UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING APPEAL BOARD

Richard S. Salzman, Chairman
Dr. John H. Buck
Dr. W. Reed Johnson

SERVED OCT 2 1980

In the Matter of	)	
COMMONWEALTH EDISON COMPANY	)	Docket Nos. 50-295 50-304
(Zion Station, Units 1 and 2)	)	(Storage Pool Modification)

Assistant Attorneys General Susan N. Sekuler and Anne K. Markey, Chicago, Illinois (Attorney General Scott with them on the brief), for the State of Illinois, intervenor

Messrs. Michael I. Miller and Philip P. Steptoe, Chicago, Illinois, for the Commonwealth Edison Company, applicant.

Mr. Richard J. Goddard (Mr. Steven C. Goldberg with him on the brief) for the Nuclear Regulatory Commission staff.

DECISION

October 2, 1980

(ALAB-616)

Introduction. Commonwealth Edison's application to enlarge the storage capacity of the spent fuel pool at its nuclear generating station in Zion, Illinois, was referred in due course to a public hearing before a Licensing Board. The State of Illinois intervened in the proceeding and opposed the application. After an evidentiary hearing, the Board authorized the Director of Nuclear Reactor Regulation to grant the utility's application subject to specified conditions. LBP-80-7, 11 NRC 245 (1980).

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Now before us is the State's appeal. It challenges a number of the Board's factual findings and legal rulings; we examine each in turn.

1. Corrosion. A principal issue in the proceeding below was whether the new fuel racks the applicant proposed to install might eventually corrode and swell, possibly causing used fuel elements to stick as they are being inserted or withdrawn. This could create a situation that might allow radioactivity to escape to the environment. The Licensing Board examined the problem in detail. For reasons spelled out clearly and thoroughly in a well-annotated opinion, the Board found the risk involved minimal and adequate steps being taken to guard against it. 11 NRC at 268-78.

Illinois challenges these findings. Its brief, however, contains no serious attempt to show either that the record was inadequate to support them or that the Board misunderstood or ignored evidence pointing to a different conclusion. The crux of Illinois' argument is legal rather than factual. The State contends that the findings are flawed because they do not rest on proof "that swelling of the racks, due to corrosion, was a null proposition." (Brief at 1.) Stated another way, Illinois asserts that "[t]he Applicant did not meet its burden to show conclusively that swelling would not occur or that its plan to

alleviate swelling was final and effective." (Brief at 4.)

The State misconceives the nature of the applicant's evidentiary burden. It was not obliged to meet an absolute standard but to provide "reasonable assurance" that public health, safety and environmental concerns were protected, and to demonstrate that assurance "by a preponderance of the evidence."[1/] This standard is set by the Administrative Procedure Act which governs Commission adjudicatory hearings.[2/]

We have reviewed the evidence before the Licensing Board in the light of that standard. The Board's resolution of the corrosion point reflects not merely the preponderance but the overwhelming weight of the credible evidence in the record on the question. The reasoning and the basis for the Board's conclusions are fully elucidated in its decision; nothing would be gained by our restating them. Accordingly, we affirm this point on the opinion below.[3/]

1/ Consolidated Edison Co. of New York (Indian Point Station, Unit No. 3), CLI-75-14, 2 NRC 835, 839 fn. 8 (1975), expressly affirming on this point ALAB-188, 7 AEC 323, 356-57 (1974), and ALAB-287, 2 NRC 379, 387 (1975).

2/ See 42 U.S.C. §2231; Duke Power Co. (Catawba Station, Units 1 and 2), ALAB-355, 4 NRC 397, 405 fn. 19 (1976).

3/ We often review the evidentiary basis for our rulings on technical issues even when they coincide with those of the Board below. When, however, that Board's analysis of the evidence and the reasons for its findings are well displayed, as is here the case, there is no occasion for such duplication.

