

Mr. J. D. Geier
Assistant to Vice President
Illinois Power Company
Mail Code A-17
500 South 27th Street
Decatur, IL 62525

MAR 1 1985
50-461

Dear Mr. Geier:

The NRC staff has completed a preliminary assessment of the Independent Design Review (IDR) report of Clinton Station forwarded by Bechtel Power Corporation letter of January 18, 1985. In the attached material, we have set forth the status of our assessment by identifying: (1) observation reports that require additional action, (2) items which we intend to evaluate further by reviewing back-up documentation at Bechtel or Sargent & Lundy, (3) areas where written responses or clarifications are needed, and (4) comments relative to the need for corrective action.

Our comments in this letter are preliminary and subject to modifications as additional information is developed and further reviews proceed. Nevertheless, the observations provided herein constitute the results of a thorough initial review and should provide a basis for further discussion at the meeting scheduled for March 7, 1985.

Sincerely,

AS
A. Schwencer, Chief
Licensing Branch #1
Division of Licensing
Office of Nuclear Reactor Regulation

Enclosures:
Initial NRC Staff Assessment
Distribution List

Distribution:

A. Schwencer, NRR	ACRS (16)
B. Siegel, NRR	LB#2 Reading
R. H. Vollmer, IE	DGoddard, OELD
B. K. Grimes, IE	JPartlow, IE
G. T. Ankrum, IE	EJordan
J. L. Milhoan, IE	Docket File
E. V. Imbro, IE	NRC PDR
PDR	Local PDR
DCS ✓	PRC System
QAVT Reading	NSIC
QUAB Reading	
IDI Reading	

EV IE: QAVT: QUAB
EVIbro:rlc
03/ / 85

JLM IE: QAVT: QUAB
JLMilhoan
03/ / 85

GT IE: QAVT: QUAB: C
GTAnkrum
03/ / 85

BS NRR: LB#1
BSiegel
03/ / 85

AS NRR: LB#1: C
ASchwencer
03/ / 85

8503070461 850301
PDR ADOCK 05000461
A PDR

Clinton Power Station

Independent Design Review
Standard Distribution List

Mr. D. P. Hall
Vice President
Illinois Power Company
Clinton Power Station
Post Office Box 678
Clinton, IL 61727

James G. Keppler
Regional Administrator
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Byron Siegel
Clinton Licensing Project Manager
Mail Code 416
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Fred Christianson
Mail Code V-690
NRC Resident Office
Clinton Power Station
R.R. #3, Box 228
Clinton, IL 61727

Richard C. Knop
Section Chief
Projects Section 1-C
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Richard J. Goddard, Esq.
Office of the Legal Director
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Don Etchison
Director, Illinois Department of
Nuclear Safety
1035 Outer Park Drive
Springfield, IL 62704

Allen Samelson, Esq.
Assistant Attorney General
Environmental Control Division
Southern Region
500 South Second Street
Springfield, IL 62706

Jean Foy
Spokesperson, Prairie Alliance
511 W. Nevada
Urbana, IL 61801

Richard Hubbard
MHB Technical Associates
1723 Hamilton Avenue
Suite K
San Jose, CA 95125

Gordon L. Parkinson
Bechtel Power Corporation
Fifty Beal Street
P. O. Box 3965
San Francisco, CA 94119

Roger Heider
Sargent & Lundy Engineers
55 East Monroe Street
Chicago, IL 60603

I. H. Sargent
Westec Services, Inc.
100 North 20th St.
Philadelphia, PA

Julius D. Geier
Assistant to the Vice President
Mail Code A-17
Illinois Power Company
500 S. 27th St.
Decatur, Illinois 62525

Frank A. Spangenberg
Director, Licensing and
Nuclear Configuration
Mail Code V-928
Clinton Power Station
PO Box 627 - Mail Code V920
Clinton, Illinois 61727

Sheldon A. Zabel, Esq.
Schiff, Hardin & Waite
7200 Sears Tower
Chicago, Illinois 60606

