses to several NRC Staff amendment review questions related to the temporary crane and heavy load drops. Licensee's Opposition, 27-29; Tr. 49-50.

Staff states that construction accidents or safe handling of heavy loads is a litigable issue within the scope of the proceeding and since the temporary construction crane will be used to move racks within the spent fuel pool, they do not oppose admission. Staff further states that the contention may be erroneously premised on the fact that the temporary crane will be in the area during cask handling, but is otherwise adequately specific and supported by a minimally sufficient basis. Tr. 51; Staff Response, 15.

The Board finds that this contention meets the requirements of 10 C.F.R. 2.714. Cask drop accidents, although of low probability, are, potentially, among the most serious accidents considered in the operation of spent fuel pools. Consideration of Licensee's actions, either taken or proposed, to avoid construction crane related accidents would require an inquiry into the merits of the issue.

Licensee's response to the contention should also address the potential for cask transfer of Unit 1 fuel to Unit 2 in addressing construction crane accidents. (See Staff Environmental Assessment Relating to the Transfer of Unit No. 1 Spent Fuel Between Units No. 1 and 2 of the St. Lucie Plant dated February 22, 1988. The contention is admitted.

E. Contention 5

Petitioner avers in Contention 5

That FP&L has not provided a site specific radiological analysis of a spent fuel boiling event that proves that off-site dose limits and personal exposure limits will not be exceeded in allowing the pool to boil with makeup water from only seismic Category 1 sources.

At the prehearing conference, Petitioner admitted that his original basis for this contention is probably inapplicable. Tr. 58. Mr. Rich modified the contention, in effect alleging that the site specific radiological analysis of a fuel pool boiling event conducted by Licensee

is inadequate and that the NRC Staff should conduct its own independent study and analysis. Tr. 59. Upon learning that the Staff had conducted a separate analysis, Petitioner withdrew the contention but later retracted the withdrawal pending his review of Staff's analysis. Tr. 63, 73.

Licensee objected to both the original and restated contention, arguing that the contention is identical to a contention admitted in the Turkey Point proceeding but not supported by an adequate basis. The Turkey Point contention alleges that the radiological analysis of a spent fuel pool boiling event was an extrapolation of an analysis conducted at the Limerick reactor. Licensee's Opposition, 31. Licensee states that no such allegation is made in Petitioner's filing and the use of the term "greater" in the "Bases for Contention" portion lacks comparative reference. Id.

The NRC Staff did not oppose the contention, interpreting it to address the lack of a site-specific radiological analysis of a spent fuel pool boiling event which demonstrates that 10 CFR Part 20 and 10 C.F.R. Part 100 onsite and offsite dose limits will not be exceeded. Staff Response, 15. Apparently, the Staff interpreted the use of the term "greater" to apply to doses above the limits of NRC regulations.

The Board reserves judgment on this contention pending Petitioner's review of Staff's independent analysis. Mr. Rich is to advise the Board

within 30 days of his receipt of the Staff analysis (and in any event, no later than May 19, 1988) whether he wishes to pursue the contention. If he does not wish to pursue it, it will be dismissed. If he does wish to pursue it, it will be ruled on at that time.

F. Contention 6

Petitioner asserts in Contention 6 that

The Licensee and Staff have not adequately considered or analyzed materials deterioration or failure in materials integrity resulting from the increased generation of heat and radioactivity as a result of increased capacity and long-term storage in the spent fuel pool.

Petitioner argues that the pool was designed to store lesser quantities of spent fuel for a shorter period of time and that licensee has failed to adequately analyze problems that may result from exposure to the increased amount of decay heat and radiation emitted by the larger number of spent fuel assemblies stored. Petitioner specifies three problems: (1) deterioration of fuel cladding; (2) loss of integrity of materials making up the storage rack and the pool liner; and (3) deterioration of the concrete of which the pool is constructed. Amended Petition, 5-6. At oral argument, Petitioner asserted that the normal temperature of the pool would be increased, subjecting the pool materials, particularly the concrete, to greater stress. Petitioner asserted that the calculations of these forces were "clearly inadequate." Tr. 65-66.

Licensee objects to the contention, first on the grounds that a similar contention was litigated in a proceeding involving the Turkey Point reactor. Licensee asserts that while intervenors there presented no testimony, nine witnesses testified that the contention there was without merit. Licensee also cites the documentation supporting the St. Lucie spent fuel pool amendment application for the proposition that the calculations of decay heat and radiation satisfy regulatory requirements. Licensee's Opposition, 35-36.

