UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

December 13, 1979

Docket No. 50-293

FACILITY: Pilgrim Nuclear Power Station

LICENSEE: Boston Edison Company

SUBJECT: MEETING SUMMARY

A meeting was held with representatives from Boston Edison Company (BECo) in Bethesda, Maryland on December 11, 1979. The purpose of the meeting was to review the electrical design of Pilgrim ESF override circuitry pursuant to criteria provided by NRC letter dated November 28, 1979. A list of attendees, meeting agenda, and the electrical review criteria are attached.

The following letters were referred to during the background discussion:

(1) NRC letter regarding containment purging during normal plant operation dated November 29, 1979,

(2) BECo response dated January 9, 1979,

(3) BECo supplemental response dated August 21, 1979,

(4) NRC letter providing guidelines for valve operability dated September 29, 1979,

(5) NRC letter providing "Interim Position for Containment Purge and Vent Valve Operation pending Resolution of Isolation Valve Operability" dated October 22, 1979,

(6) BECo response dated November 15, 1979, and

(7) NRC letter requesting additional information in the systems/mechanical area dated November 28, 1979.

BECo was advised that additional information would be necessary concerning valves and actuators before our review could be completed in the mechanical area. A handout was provided to BECo (copy attached) and they were requested to fill in the data and return it in the near future. It was pointed out that their commitment for in-situ valve testing documented in the November 1,5 1979 response should be supplemented by a description of the test program and acceptance criteria for early staff review.

In the August 21, 1979 response, BECo had discussed a radiological evaluation to support unlimited operation of 2" valves involved in maintaining containment differential pressure. Certain information including valve closure times was requested to assist the staff's confirmation of the dose calculation.

In the electrical area, BECo discussed proposed modifications to containment valve isolation circuitry intended to bring the Pilgrim design into conformance with staff criteria. With the following exceptions, no problems were identified during the initial electrical review:

(a) Criterion No. 1 was not met in all respects for 2" CAC valves used in containment differential pressure operation.

(b) Criterion No. 4 was not fulfilled since containment high radiation does not initiate isolation of containment.

(c) Criterion No. 6 was not met to the letter for certain groups of secondary containment isolation valves, although the intent was satisfied with the incorporation of keylock switches on the second level reset feature.

BECo agreed to provide justification for their position relative to (a) and (b) above. The staff tentatively agreed that the proposal for a keylock switch on the second level reset function for the valve groups in item (c) above was acceptable. BECo was requested and agreed to provide the results of their analysis of the design of other safety actuation circuits employing a manual override feature in addition to the containment isolation circuits.

The staff indicated that our review schedule was consistent with the scheduled return to power operation of the Pilgrim unit after the spring 1980 refueling outage.

John N. Hannon

John N. Hannon, Project Manager
Operating Reactors Branch #3
Division of Operating Reactors

Enclosures:
1. Attendees of 12/11/79 meeting
2. Agenda
3. Electrical Review Criteria
4. Handout

Enclosure 1

NRC MEETING WITH BOSTON EDISON ON PURGE VALVE (AND OTHER ESF's)

December 11, 1979

BOSTON EDISON COMPANY

J. Fulton
W. Deacon
J. Coughlin

EG&G/SRO

D. Hackett

NRC

E. Reeves
J. Hannon
R. Scholl
J. Zudans
F. Witt
D. Verrelli

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Enclosure 2

AGENDA

A. Review background and the criteria being used in the evaluation

B. Discuss mechanical aspects and status

C. Discuss dose calculations

D. Discuss Electrical Design

   1. Override Curcuits for ESF Systems

   2. Annunciation of override circuits

   3. Diversity of CI signals

   4. System level switches (manual)

   5. Equipment qualifications

E. Caucas

F. Summary of Electrical/Mechanical status for Pilgrim

ENCLOSURE 3

ELECTRICAL REVIEW CRITERIA

The primary intent of this evaluation is to determine if the following NRC staff criteria are met for the safety signals to all purge and ventilation isolation valves:

(1) Criterion no. 1 - The overriding* of one type of safety actuation signal (e.g., radiation)must not cause the blocking of any other type of safety actuation signal (e.g., pressure) to the isolation valves.

(2) Criterion no. 2 - Sufficient physical features (e.g., key lock switches) are provided to facilitate adequate administrative controls.

(3) Criterion no. 3 - The system-level annunciation of the overridden status is provided for every safety system impacted when any override is active.

Incidental to this review, the following additional NRC staff design criteria were used in the evaluation:

(1) Criterion no. 4 - Diverse signals should be provided to initiate isolation of the containment ventilation system. Specifically, containment high radiation, safety injection actuation, and containment high pressure should automatically initiate CVI. This is in conformance with Branch Technical Position 6.4 of Section 6.2.4 of the Standard Review Plan.

