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Honorable Nunzio J. Palladino
Chairman
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Dr. Palladino:

SUBJECT: ACRS REPORT ON THE BRAIDWOOD STATION, UNITS 1 AND 2

During its 298th meeting, February 7-9, 1985, the Advisory Committee on Reactor Safeguards reviewed the application of the Commonwealth Edison Company (the Applicant) for a license to operate the Braidwood Station, Units 1 and 2. The ACRS commented on the construction permit application for this Station (and the sister Byron Station) in its report dated May 13, 1975. A tour of the facility was made by members of a Subcommittee on March 8, 1984, and Subcommittee meetings to consider this application were held in Joliet, Illinois on March 8 and 9, 1984, and Washington, D. C. on January 29, 1985. During our review, we had the benefit of discussions with the NRC Staff and representatives and consultants of the Applicant, Westinghouse Electric Corporation, and Sargent & Lundy Corporation. We also had the benefit of the documents listed.

The Braidwood Station is located in Will County, Illinois, about 20 miles south-southwest of Joliet, Illinois. The Station uses two Westinghouse four-loop pressurized water reactors, each having a rated power level of 3425 MWt. Each is housed in a steel-lined, reinforced concrete containment building with a design pressure of 50 psig. With the exception of site-related matters (Braidwood uses an artificial cooling pond for heat rejection, whereas Byron uses cooling towers), the Braidwood plant design is identical to that of Byron, which was granted an operating license on October 31, 1984. The safe shutdown earthquake for the Braidwood site (as for Byron) has been set at 0.20g, the operating basis earthquake at 0.09g.

Construction of Unit 1 is about 80 percent complete, and Unit 2 is about 54 percent complete. The Applicant currently estimates the fuel load date to be April 1, 1986 for Unit 1, and for Unit 2 to be July 1, 1987.

At the time the Subcommittee considered the Braidwood Station in March 1984, the Applicant was engaged in a major reorganization and strengthening of provisions for quality assurance/quality control matters. This was a consequence of problems encountered in the area of quality assurance/quality control, particularly on its Byron project, but to some degree also in connection with its Braidwood project. Since that time, increased attention has been given to this area at all levels in the Applicant's organization. Work at the Braidwood Station has been reviewed as part of the continuing Systematic Assessment of Licensee Performance (SALP) program being carried out by NRC Region III personnel, by a larger than normal Construction Appraisal Team (CAT) inspection conducted by the Office of Inspection and Enforcement, and by an Institute of Nuclear Power Operations (INPO) evaluation. Though

problems have, of course, been identified as a result of these inspections and reviews, the deficiencies found have either been remedied or are in the course of being corrected. In addition to the above, the Applicant has undertaken an extensive internal review, the Braidwood Construction Assessment Program (BCAP), wherein extensive reinspection of completed work and records is being conducted by qualified teams not connected with those engaged in the original work. From these various independent and wide-ranging inspections and reviews (along with the associated corrective actions) there is a good basis for confidence that the quality of the construction and of the managing organization for the Braidwood Station will be fully adequate.

During our meeting, the NRC Staff identified a small number of open items that must be resolved prior to the granting of an operating license. It is expected that these will be resolved in a manner satisfactory to the NRC Staff.

We believe that, subject to the resolution of open items identified by the NRC Staff, and subject to satisfactory completion of construction, staffing, and preoperational testing, there is reasonable assurance that the Braidwood Station, Units 1 and 2, can be operated at power levels up to 3425 MWt without undue risk to the health and safety of the public.

Sincerely,

David A. Ward
Chairman

References:

1. Commonwealth Edison Company, "Final Safety Analysis Report, Byron/Braidwood Stations," Volumes 1-14 and Amendments 1-45
2. U. S. Nuclear Regulatory Commission, "Safety Evaluation Report Related to the Operation of Braidwood Station, Units 1 and 2," USNRC Report NUREG-1002, dated November 1983
3. U. S. Nuclear Regulatory Commission ASLB Initial Decision in the Matter of Commonwealth Edison Company (Byron Station Units 1 and 2), LBP-84-2, dated January 13, 1984
4. U. S. Nuclear Regulatory Commission, "Final Environmental Statement Related to the Operation of Braidwood Station, Units 1 and 2," Chapter 4, Section 4.3.1.1.5, Effects of Cooling Pond Dike Failure, USNRC Report NUREG-1026, dated June 1984
5. U. S. Nuclear Regulatory Commission ASLB Supplemental Initial Decision in the Matter of Commonwealth Edison Company (Byron Station, Units 1 and 2), LBP-84-41, dated October 16, 1984
6. Handouts received from Stanley E. Campbell on behalf of Sinnissippi Alliance for the Environment at the March 8-9, 1984 Subcommittee meeting at Joliet, Illinois

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