Staff does not object to admission of the contention if it is limited to the storage period authorized by the amendment. While Staff notes that the contention may be premature because raised before the Staff's evaluation is available, citing Duke Power Co., 16 NRC 460, 468-469 (ALAB-687, 1982), it does not argue that the technical objection should bar admission of the contention. Staff Response, 16-17.

We agree with the Staff. The contention is adequately specific and clearly puts licensee on notice of the issue to be addressed. Licensee's argument that the contention was copied from prior proceedings is not grounds for barring the contention in this case. The St. Lucie spent fuel pool differs from the Turkey Point plant, and thus the Turkey Point decision on contentions cannot act as a bar to considering the issue here. See, e.g., Commonwealth Edison Co., 12 NRC

683, 689 (LBP-80-30, 1980).* However, the scope of the contention is bounded by the scope of the notice of hearing and must be limited to the length of time authorized by the license amendment at issue.

Commonwealth Edison Co., supra, 12 NRC 419, 426. The contention is admitted as modified.

G. Contention 8

Contention 8 states

That the high-density design of the fuel storage racks will cause higher heat loads and increases in water temperature which could cause a loss-of-cooling accident and/or challenge the reliability and testability of the systems designed for decay heat and other residual heat removal, which could, in turn, cause a major release of radioactivity into the environment.

Petitioner alleges that increases in the heat load to the fuel storage pool using high-density storage racks could lead to excessively high temperatures in the pool and that a delay in make-up emergency water could cause a fuel rod cladding fire or explosion, thereby releasing radioactivity from the fuel and posing a threat to the public. Amended Petition, 6-7. Mr. Rich clarified his contention during the March 29, 1988 Prehearing Conference by stating that his basic concern

* Licensee's argument is made in connection with many of Petitioner's contentions, and it is equally without merit in those instances. The argument will not be addressed further herein.

was that the pool cooling system was inadequate under certain heat load conditions. He maintains that boiling in the fuel pool would result, with the probability that this could lead to a loss of cooling capability, and that he or his experts will provide substantial technical evidence that temperature guidelines will be exceeded. Tr. 68-70.

Licensee argues that their calculations show no departure from Standard Review Plan guidelines. Licensee objects to admitting the contention as it relates to boiling because it fails to point to any specific error in Licensee's analysis and calculations. Licensee also objects to the cladding fire portion of the contention because it fails to suggest how make-up water might be lost. Tr. 71-72; Licensee's Opposition, 37-38. Similarly, Staff would reject the contention inasmuch as Petitioner does not show that any of the safety guides would be exceeded. Staff Response, 18-19.

However, safety guides do not have the force and effect of law or NRC regulations. Moreover, bulk pool temperatures can differ significantly from temperatures at specific locations within the pool. Departure from nucleate boiling to film boiling is always a matter of safety concern. Accordingly, the Board finds Contention 8 admissible. The Board expects Petitioner and Licensee, as well as their experts, to present direct technical testimony for the record.

H. Contention 9

Contention 9 states

That the cooling system will be unable to accommodate the increased heat load in the pool resulting from the high-density storage system and a full core discharge in the event of a single failure of any of the pumps or the electrical power supply to the pumps on the shell side of the cooling system and/or in the case of a single failure of the electrical power supply to the pumps on the pool side of the spent fuel pool cooling system. This inability will, therefore, create a greater potential for an accidental release of radioactivity into the environment.

This contention alleges that, if a pump or the power supply fails, the spent fuel pool cooling system will be unable to accommodate the increased heat load associated with the higher density fuel storage and a full core discharge. At oral argument, Petitioner emphasized the vulnerability of the electrical power supply to forces such as humidity, wear, and radiation. Tr. 80. Licensee opposes admission stating that it ignores a section of the Licensee's Safety Analysis Report (SAR) entitled "Decay Heat Calculations for the Spent Fuel Pool (Bulk)" which describes the cooling system design, a detailed decay heat analysis, and the sources and times of availability of makeup water in the event of loss of cooling capability. Licensee argues that the "mere assumption" of cooling system inadequacy is inadequate. The contention fails to question the Licensee's methodology or conclusions and should be rejected for lack of basis. Licensee's Opposition, 39-40. The Staff does not oppose admission. Tr. 81; Staff Response, 20.