2. Failure to impose "Technical Specifications." During the course of the proceeding the applicant made a number of commitments. Among other things, it agreed to undertake a corrosion surveillance program, to test whether the fuel assemblies can be safely inserted in the racks and to verify that the tubes and racks contain sufficient boral plates to preclude the occurrence of criticality in the spent fuel pool. The Board's opinion reflects those commitments. 4/

The State argues that the applicant's commitments are insufficient to protect the public health and safety. According to Illinois, they are "voluntary" and "unenforceable." Pointing to 10 C.F.R. §50.59, the State argues that a licensee may terminate such commitments at will without advance notice to the staff. So long as the change does not affect technical specifications or involve an unreviewed safety question, the State asserts, the licensee's only obligation under the regulations is to maintain a record of the change available for NRC inspection. In contrast, "technical specifications" are part of the license itself. These may not be disregarded or changed by the licensee without the staff's consent and severe sanctions may be imposed for their violation. 42 U.S.C. §2232(a); 10 C.F.R. §§50.36 and 50.100. Illinois contends that the Board erred in not raising the applicant's commitments to the level of technical specifications.

4/ See 11 NRC at 277, 280-82, and 295-96, where the nature and purpose of these commitments are fully explained.

What matters should and should not be made "technical specifications" is not entirely free from doubt. We traced the history of this requirement in our recent Trojan decision (which also concerned an application to expand the storage capacity of a spent fuel pool) from its statutory origin through successive Commission implementing regulations and the staff's regulatory guides.[5/] It is sufficient to note here our conclusion in Trojan that, while technical specifications may be required in connection with the operation of a spent fuel pool (9 NRC at 273),

> there is neither a statutory nor a regulatory requirement that every operational detail set forth in an applicant's safety analysis report (or equivalent) be subject to a technical specification, to be included in the license as a absolute condition of operation which is legally binding upon the licensee unless and until changed with specific Commission approval. Rather, as best we can discern it, the contemplation of both the Act and the regulations is that technical specifications are to be reserved for those matters as to which the imposition of rigid conditions or limitations upon reactor operation is deemed necessary to obviate the possibility of an abnormal situation or event giving rise to an immediate threat to the public health and safety. (Emphasis added; footnote omitted.)

Since that opinion was handed down (and immediately prior to oral argument in this case) the Commission has published

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5/ Portland General Electric Co. (Trojan Plant), ALAB-531, 9 NRC 263 (1979).

notice[6] that it is considering establishing a new standard for determining which safety requirements must be reflected in technical specifications and which should be placed in other categories.[7] In its notice, the Commission expressed concern

> that the increased volume of technical specifications may be decreasing the effectiveness of these specifications to focus the attention of licensees on matters of more immediate importance to safe operation of the facility. 8/

6/ We were unaware of this notice at the time of the argument. Regrettably, neither the staff -- which should have known of it -- nor any of the other parties called our attention to it.

7/ 45 Fed Reg. 45916 (July 8, 1980). We furnished the parties copies of this Advance Notice of Proposed Rulemaking with the suggestion that they might care to comment to the Commission on the proposal.

8/ 45 Fed. Reg. at 45917. The Commission elaborated that point with the further observation that (ibid.):

> While each of the requirements in today's technical specifications plays a role in protecting public health and safety, some requirements have greater immediate importance than others in that they relate more directly to facility operation. These are the requirements that pertain to items which the facility operator must be aware of and which he must control to operate the facility in a safe manner. To a large extent, the relative importance of these requirements, as distinguished from those related to long term effects or concerns, has been diminished by the increase in the total volume of technical specification requirements.

(FOOTNOTE CONTINUED ON NEXT PAGE)

We agree with the Board below (11 NRC at 277) that the effects of corrosion and the objects of the testing and surveillance programs in question are not of the gravity and immediacy alluded to in Trojan that calls for translation from commitments to technical specifications. Nothing in the Commission's proposal for rulemaking suggests otherwise. On the contrary, we think that these matters are clearly not of "immediate importance to the safe operation of the facility" that the Commission believes should be incorporated into operating licenses.

This does not mean the State's concerns are frivolous. The slow action of corrosion and a gradual loss of neutron-absorbent material can present serious problems if left unchecked. However, Illinois' fears -- that the commitments to guard against these possibilities might be withdrawn without prior staff notification or approval and that the means for enforcing them are inadequate -- can be allayed without freighting the applicant's

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8/ (FOOTNOTE CONTINUED FROM PREVIOUS PAGE)
Moreover, the increased volume and detail of technical specifications and the resultant increase in the number of proposed change requests that must be processed, has increased the paperwork burden for both licensees and the NRC staff. This is because § 50.36 requires that technical specifications be included in each operating license; and thus, any proposed change, regardless of its importance to safety, must be processed as a license amendment. For changes involving matters of lesser importance to safety, the processing of a license amendment with the associated increased paperwork has had no significant benefit with regard to protecting the public health and safety.

