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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:	)	
	)	
COMMONWEALTH EDISON COMPANY	)	Docket Nos. 50-456 OL
	)	50-457
(Braidwood Station, Units 1 and 2)	)	
	)	

MOTION FOR AUTHORIZATION OF FUEL LOADING AND PRECRITICAL TESTING

Pursuant to 10 CFR § 50.57(c), Applicant, Commonwealth Edison Company, requests the Atomic Safety and Licensing Board to authorize the Director of Nuclear Reactor Regulation, upon his making the findings specified in 10 CFR § 50.57(a), to issue a license permitting Applicant to load fuel in Braidwood Unit 1 and conduct precritical testing of the unit.

APPLICABLE LAW

Section 50.57(c) allows an applicant in a contested Operating License proceeding to move the Licensing Board to authorize the issuance, by the Director of Nuclear Reactor Regulation ("Director"), of a license permitting activities short of full power operation, notwithstanding

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the pendency of safety contentions before the Licensing Board. The regulation was promulgated to provide explicitly for early consideration of facility testing in the event of a contested hearing on the issuance of a license for full power operation. 36 Fed. Reg. 8862 (May 14, 1971). Thus the regulation affords relief to an applicant when the pendency of hearings before a Licensing Board threatens to delay the applicant's fuel loading and testing schedule. That is the situation in which the Applicant in this proceeding finds itself at the present time. Applicant is scheduled to begin loading fuel in Braidwood Unit 1 on September 30, 1986 (O'Connor at Tr. 10,102); and it has become clear that on the present hearing schedule an initial decision cannot issue by that date.

Section 50.57(c) provides that when no party to the proceeding opposes the motion, the Licensing Board shall issue an order authorizing the Director to make the requisite findings under Section 50.57(a) and to grant a license for the requested operation. The Board's issuance of such an order is not automatic, however, when a party contests the motion. Section 50.57(c) provides that the Licensing Board's action on the motion shall be taken "with due regard to the rights of the parties to the proceedings, including the right of any party to be heard to the extent that his contentions are relevant to the activity to be authorized." To safeguard these rights, any party may

oppose the motion by asserting that the Section 50.57(a) findings cannot be made for the requested authority because its contention is relevant to those operations and it must therefore be resolved prior to the issuance of the Section 50.57(c) license.

In that case, the Licensing Board must determine whether the contention is in fact relevant to the requested operation, and if it finds that the contention is relevant, Section 50.57(c) provides that the Board itself make those Section 50.57(a) findings "as to which there is a controversy" because of the pendency of a relevant contention. The Director is still responsible for making all the Section 50.57(a) findings. If the Licensing Board finds that the admitted contentions are not relevant to the requested operation, and therefore need not be resolved before the requisite Section 50.57(a) findings can be made, the Board does not make any Section 50.57(a) findings, but authorizes the director to do so. 10 CFR § 50.57(c); Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 & 2), LBP-81-5, 13 NRC 226, 233 (1981); see Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 2), CLI-83-27, 18 NRC 1146, 1149-50 (1983), discussed infra.[1/]

1/ Section 50.57(c) provides in pertinent part: "Action on such a motion by the presiding officer shall be taken with due regard to the rights of the parties to the proceedings, including the right of any party to be heard to the extent that his contentions are relevant to the activity to be authorized. Prior to taking any action

It is thus apparent that the regulatory scheme set forth in Section 50.57(c) preserves, but does not expand, the existing rights of the parties and the existing jurisdiction of the Licensing Board. The right of an intervenor to contest the issuance of an operating license is defined by the contentions already admitted by the Licensing Board. The Board's jurisdiction is limited to determining the admitted contentions and any additional issues which the Board raises _sua sponte_ through the procedures specified by

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1/ Continued

on such a motion which any party opposes, the presiding officer shall make findings on the matters specified in paragraph (a) of this section as to which there is a controversy, in the form of an initial decision with respect to the contested activity sought to be authorized." It is clear that these two sentences must be read together. Thus, where a party "opposes" the motion (in the second sentence), he must do so on the ground that one of his contentions is "relevant to the activity to be authorized" (in the first sentence). The first sentence makes clear that it is only to this extent that the party has a right to be heard. Similarly, in the second sentence the Board only makes findings on the matters specified in Section 50.57(a) "as to which there is a controversy" with respect to the requested operation. Again, this refers to matters put in controversy by the pendency of a relevant contention. Under this regulatory scheme, therefore, the Board must determine the correctness of the party's assertion that his contention is relevant to the requested authorization. Only if the Board determines that the contention is relevant does the Board make the Section 50.57(a) findings with regard to the matters so put in controversy. In _Pacific Gas and Electric Co._ (Diablo Canyon Nuclear Power Plant, Units 1 & 2), LBP-81-5, 13 NRC 226, 233 (1981), the Licensing Board explained that under Section 50.57(c) a Board resolves only matters raised by previously admitted contentions that are relevant to the motion, and that the Director makes all other necessary findings.

the Commission. 10 CFR § 2.104(c); 10 CFR § 2.60a; Memorandum, "Raising of Issues _sua sponte_ in Adjudicatory Proceedings," June 30, 1981.