The Board believes that this contention meets the minimal requirements of 10 C.F.R. 2.714 in that it is sufficiently specific for litigation. While the basis for the contention is minimal, the changes in fuel density and amount provide the quantum of basis required. Licensee's evidence on this contention should be directed toward applicability of and compliance with Criterion 44 of 10 C.F.R. Part 50, Appendix A.

I. Contention 10

Contention 10 states

That in calculating time to boil after loss of cooling after completion of full core discharge with the presence of the proposed 1706 assemblies, FP&L utilized a different set of assumptions than in determining the original figures for time to boil as indicated in the Final Safety Analysis Report for the St. Lucie plant, Unit No. 1. (9.1-49. Table 9.1-3).

At oral argument, Petitioner asserted that the "time to boil calculations are not conservative." Tr. 82-85. It appears that Petitioner addresses the final assumptions used rather than the difference between assumptions used in the final Safety Analysis Report for the plant itself and those used for the final SAR for the spent fuel pool expansion. Tr. 84.

Both Licensee and Staff argue for the rejection of this contention. Staff maintains that there is not sufficient basis or specificity.

Staff Opposition, 21; Tr. 88. Licensee points out, in part, that differing assumptions in the calculations do not form a basis for a contention. Licensee's Opposition, 41. At oral argument, Licensee emphasized that Petitioner fails to specify any flaw in the assumptions challenged. Tr. 87.

The Board agrees, and the contention is rejected for lack of basis and specificity. We note, however, that in Intervenor's clarification it appears that his real concern was that the calculations, particularly in the determination of "time to boil", were not conservative. Tr. 82-88. This is precisely the subject of Contention 8, supra, and thus will be addressed.

J. Contention 11

Petitioner asserts in Contention 11

That the proposed use of high-density storage racks designed and fabricated by the Joseph Oats Corporation is utilization of an essentially new and unproven technology.

This contention asserts that the use of Boraflex neutron absorber plates as incorporated in the proposed high density storage racks is an unproven, untested technology and is unsafe. Petitioner quotes a statement from NRC Information Notice 87-43, SSINS No. 6835 (dated September 8, 1987) that: "The concern is that separation of the neutron

absorbing material used in high density fuel storage might compromise safety." Amended Petition, 8; Tr. 88-95. Mr. Rich notes also that NRC has requested more information from Licensee in this regard, and presented extensive excerpts from a Board Notification concerning potential Boraflex problems. Tr. 90-104.

Licensee disagrees stating that similar installations have been made at many reactor sites and any problems are not the consequences of "new technology" but rather a result of the discovery of "(r)ecent anomalies ... due to Boraflex shrinkage caused by irradiation ..." in three plants. Licensee also asserts that it has answered the questions concerning potential Boraflex problems in its October 20 and December 23, 1987 responses to Staff inquiries. Tr. 104-105; Licensee's Opposition, 42-44. Staff does not oppose admission. Staff Response, 21-22; Tr. 106.

The Board finds this contention satisfies the requirements of basis and specificity. While the use of Boraflex may not be considered "new technology," the problems identified in the NRC Staff Board Notifications concerning the reports on the Quad Cities and Point Beach plants raise quite specific questions about the use of Boraflex in the Joseph Oats storage racks. Contention 11 is admitted.

K. Contention 13

Contention 13 states

That Licensee has not analyzed the effect that a hurricane or tornado could have on the spent fuel storage facility or its contents, and that the SER neglects certain accidents that could be caused by such natural disasters.

As bases for this contention, Petitioner cites failure to analyze damage from hurricane or wind driven missiles, tidal waves, and prolonged washovers of the island caused by large storms. Amended Petition, 9.

Licensee argues that the contention should be rejected both because it is beyond the scope of the proceeding, citing Florida Power and Light Co., 22 NRC 590, 598-599 (LBP-85-36), and because the issue was decided at the operating license stage and no new information is presented to challenge the validity of the health and safety finding made at that time. Licensee's Opposition, 48-49. Staff concurs. Staff Response 23.

The effects of natural disasters (hurricane wind and flooding, tornado wind, and missiles) were evaluated at the operating license stage, and the plant design was found to be adequate to cope with any possible conditions. The contention provides no basis for reevaluating these effects as a result of the proposed amendment. The contention is therefore rejected.