license with additional technical specifications. The applicant has pledged to the staff, to the Licensing Board and to this Board not to change or drop those commitments without prior staff approval; it has expressly acknowledged that those promises were made to obtain favorable action on the proposal now before us. (App. Tr. 60.) We perceive no reason why that pledge should not be formally incorporated in our own order in this case, which is of course enforceable to the same extent as a Commission decision.[9/] This disposition settles the permanence and enforceability of the applicant's commitments without trampling on any party's rights and without having to predict the outcome of the anticipated rulemaking proceeding. We have neither the prescience nor the predeliction to attempt the latter endeavor. The course we have chosen avoids the need to venture into those difficult and uncharted waters.

3. Negligent loss of water from the spent fuel pool. Should the liquid in which they are immersed be lost through boiling, evaporation or other means, the fuel assemblies stored in the pool would heat up rapidly and, intervenors suggested, this

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9/ We do not imply that we have cause to believe that the applicant would not abide by its commitments; we simply take up applicant's proposal in the spirit in which it was made. See App. Tr. 60. We are confident that, without further guidance from us, the staff will be able to record the commitments thus embodied so that its inspectors can insure compliance.

could lead to potentially serious consequences. See 11 NRC at 266-67. After noting (among other things) the agreement of the State's own witness that three to six days at a minimum would be available in which additional water could be added to the pool to prevent this occurrence, as well as the witness' concession that adequate supplies of "makeup water" are available at the site for this purpose, the Board found "no reasonable basis . . . that such an accident might be allowed to occur through neglect." 11 NRC at 267.[10/]

Illinois excepted to that finding. According to the State, it fails to "confront the facts on which appellant relies and the legal inferences those facts suggest," citing Wingo v. Washington, 395 F.2d 633, 636 (D.C. Cir. 1968). Unfortunately, we are not told what "facts" the Board overlooked. Although required to specify "the precise portion of the record relied upon in support of the assertion of error" (10 C.F.R. §2.762(a)), Illinois' brief on this point is devoid of references to the record. We assume that the State is relying on Dr. Resnikoff, one of its witnesses, because his prepared testimony recited that the pool water might be allowed to boil

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10/ In response to a question posed by the Board itself regarding the loss of pool water as a result of severe leakage, evidence was presented which led that Board to find, in addition, that the design features of the pool should preclude the possibility of a severe drainage accident in the fuel pool. 11 NRC at 287-88.

away "under a major accident scenario or simply through neglect."[11/] At the hearing, this witness expanded on what he meant. He explained that "if you simply turn off the cooling system . . . and walk away," an accident could follow in about ten days,[12/] but acknowledged on cross-examination that this would require some "major disruption in our society" in the nature of an act of God or war.[13/] A major societal disruption, however, is not the equivalent of "neglect"; responsibilities for the former lie elsewhere than on the applicant.[14/] We have discovered no other indication in the record about how the pool water might boil away through inattention and Illinois points to none.

In short, there is no support for the apparently offhand suggestion of the State's witness that applicant's employees might irresponsibly walk away from the reactor or carelessly overlook a boiling spent fuel pool. In these circumstances, the applicant's citation to Vermont Yankee Nuclear Power Corp. v. NRDC is indeed apt. The Supreme Court cogently observed in that 1978

11/ Tr. fol. 1528 at pp. 1, 3, 19-20.

12/ Tr. 1560-61.

13/ Tr. 1562.

14/ See, Siegel v. Atomic Energy Commission, 400 F.2d 778 (D.C. Cir. 1968).

decision that (435 U.S. 519, 553-54):

> [A]dministrative proceedings should not be a game or a forum to engage in unjustified obstructionism by making cryptic and obscure reference to matters that "ought to be" considered and then, after failing to do more to bring the matter to the agency's attention, seeking to have that agency determination vacated on the ground that the agency failed to consider matters "forcefully presented."

The Licensing Board gave the speculations of Illinois' witness appropriate consideration.