Charles D. Fox, Esq.
Schiff, Hardin & Waite
7200 Sears Tower
Chicago, Illinois 60606

Maurice Axelrad
Newman & Holtzinger, P.C.
1025 Connecticut Avenue, N.W.
Washington, DC 20036

Robert Brodsky
5031-A Backlick Rd.
PO Box 1207
Annandale, Virginia 22003

CLINTON IDR

Initial NRC Staff Assessment

1. General

This initial assessment by the NRC staff of the final report of the Clinton IDR by Bechtel Power Corporation sets forth the observation reports that require additional action, items to be further evaluated by the NRC staff at Bechtel Power Corporation or Sargent & Lundy, areas needing further clarification, and comments relative to additional corrective action.

Observation reports in which some action or actions must be completed before they can be closed out, such as submission of proposed FSAR changes, receipt of vendor documentation, etc., are identified in Item 1, below.

Items to be further evaluated by the NRC staff are those involving certain technical issues, the nature of which are such that the staff needs to review back-up information in order to evaluate the final disposition of the items. Since the back-up data (calculations, drawings, analyses, etc.) are often voluminous documents, the NRC staff plans to visit Bechtel or Sargent & Lundy, or both, to review this information. These are identified in Item 2, below.

Where certain specific clarifications are needed, specific questions have been asked. Similarly, where further corrective action is indicated, appropriate comments have been supplied. These are contained in Item 3, below.

1. Items Requiring Additional Action

The following observation reports remain open for the reasons indicated:

<u>OR No.</u>	<u>Reason</u>
5	SQRT package compiled prior to the new seismic qualification check-lists to be updated.
9	Code case to be resolved by ASME and the resolution approved by NRC staff.

<u>OR No.</u>	<u>Reason</u>
10	Review of other components requiring non-interruptable AC power to be completed.
11	Separation issue to be resolved by General Electric.
29	Vendor qualification information to be obtained and evaluated.
33/34	Review of check-list to be completed.
54	Vendor documentation to be obtained and evaluated.
55	HELB/MELB related.
57	HELB/MELB related.
64	HELB/MELB related.
73	HELB/MELB related.
74	Vendor information to be obtained and evaluated.

The following observation reports remain open pending submission of proposed FSAR changes to the NRC staff. Once submitted, subsequent resolution of the proposed changes will become part of the licensing process and therefore, will be closed as an IDR item:

OR No.
4, 7, 12, 14, 17, 24, 30, 43, 48, 63, 69, 70, 72, 75, 79, 83

2. Items for Further Evaluation

The following observation reports will be subject to further NRC staff review and evaluation during visits to either Bechtel Power Corporation or Sargent & Lundy. Additional observation reports will be selected for review during the conduct of the our inspection.

<u>OR No.</u>	<u>To be Reviewed</u>
4	Study performed to resolve OR.
6	Calculations in support of resolving OR.
11	Actual separation commitments and program to ensure separation.
13	Hot gap inspection program.
19	Stress reports and calculations.

<u>OR No.</u>	<u>To be Reviewed</u>
21	Verification of pipe support adequacy when frictional effects are included.
23	Procedures and stress reports.
38	Calculations in question.
40	Drawings and reevaluation.
41	Back-up data supporting resolution of OR
51	Calculation demonstrating battery will not impact end rail.
60	Analysis and calculation.
62	Back-up data supporting resolution of OR.
71	Documentation supporting resolution of OR.

3. Specific Questions or Clarifications

A written response is requested to the following questions or requests for clarification. These ORs also remain open pending further NRC evaluation.

MECHANICAL DISCIPLINE

<u>OR No.</u>	<u>Question/Clarification</u>
21	Will as-built verification use the new standard that verifies perpendicular friction forces?
25	Did S&L find any valves not meeting rigidity criteria?
30/79	Were backseat leak tests actually performed by the vendor? If timing tests are not performed at design differential pressure, how are FSAR commitments regarding time requirements demonstrated?
33	What were the results of the S&L review?
36	Is there calculation to document this information. Was the non-safety piping analyzed for seismic II/I? If so, what was the methodology of this analysis?
43	What provisions for corrosion protection were made for non-buried ferritic pipe?
45	Identify the specific water levels or criteria used to assure that seal design and testing is adequate.
47	Were all plant penetrations evaluated or were only SSWS penetrations evaluated?

