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June 22, 1984

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BY PUROLATOR

Mr. Allen Samelson
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BY MESSENGER

Mr. Philip L. Willman
Assistant Attorney General
Environmental Control Division
160 North LaSalle Street, Room 900
Chicago, Illinois 60601

Re: Illinois Power Company
Clinton Power Station - OL
Docket No. 50-461

Dear Allen and Phil:

Enclosed is a copy of a proposed agenda, prepared by the Nuclear Regulatory Commission Staff, for the meeting on the Independent Design Review presently scheduled at 11:00 a.m. on Thursday, June 28 in Bethesda, Maryland, of which I notified you previously.

Please do not hesitate to contact me if you have any questions on this.

Very truly yours,

Chp Fox

Charles D. Fox IV

CDF:kb

Enclosure

cc: Richard Hubbard
Jean Foy
Richard L. Goddard
James L. Milhoan
✓ James G. Keppler
Byron Siegel

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AGENDA

June 28, 1984

The following agenda is suggested for the June 28, 1984 meeting:

- Introduction - NRC/IE
- Scope of Review - Illinois Power/Bechtel as appropriate
 1. Reference Section I Introduction and Section II Charter of Proposed Clinton IDR
 - a. Discuss how the total design process including interfaces is to be evaluated encompassing Illinois Power Company, Sargent and Lundy (S&L), General Electric, vendor(s), consultant(s), contractor(s) and subcontractor(s).
 - b. Discuss extrapolation of past and current S&L reviews to the Clinton Power Station (CPS) design process, e.g.,
 - a. Describe the extent the IP scope of work with S&L for CPS will be compared to the scope of work for Fermi, LaSalle, Byron, etc. to determine similarities and differences.
 2. Reference Section III - Scope of Work of Proposed Clinton IDR.
 - a. Discuss appropriateness of licensee making sample system selection.
 - Present criteria used to select HPCS and Standby Liquid Control System as sample systems.
 - Compare with NRC criteria in Enclosure 1.
 - b. Present review plans for each sample system for each technical discipline.
 - Discuss how review plans meet NRC criteria discussed in Enclosure 1.
 - Discuss how review plans include flexibility to extend vertical review beyond the sample systems when needed to determine if deficiencies are systematic or pervasive.
 - Discuss how all observations and deficiencies identified will be evaluated to detect trends.
 - c. Describe the extent items within each of the sample systems will be reviewed
 - d. Describe extent deficiencies and causes will be evaluated to determine generic implications and impact to other systems

- e. Describe the extent the review will include onsite verification, on a sampling basis, of the design and as-built condition.
- IOR Independence Criteria - Joint NRC/Illinois Power Reference Section VI - Independence of Proposed IOR Plan
 - 1. Discuss independence criteria proposed by IP Reference Section VI - Independence of Proposed IOR Plan
 - Discuss what is meant by the stipulation "Minimal contacts will not necessarily disqualify candidates for the IOR"?
- Qualification of Independent Reviewer - Illinois Power/Bechtel as appropriate Reference Section VII - Qualifications of Proposed IOR Plan
 - 1. Discuss qualifications of independent reviewers to be employed in the IOR as to:
 - Number of years of nuclear power plant design experience, including the names of organizations where employed and dates of such employment, and activities involved during the employment.
- Protocol Governing Communications - Joint NRC/Illinois Power/Bechtel
 - 1. Discuss protocol
- Quality Assurance Program - Illinois Power/Bechtel as appropriate Reference Section VIII - Quality Assurance Requirements of Proposed IOR
 - 1. Discuss QA Program of Independent Reviewer.
- Specific Questions on Illinois Power May 31, 1984 Letter - Illinois Power
 - 1. Page 3 of May 31, 1984 letter.
 - e. Discuss what is meant by phrase "No significant balance of plant design work performed by a contractor"?
 - b. Identify all design subcontractors and their scope of work/activities
 - 2. Section IIC of Attachment 1 of May 31, 1984 letter.
 - a. Define "Clinton Power System unique equipment and systems"
 - b. Discuss qualification requirements of other equipment and systems?
- Opportunity for Public Comments
- Concluding Remarks - NRC

ENCLOSURE 1
Independent Design Review Attributes

The concept of IDRs is based on a comprehensive examination of the development and implementation of the design for a sample system of the facility being reviewed to assess the quality of design activities. The IDR should be a multidisciplinary review including, as a minimum, areas such as mechanical systems and components, electric power, civil and structural, and instrumentation and control. The primary focus is on an assessment of the implemented design control process for the organization(s) performing design and engineering services for the licensee including the architect-engineer (A/E), nuclear system supplier (NSSS), vendor(s), consultant(s), contractor(s) and subcontractor(s). The system management of the total design process by the licensee, A/E, NSSS, vendor(s), consultant(s), contractor(s), and subcontractors is evaluated.

The evaluation starts with development of a logic or flow network of the design process. Each functional entity within the design organization should be identified. For each of these entities, internal and external design interfaces which involve transmittal of design information should be specified. From this network, critical design areas or areas with the least tolerance for error should be identified. Within each of the design entities, the specific procedures for the verification and transmittal of design information should be reviewed for conformance with the overall quality assurance program, and to identify specific weaknesses in the design process. Based on the results of the procedure review and the identification of critical design areas, a specific sample should be reviewed in-depth.

The review should focus on design work for a selected sample system(s) having the following characteristics:

- (1) Essential to plant safety
- (2) Designed by the A/E
- (3) A clearly defined design basis
- (4) Generally representative of safety-related features in other systems
- (5) Design which involved internal interfaces between disciplines and external interfaces with the NSSS vendor, component vendors, and engineering service organizations.

- (6) Major portions which are already installed in facility which will enable verification that design controls, as applied to the original design, have also been applied to design changes, including field changes

The review should extend beyond the sample system where needed to determine if deficiencies are systematic or pervasive.

The review should emphasize factors such as:

- (1) Validity of design inputs and assumptions
- (2) Validity of and conformance to design specifications
- (3) Validity of analyses
- (4) System interface requirements
- (5) Inadvertent synergistic effects of changes
- (6) Proper component classification
- (7) Revision control
- (8) Documentation control
- (9) Verification of the design
- (10) Verification of as-built condition

Detailed review plans should be prepared for each major discipline stressing an in-depth review of a relatively narrow scope rather than a superficial review of everything in the FSAR pertinent to the sample system. Plans should be formulated for:

- (1) Mechanical systems
- (2) Mechanical components
- (3) Civil and structural
- (4) Electric power
- (5) Instrumentation and control

A copy of the recently completed integrated design inspection report of the Seabrook Unit 1 nuclear power plant is provided as Attachment 1 to this enclosure to illustrate what constitutes a sufficiently in-depth review of a reactor design process. While the inspection focused on the Containment Building Spray System, other areas were also covered where necessary to adequately evaluate the design process.

Attachment:
Seabrook Integrated Design
Inspection 50-443/83-23