To the extent that a party's admitted contentions are relevant to the requested operation, Section 50.57(c) requires the Licensing Board, at the party's request, to resolve them before authorizing the Director to issue the limited operating license. Matters not raised by existing contentions concerning the motion for limited operation are outside the scope of the proceeding, and Section 50.57(c) provides that the Director make the necessary findings on such matters. Thus a Section 50.57(c) motion is not an opportunity for the admission of new contentions aimed at the limited operation sought by the Applicant. _Pacific Gas and Electric Co_. (Diablo Canyon Nuclear Power Plant, Units 1 & 2), CLI-81-5, 13 NRC 361, 362 (1981); _Pacific Gas and Electric Co_. (Diablo Canyon Nuclear Power Plant Plant, Units 1 & 2), ALAB-728, 17 NRC 777, 801 n.72 (1983); _Pacific Gas and Electric Co_. (Diablo Canyon Nuclear Power Plant, Units 1 & 2), LBP-81-5, 13 NRC 226 (1981).

APPROPRIATE PROCEDURE

The Licensing Board's action on this motion should therefore be guided by the response of the Intervenors and

the NRC Staff. If neither party opposes the motion, the Board must issue an order pursuant to 10 CFR § 2.730(e) authorizing the Director to make the applicable Section 50.57(a) findings and issue a license permitting fuel loading and precritical testing of Braidwood Unit 1. This was the action taken by the Licensing Board in Duke Power Co. (Catawba Nuclear Station, Units 1 & 2), Memorandum and Order (May 30, 1984). If, on the other hand, either party opposes the motion on the ground that the applicable Section 50.57(a) findings cannot be made until the pending contentions are resolved, the Board must determine whether these contentions are relevant to the fuel loading and precritical testing activities for which Applicant seeks authorization.

As explained above, Section 50.57(c) limits a party's right to contest the motion to his asserting that an existing contention is relevant to the activities for which the Applicant seeks authorization. The Board's authority is limited to determining the question of relevance and, if the contention is relevant, to making findings on the issue or aspects of the issue thus put in contest. See Long Island Lighting Co. (Shoreham Nuclear Power Station), CLI-85-1, 21 NRC 275, 279 (1985). The Commission has made plain that in deciding a Section 50.57(c) motion the Licensing Board is not to entertain new contentions or compile a new

evidentiary record on the motion for fuel loading and low power testing. Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 & 2), CLI-81-5, 13 NRC 361, 362 (1981).

Similarly, the Board is not authorized to permit discovery on the motion, since the matter for decision is simply the legal question whether any of the existing contentions are relevant to the requested operation. In the case of a motion to reopen the record, which, as discussed below, is analogous, the Commission has recently made clear that a Board has no authority to engage in discovery. Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Units 1 & 2), CLI-86-7, 23 NRC 233, 235 (1986).

Because the question for the Board to resolve is simply the legal question of relevance, the Board's determination should be made on the pleadings, and the Board may not hold a hearing for this purpose. See Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 & 2), CLI-83-27, 18 NRC 1146, 1149 (1983), discussed infra. The determination to be made is analogous to the determination whether an evidentiary record should be reopened because new facts have been presented to a Licensing Board. In Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Units 1 & 2), CLI-86-7, 23 NRC 233, 235 (1986), the

Commission reemphasized that a Board is to decide a motion to reopen on the pleadings before it, because the burden of satisfying reopening requirements is on the movant, and Boards must base their decisions on what is before them. Similarly, in this case, under the regulatory scheme of Section 50.57(c), the burden is on Intervenors to demonstrate the relevance of their contention to this Motion, and the Board is not authorized to hold a hearing for this purpose. In Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-84-35A, 20 NRC 920, 925 (1984), the Licensing Board correctly decided the question of the relevance of the existing contention to applicant's Section 50.57(c) motion on the pleadings.

Applicant's Motion and the supporting affidavits demonstrate beyond valid dispute that the pending contentions are not relevant to the activities for which the Applicant seeks authorization. There are two contentions pending in this proceeding, the emergency planning contention and the Comstock QC inspector harassment contention. The emergency planning contention has been litigated, but no initial decision has yet been issued. No party could contest the motion, however, on the basis of this contention. The contention deals exclusively with aspects of Applicant's offsite emergency plan for Braidwood. 10 CFR § 50.47(d) provides that issues regarding the offsite emergency plan are not relevant to the grant of a license for fuel loading

and/or low power operation. Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 & 2), ALAB-728, 17 NRC 777, 789 (1983).