4. Access to "makeup water" in the event of a severe accident. Illinois next asserts that there is no "factual evidence to show that in the event of a severe accident, where high amounts of radiation are present and the existing automated makeup water systems malfunction, it can assure adequate access to manual sources of makeup water to preclude any danger to the public health and safety." (Brief at 17.) The Licensing Board did not agree. Placing reliance on uncontradicted testimony from witnesses before it, the Board below found that

> [T]he pumps and heat exchangers of the spent fuel pool cooling system and the controls to the makeup water supply are located in a room in the fuel building which has walls and ceiling of concrete. Such equipment and controls are accessible under any circumstances (even if one of the reactors should experience a LOCA) through a railroad trackway entrance to the fuel building, and this could be done without going past the spent fuel pool.

11 NRC at 265 (record citations omitted).

The testimony cited supports that finding; the State points to no contrary evidence. Neither does it attempt to show that the Board relied upon witnesses who were unqualified or unknowledgeable. The State's position is thus not well-taken.

5. Exclusion of the testimony of Peter Cleary. (a) In addition to matters the intervenors put in contest, the Licensing Board raised issues of its own. Among them was Board Question 4(b), which inquired:

> As a result of the proposed modification of the spent fuel pool and the proposed operation of the Station with increased spent fuel storage capacity, will it be necessary to modify the Physical Security Plan, Safeguards Contingency Plan, or the Emergency Plan for the Station? 15/

The State of Illinois offered the prepared written testimony of Peter Gabriel Cleary in response to the Board's question. (Tr. 1582.) After examining Mr. Cleary on voire dire (Tr. 1582-1601), the applicant (with the staff's support) moved to exclude his testimony and the accompanying exhibits. As grounds for doing so, the parties argued that the proposed testimony was irrelevant as well as that the witness lacked expertise and his testimony objectionable hearsay. (Tr. 1593-94; 1600-01.) The Board granted the motion on the first ground, explicitly ruling that Mr. Cleary's testimony did not address the question asked. (Tr. 1610-11).

15/ 11 NRC at 283.

On appeal, the State attempts to demonstrate that Mr. Cleary was indeed an expert and that his testimony was not barred by the hearsay rule. (Br. 18-21, 23.) We need not and do not reach those questions because the Licensing Board was plainly right in excluding his evidence as irrelevant.

As the Board correctly perceived, its jurisdiction was limited by the Commission's notice of hearing.[16/] That jurisdiction extended only to issues fairly raised by the application to modify the spent fuel pool, the sole matter which the Commission had placed before it.[17/] This was why Board Question 4(b) was drawn narrowly and sought evidence only about whether the Zion facility's emergency plan needed to be changed "as a result of the proposed modification of the spent fuel pool and the proposed operation of the Station with increased spent fuel storage capacity." The Board was not empowered to reconsider whether the Zion facility should have been licensed to operate in the first instance, or whether the emergency plan approved in conjunction with that license was generally in need of revision.[18/]

16/ Public Service Co. of Indiana (Marble Hill Station, Units 1 and 2), ALAB-316 3 NRC 167, 170-71 (1976).

17/ See, 43 Fed. Reg. 30938 (July 18, 1978) (Notice of Opportunity for Hearing).

18/ Portland General Electric Co. (Trojan Plant), ALAB-534, 9 NRC 287, 289 fn. 6 (1979).

Mr. Cleary's proposed testimony, however, addressed only those broad issues and ignored the narrow one posited by Board Question 4(b). (Indeed, on voire dire, Mr. Cleary virtually disclaimed knowing anything about the latter. Tr. 1594-99.) His evidence was therefore irrelevant and the Board did not err in excluding it for that reason.

The State's offer of proof, made immediately following the rejection of Mr. Cleary's testimony, in no way undercuts that ruling. The offer took the form of counsel's elicitation from Mr. Cleary of the gist of the evidence he would have given, had he been allowed to testify. The Board had just explained that his testimony was being excluded for failure to address Board Question 4(b) and counsel was not interrupted in making the offer of proof. Nevertheless, Mr. Cleary was not asked to address how or why the emergency plan needed modification because the storage pool capacity was being enlarged, nor did he represent that he was prepared to do so. (Tr. 1611-16.)

Illinois' brief on appeal similarly makes no claim that Mr. Cleary's evidence would have answered the Board's specific question. Rather, it too confirms that he was only going to explore broad questions about the adequacy of the existing emergency plan. (Brief at 22.) But those were not at issue in the hearing and the Board below was not only authorized but

expected to keep out unrelated evidence. 10 C.F.R. §2.757(b); 5 U.S.C. §556(d). Mr. Cleary's testimony was therefore properly excluded as irrelevant.