In his "clarification" during the prehearing conference the Petitioner proposed to amend the contention to include the possible effects of "... a fully-fueled Grumman jet slamming into the spent fuel pool building ...". Tr. pp. 106-109. Contention 13, on its face, is concerned with natural disasters. Neither the Board nor the Petitioner (Tr. 107) considers the airplane scenario to be a natural disaster. We therefore do not allow the aircraft proposal to be an amendment to Contention 13. If it is to be considered at all, it should be submitted as a late-filed contention pursuant to 10 CFR 2.714(a)(1).

L. Contention 14

Contention 14 states

That FP&L has not properly considered or evaluated the radiological consequences to the environment and surrounding, human population of an accident in the spent fuel pool.

As bases for this contention, Mr. Rich asserts that the BNL Report identifies three factors not included in earlier risk assessments. Mr. Rich does not identify the three factors. He argues that the accident analysis should address the burning of the total number of assemblies authorized to be stored in the pool, an accident which is beyond the design basis for the spent fuel pool and one which would require a loss of cooling water in the pool. Petitioner further asserts that the radiological consequences are underestimated because the Licensee's

population projection for the area is inadequate. Amended Petition, 9-11. At oral argument Petitioner reiterated his general concerns about inadequate conservatisms and the possibility of a severe accident initiated by a fuel assembly or cask drop or loss of coolant mentioned in the BNL Report. Petitioner offered no further information on population changes. Tr. 109-111.

Both Licensee and Staff oppose the contention for lack of a scenario connecting the BNL Report to the specific procedure and arrangement of the St. Lucie spent fuel pool. Licensee's Opposition, 50-51. Staff Response, 24. Tr. 111-113. Mr. Rich does not allege noncompliance with a safety standard or provide a credible accident scenario. In order to accept this contention, a credible mechanism or scenario for a spent fuel pool accident such as loss of cooling water must be provided. Because this has not been done, the contention cannot be admitted.

M. Contention 15

Contention 15 states

That the increase of the spent fuel pool capacity, which includes fuel rods which have experienced fuel failure and fuel rods that are more highly enriched, will cause the requirements of ANSI-N16-1975 not to be met and will increase the probability that a criticality accident will occur in the spent fuel pool and will exceed 10 CFR Part 50, A 62 criterion.

Petitioner asserts that the increased number of fuel rods stored will increase the "chances that the fuel pool will go critical." Amended Petition, 11. At oral argument, Petitioner withdrew the phrase "which have experienced fuel failure" from the Contention. Tr. 114.

Licensee argues that this contention is identical to one proposed in another proceeding. There the contention was admitted but later was summarily dismissed. Here, we look only for basis and specificity, and would consider the merits only in a case of summary judgment or through the hearing process. Licensee argues further that Petitioner offers no basis for his bare allegation to question the analysis in the SAR and gives no notice of the issue to be addressed. Licensee's Opposition, 52-53. Staff, on the other hand, states its opinion that the contention raises an issue within the scope of the proceeding, is adequately specific and is supported by at least a minimal basis. Staff finds the reference to criticality resulting from failed fuel lacks nexus, but does not oppose admission of the issue "whether added storage of fuel and more highly enriched fuel will cause a criticality accident." Staff Response, 25.

The Board agrees with the Staff. Criticality control is one of the basic concerns when fuel is being stored, and the methods used to achieve this control are of great importance. The contention is therefore admitted.

N. Contention 16

Contention 16 states

That FP&L has not responded to the concerns as presented by the NRC by outlining a loading schedule for the spent fuel pool detailing how the most recently discharged spent fuel will be isolated from other recently discharged fuel and/or a full core discharge in order to mitigate potential risks from fires in the spent fuel pools [sic] resulting in releases of radioactivity into the environment in excess of the 10 CFR 100 Criteria.

Petitioner's basis for this contention begins with the following quote from page 80 of the BNL Report:

For those plants which have a significant spent fuel pool risk, the one preventive measure which appears to have a substantial effect on risk (a risk reduction of 5 or more) is to maintain recently discharged fuel in low density storage racks that are isolated from the rest of the fuel racks by a foot or more of space.