With regard to the Comstock QC inspector harassment contention, the affidavits filed in support of this motion, discussed below, demonstrate in detail that the contention is not relevant to the fuel loading and precritical testing activities for which the Applicant seeks authorization. The admitted contention raises a question as to the harassment and intimidation of Comstock QC inspectors. Given its most expansive interpretation, the contention asserts that the quality of Comstock's electrical installations is indeterminate. Therefore, for purposes of this Motion, Applicant will demonstrate that no reliance need be placed on any electrical systems or circuitry in order for Applicant to conduct safely its fuel loading and precritical testing activities. The contention thus can have no relevance to these activities.

The Board should therefore find that the admitted contentions are not relevant to the requested operation and authorize the Director to make the applicable Section 50.57(a) findings and issue the license. This was the course followed in Pacific Gas and Electric Co. (Diablo Canyon Nuclear Power Plant, Units 1 & 2), CLI-83-27, 18 NRC 1146 (1983). In approving the Licensee's request to reinstate the portion of its license authorizing fuel loading and precritical testing, the Commission held that the admitted contentions raised no

significant safety concerns relevant to the requested activities. The Commission therefore denied the intervenors' request for a hearing on this matter. 18 NRC at 1149. In that case "serious and substantive safety concerns relating to design quality assurance" were the subject of adjudicatory hearings. In view of these concerns, the Commission did not authorize criticality and low testing pending receipt of information on those phases of operation. Id. Given the limited nature of the quality assurance contention pending in this proceeding, it should be far easier than it was in Diablo Canyon for the Board to determine on the pleadings that the contention is not relevant to the authorization requested in this Motion.

IRRELEVANCE OF THE HARASSMENT CONTENTION TO FUEL LOADING AND PRECRITICAL TESTING

In support of this Motion, Applicant is submitting the affidavits of Kenneth D. Brienzo, Thomas J. Maiman and Richard J. Slember. These affidavits demonstrate conclusively that Applicant will carry out its fuel loading and pre-critical testing activities in a manner that will ensure that Braidwood Unit 1 remains subcritical without any reliance on electrical systems or circuitry under accident and transient conditions. Intervenors' Comstock QC inspector harassment contention is therefore wholly irrelevant to the activities for which the Applicant is seeking authorization.

Kenneth D. Brienzo is a Senior Engineer in Applicant's Project Engineering Department, responsible for review and approval of preoperational and startup test procedures and test results for Braidwood Station. (Brienzo Affidavit, Attachment A to this Motion, ¶ 1.) His affidavit explains that the Applicant will take special measures to guarantee that a boron concentration of 2000 parts per million (ppm) or greater will be maintained in the Braidwood Unit 1 reactor coolant system throughout the fuel loading and precritical testing activities. (Brienzo Affidavit ¶ 4.)

At all times during these activities, the reactor coolant and makeup water systems will be borated to 2000 ppm. At least once per shift, grab samples will be manually taken from these systems to verify that the boron concentration is at least 2000 ppm. In addition, the makeup water system will be sampled and analyzed in this manner each time any water is added to the system to verify this concentration. To preclude inadvertent boron dilution which could reduce the concentration below 2000 ppm, nonborated water sources will be isolated from the reactor coolant system by mechanically locking closed the appropriate valves with chains and padlocks. (Brienzo Affidavit, ¶ 6.) These administrative controls ensure that no unborated water will be available as a makeup source to the reactor coolant system. Thus, no credit for any plant electrical system or circuitry is needed to ensure that

the water in the reactor vessel is maintained at a boron concentration of 2000 ppm throughout the fuel loading and precritical testing activities for which Applicant is seeking authorization. (Brienzo Affidavit, ¶ 7.)

Thomas J. Maiman is Vice President and Manager of Projects of Commonwealth Edison Company. (Maiman Affidavit, Attachment B to this Motion, ¶ 1.) His affidavit states the Applicant's commitment to implement the measures described by Mr. Brienzo to ensure that the boron concentration in the reaactor coolant system is maintained at or above 2000 ppm throughout the fuel loading and precritical testing activities. (Maiman Affidavit, ¶ 5.)

Richard J. Slember is General Manager of the Nuclear Fuel Divisions Business Unit of Westinghouse Electric Corporation. (Slember Affidavit, Attachment C to this Motion, ¶ 1.) Westinghouse is the designer of the Braidwood reactor. Mr. Slember's affidavit explains that if the boron concentration within the reactor vessel is maintained at the 2000 ppm committed to by the Applicant during the fuel loading and precritical testing activities, there will be no physical means of the reactor core becoming critical, and, therefore, no electrical systems or circuitry will be required under accident and transient conditions. (Slember Affidavit, ¶ 3.)