(b) Illinois also contends that the Board erred in finding no need to change the emergency plan because of the proposed license amendment. It position rests entirely on the allegation (Br. 24) that "the State had no opportunity to comment on the record on problems that exist in the emergency plan." But that position is without support in light of our ruling upholding the exclusion of Mr. Cleary's testimony. The State had ample opportunity to address the adequacy of the plan insofar as it was in issue, but it failed to do so.

6. The need for groundwater monitoring. (a) Although the parties had asked to withdraw the issue, the Licensing Board on its own initiative retained in the proceeding the question whether the proposed pool modifications required groundwater in the vicinity to be monitored for radioactive contamination. 11 NRC at 292. After receiving and reviewing evidence on the question, the Board concluded that "the proposed modification [of the spent fuel storage pool capacity] will not in itself increase the environmental impact of the [Zion] Station." Id. at 294.

The Licensing Board explicitly recognized that the general need for groundwater monitoring "involves matters beyond the scope of this proceeding." Id. at 293. The Board nevertheless observed in its opinion that the plant is inside the Zion city limits, fronts on Lake Michigan, and is proximate to a popular beachfront park and indicated concern that groundwater at the Zion facility was not now being monitored. The Board noted that a current staff regulatory guide (No. 3.44 at §2.5) points out the importance of doing so in the vicinity of spent fuel storage pools. Id. at 293-94.

(b) Illinois does not take specific issue with the finding that the fuel pool modifications do not themselves increase the risk of groundwater contamination. Rather, the State asserts that groundwater monitoring at Zion is generally necessary "to protect the public health and safety" and that the Licensing Board erred in not requiring it. (Br. 25-26). Although the State points to no evidence that supports its assertion, we reviewed the record bearing on the question anyway. We agree with the Licensing Board that expanding the storage capacity of the spent fuel pool will not increase the risk of leakage.[19/]

19/ Leakage through the pool liner is caught by channels that pipe it to collecting tanks for reprocessing as liquid radwaste. Tram, Tr. fol 564 at p. 10. A sampling test conducted during the hearings determined the total daily leakage amounted to roughly one quart. 11 NRC at 289 and Tr. 588-89, 1921-23, 1926-29.

We also concur with that Board that the general necessity for groundwater monitoring was not before it in this hearing and therefore it did not err in declining to order the applicant to undertake such a program.[20/]

With all deference, however, we cannot endorse the Board's implied criticism of the current status of groundwater monitoring. The subject of underwater ground flow was previously explored in the environmental proceedings leading to licensing the facility, where it was noted that drainage from the site is directly into Lake Michigan.[21/] The lake water has been and is now being monitored for radioactive contaminants.[22/] Nothing in this record

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20/ See point 5, supra, p. 12.

21/ See e.g., the Final Environmental Statement (December 1972) at p. II-5. That Statement notes in §II.E.2 that "The geological structure in northeastern Illinois provides for an eastward flow of groundwater down-dip along the bedding plane tilt. The Zion area lacks regions of complex faulting which would tend to modify the direction of flow." The subject was also reconsidered when, at the applicant's request, the staff amended the technical specifications to eliminate the requirement for radiological monitoring of wells on the west (landward) side of the plant. No unusual levels of radioactivity had been recorded in these samples from 1970 when monitoring was initiated until 1977 when it was discontinued (Tr. 1008-11).

22/ Applicant is continuing its program of monitoring the water of Lake Michigan. Dr. John C. Golden testified that, under a program in operation since 1970, the applicant "routinely monitors on a weekly basis all public water intakes in the area of the plant from Kenosha on the north to Lake Forest on the south side." Tr. 1012-13.

suggests that the current program inadequately protects the public health and safety. If Illinois has evidence that indicates otherwise -- and we note again that the State was prepared to drop the matter entirely earlier in the proceeding -- it should be brought directly to the attention of the Director of Nuclear Reactor Regulation. He has both the authority and the responsibility to order the groundwater at Zion monitored, if a need for doing so is shown. See 10 C.F.R. §2.206. We have no reason to believe that the Director will shirk his responsibilities in the face of evidence calling for such a step to be taken. (Cf., Illinois' Brief at 25-26).

Affirmed.

It is so ORDERED.

FOR THE APPEAL BOARD

Barbara A. Tompkins
Secretary to the
Appeal Board