<u>OR No.</u>	<u>Question/Clarification</u>
48	What corrosion allowance or other corrosion protection was employed?
58	Has it been confirmed that measured pump shut-off head pressure is less than design pressure through actual test data?
62	What documentation was reviewed by BPC in arriving at its conclusion?
68	Will the drawing be revised or will the support be removed?
80	What was done to demonstrate the integrity of the epoxy coating?
App. D; D.2-10	Why was no OR prepared relative to the status of Safe Shutdown Analysis Report U-0586 being out of date and not available for review?
App. D; D.2-36	What is the basis for accepting the position that no pipe whip protection is needed for post-accident sampling and monitoring system when this system is required to function post-accident?
App. D; D.2-59	How are non-seismic floor drains protected from blockages by being pinched or due to collapse during SSE, since they are relied on for flood control?
App. D; D.2-63	What is the justification for the statement that non-safety-related pipe and supports in Seismic Category I buildings meet Seismic II/I criteria when they are designed to ANSI B31.1?
App. D; D.3.1-8	Identify the steps taken to prevent spurious actuation of valve actuators?
App. D; D.3.2-5	What criteria was used for determining safe shutdown equipment?
App. D; D.3.5-25	Is there documentation to support the judgements that certain non-safety HVAC duct for the drywell cooling system will withstand SSE loads?

ELECTRICAL/I&C DISCIPLINE

<u>OR No.</u>	<u>Question/Clarification</u>
1	What is the basis for not revising the logic diagram to include a significant function like the time delay relay?
10	What was the rationale for the design change in view of the discussion in OR-10?
32	Is there a formal program to analyze associated circuits to ensure IE circuits are not degraded?
34	Was voltage drop due to maximum cable length considered in resolving this observation?
56	In the event of a fire, will the alarm in the control room activate if the Cardox System fails to inject carbon dioxide?
76	Did BPC review the calculation that developed the 49,561 amp short-circuit current?
App. G; G-5 Item B	Specifically, what was the approved design commitment? What criteria was applied with respect to separation distance between barriers and wiring external to the barriers?

STRUCTURAL DISCIPLINE

<u>OR No.</u>	<u>Question/Clarification</u>
61	What safety factor did BPC calculate? What is the justification for using the SRSS method?
66	What is meant by "seismic live load"?
70	Was the mass of the diesel generator included in the dynamic system?
71	The write up dosen't clearly describe exactly what the problem is. Further clarification is requested.
75	If the requirement is deleted, what is the maximum allowed strain in the concrete containment?
83	Why was the roof thickness originally established as 2 feet?

4. On-Going Corrective Action

The NRC has not yet received the response of Illinois Power Company to the IDR report. Therefore, the NRC is not aware of what additional corrective action may be contemplated by Illinois Power as the result of the IDR. Illinois Power Company should submit its corrective action plans for NRC staff review.

The IDR Report (Section 2, Table 2-2) provides a tabulation of causes of IDR Observation Reports. Illinois Power Company should review Table 2-2 with respect to corrective action for negative trends identified by the IDR. Where it believes negative trends have been identified, the corrective action plans should address these items. Where it believes items do not represent negative trends, the basis for its conclusions should be identified.

While the results of the IDR do not cause the NRC staff to believe that an IDR should be conducted of other systems, the NRC staff believes firm action should be taken to preclude repetition of negative trends in future design activities. In particular, the NRC staff believes that specific corrective action measures with respect to future design activities, including followup audits by Illinois Power, are necessary for the following negative trends: FSAR control, document change control, documentation of engineering judgement and communication of design requirements between groups.