Mr. Slember explains that the reactor core becomes critical when the number of neutrons generated in the core

is in equilibrium with the number of neutrons absorbed or lost. The reactor remains subcritical when more neutrons are absorbed or lost than generated. Neutrons that are lost cannot thereafter affect criticality. There are two forms of neutron absorbers--control rods and dissolved boron in the reactor coolant. The effect of the neutron absorbers is influenced by changes in the reactor coolant system temperature. Standard design calculations taking into account these temperature effects have demonstrated that with all control rods withdrawn from the core, the boron concentration would have to be reduced to less than 1200 ppm for the core to become critical over the range of reactor coolant system temperatures which will occur during the precritical testing sequence. These standard criticality calculations are part of the core design for Braidwood and were performed by nuclear core design engineers within Mr. Slember's area of responsibility. (Slember Affidavit, ¶ 4.)

For the core to become critical, the excess neutron absorbers would have to be removed. This can only be done by withdrawing control rods and reducing the boron concentration below 1200 ppm. Given the Applicant's commitment to maintain the concentration of boron in the reactor coolant system at or above 2000 ppm, substantially above the 1200 ppm shown necessary by the Westinghouse calculations, the withdrawal of all of the control rods cannot cause the reactor core to become critical. (Slember Affidavit, ¶ 5.)

The generation of neutrons is dependent upon the presence of reactor coolant (water). If reactor coolant is lost from the core, both the neutron generation capability of the fuel and the neutron absorption capability of the boron dissolved in the water will be reduced.
Evaluations performed by Westinghouse within Mr. Slember's area of responsibility show that the effect on neutron generation dominates the effect on neutron absorption, making the core even more subcritical. In addition, a loss of heat removal capability from the core is unimportant under the limited operation contemplated by the Applicant because the reactor core will never become critical and is therefore not a heat source. (Slember Affidavit, ¶ 6.)

Mr. Slember concludes that under the conditions that the Applicant will maintain, Braidwood Unit 1 will remain in a subcritical state under accident and transient conditions without any reliance on electrical systems or circuitry. Maintaining the boron concentration in the reactor coolant system at or below 2000 ppm alone will assure the subcritical state of the reactor. It follows, of course, that because the reactor will never become critical during either the fuel loading process or the precritical testing sequence, no fission product source term will be generated; and consequently, no question will arise as to the protection of the public health and safety. (Slember

Affidavit, ¶ 7.)

Thus, the affidavits filed in support of this Motion demonstrate beyond valid dispute that the Intervenors' harassment contention is not relevant to the activities for which the Applicant seeks authorization. Mr. Brienzo explains the measures by which Applicant will guarantee that the boron concentration in the reactor coolant system is maintained at 2000 ppm or greater throughout these activities without reliance on any plant electrical systems or circuitry. Mr. Maiman commits the Applicant to implementing these measures. Mr. Slember explains that if this boron concentration is maintained, there is no physical means of the reactor becoming critical, and consequently no reliance need be placed on electrical systems or circuitry. Because the Intervenors' contention only puts in issue the assurance that electrical systems have been installed at Braidwood in compliance with quality requirements, and because no reliance need be placed on these systems for the safe completion of Applicant's fuel loading and precritical testing activities, the Intervenors' contention has no relevance to these activities, and the Licensing Board should so find on the basis of the pleadings.

CONCLUSION

For the reasons stated, the Licensing Board should find that the admitted contentions in this proceeding have no relevance to Applicant's request for authorization to load fuel in Braidwood Unit 1 and conduct precritical testing of the unit. Applicant has demonstrated that these activities can be carried out safely without any reliance on electrical systems, making the Comstock harassment contention irrelevant. Moreover, the emergency planning contention is made irrelevant by Commission regulation. The Licensing Board should therefore issue an order pursuant to 10 CFR § 2.730(e) authorizing the Director of Nuclear Reactor Regulation to make the necessary findings and grant a license authorizing the requested operation.

If the Licensing Board does not agree with the Applicant's interpretation of the regulatory scheme set forth in 10 CFR § 50.57(c), and, in particular, if the Board deems it appropriate to permit discovery or hold a hearing on the issue whether the admitted contentions are relevant to the matters raised in this Motion, Applicant requests that the Board refer this question promptly to the Atomic Safety and Licensing Appeal Board pursuant to 10 CFR § 2.730(f).

Applicant submits that prompt decision would be necessary to prevent unusual delay and expense to the Applicant through the delay of its scheduled fuel loading process and precritical testing sequence.

Respectfully submitted,

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ATTACHMENT A