Amended Petition, 11. The reduction of risk is pinned to the occurrence of an accident that causes a complete and rapid loss of water in the spent fuel pool. There is no assertion that St. Lucie is one of the plants with a significant spent fuel pool risk or that the Licensee's plan for reracking and storage is not in general accordance with the recommendations contained in the BNL Report. The NRC Staff's Safety Evaluation Report describes Licensee's plans to have two discrete regions in the reracked fuel pool. Region I, a specially designed region with greater spacing and neutron absorber material between

storage cells, is planned to accommodate new fuel cell assemblies or spent fuel assemblies that have not achieved a particular burnup level. Region 2 with closer spacing of spent fuel cells and a different neutron absorbing materials configuration is designed to store spent fuel with a particular minimum burnup level which is calculated for various initial enrichments. See Attachment to License Amendment No. 91, pp. 5-5, 5-6, and 5-6b and attached Staff Safety Evaluation at 3.

Again, the acceptance of this contention requires consideration of an accident greater than the design basis accident. Absent a credible mechanism or scenario for such an accident to occur, the contention cannot be accepted. The contention must be denied for lack of basis and specificity.

* * *

Because this memorandum and order grants a petition for leave to intervene, it is appealable by any party other than the petitioner on the question of whether the petitions should have been wholly denied. 10 CFR 2.714a(c) (1986).

ORDER

For all the foregoing reasons and based upon consideration of the entire record in this matter, it is this 20th day of April, 1988,

ORDERED

1. That Petitioner Campbell Rich is admitted as a party to this proceeding;
2. That Petitioner's Contentions 3, 4, 6, 8, 9, 11, 15 are admitted, as amended, the decision on Contention 5 is deferred, and all remaining contentions are denied;
3. That the contentions and their bases admitted in paragraph 2 above are renumbered and restated, when appropriate, as set forth in Appendix A hereto which is incorporated herein by reference; and
4. That any party desiring to invoke the hybrid hearing procedures set forth in 10 CFR 2.1101 et seq. (1987) shall, on

or before May 6, 1988, file with this Board a written request including a proposed procedural schedule.

THE ATOMIC SAFETY AND
LICENSING BOARD

B. Paul Cotter

B. Paul Cotter, Jr., Chairman
ADMINISTRATIVE JUDGE

Glenn O. Bright

Glenn O. Bright
ADMINISTRATIVE JUDGE

Richard F. Cole

Dr. Richard F. Cole
ADMINISTRATIVE JUDGE

April 20, 1988

Bethesda, Maryland

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

B. Paul Cotter, Jr., Chairman
Glenn O. Bright
Dr. Richard F. Cole

In the Matter of:

FLORIDA POWER AND LIGHT COMPANY

(St. Lucie Plant, Unit No. 1)

Docket No. 50-335-OLA

(ASLEP No. 88-560-01-LA)

April 20, 1988

APPENDIX A

Admitted Contentions

1. That the calculation of radiological consequences resulting from a cask drop accident are not conservative, and the radiation releases in such an accident will not meet with the 10 CFR Part 100 criteria. (Originally Amended Petition Contention 3.)
2. That the consequences of a cask drop accident or an accident similar in nature and effect are greatly increased due to the presence of a large crane to be built inside the spent fuel pool building in order to facilitate the reracking. (Originally Amended Petition Contention 4.)
3. The Licensee and Staff have not adequately considered or analyzed materials deterioration or failure in materials integrity resulting from the increased generation of heat and radioactivity as a result of increased capacity in the spent fuel pool during the storage period authorized by the license amendment. (Originally Amended Petition Contention 6.)
4. That the high-density design of the fuel storage racks will cause higher heat loads and increases in water temperature which could cause a loss-of-cooling accident and/or challenge the reliability and testability of the systems designed for decay heat and other residual heat removal, which could, in turn, cause a major release of radioactivity into the environment. (Originally Amended Petition Contention 8).

5. That the cooling system will be unable to accommodate the increased heat load in the pool resulting from the high-density storage system and a full core discharge in the event of a single failure of any of the pumps or the electrical power supply to the pumps on the shell side of the cooling system and/or in the case of a single failure of the electrical power supply to the pumps on the pool side of the spent fuel pool cooling system. This inability will, therefore, create a greater potential for an accidental release of radioactivity into the environment. (Originally Amended Petition Contention 9.)
6. That the proposed use of high-density storage racks designed and fabricated by the Joseph Oats Corporation is utilization of an essentially new and unproven technology. (Originally Amended Petition Contention 11.)
7. That the increase of the spent fuel pool capacity, which includes fuel rods that are more highly enriched, will cause the requirements of ANSI-N16-1975 not to be met and will increase the probability that a criticality accident will occur in the spent fuel pool and will exceed 10 CFR Part 50, A 62 criterion. (Originally Amended Petition Contention 15.)