(2) Criterion no. 5 - The instrumentation and control systems provided to initiate CVI should be designed and qualified as safety-grade equipment.

(3) Criterion no. 6 - The overriding or resetting* of the isolation actuation signal should not cause the automatic reopening of any isolation/purge valve.

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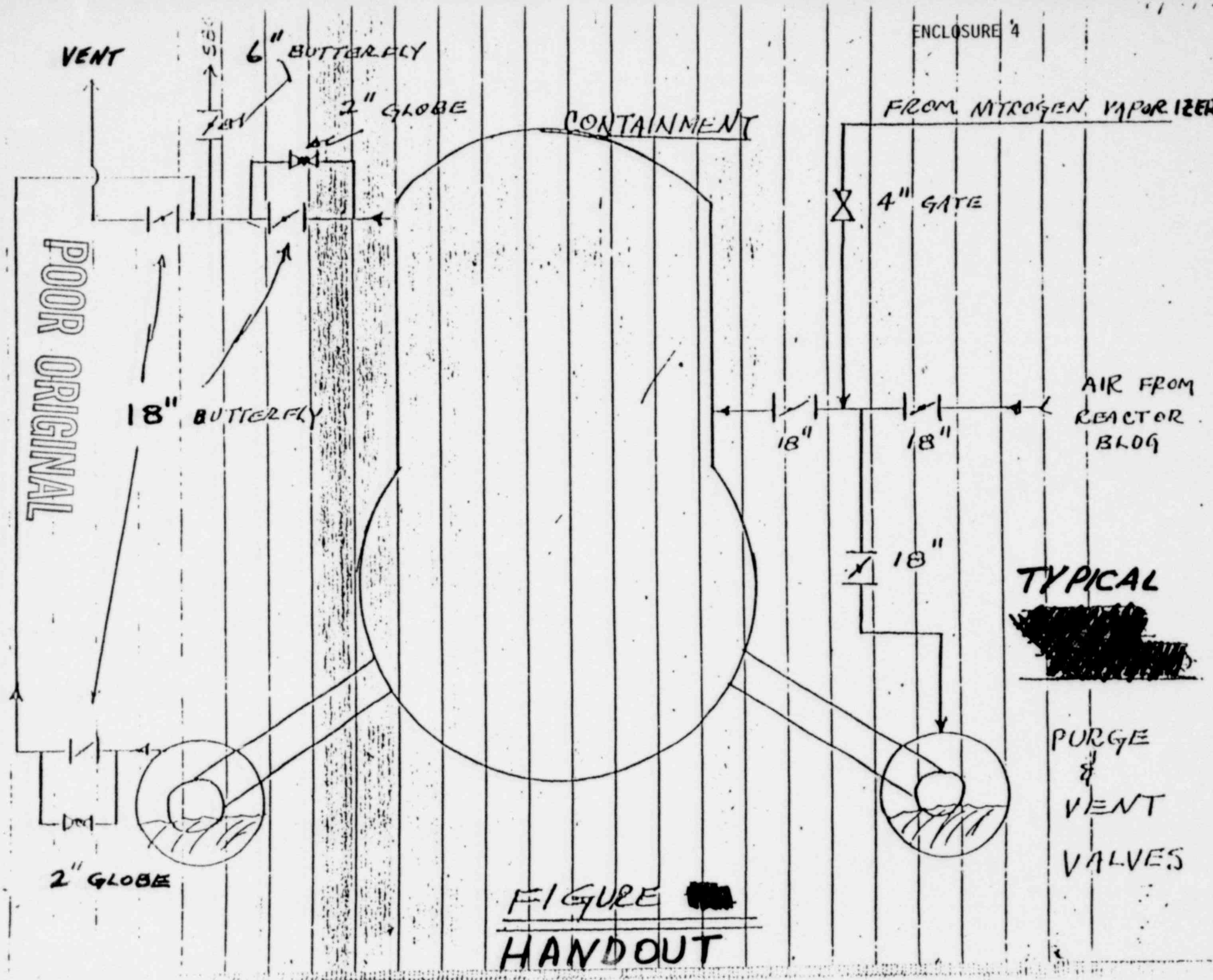
*The following definition is given for clarity of use in this evaluation:

Override: The signal is still present, and it is blocked in order to perform a function contrary to the signal.

Reset: The signal has come and gone, and the circuit is being cleared to return it to the normal condition.

ENCLOSURE 4



DATA FOR CONTAINMENT PURGE & VENT VALVE ASSEMBLIES

FACILITY:
NUCLEAR VENDOR:
A&E:

DATA FOR VALVES

NO.	DESIGNATION OR P.I. DRAWING	VALVE SIZE	VALVE TYPE	VALVE MANUFACTURER	TIMED, SECONDS, VALVE CLOSE TIME	PART OR MODEL NUMBER	INSIDE OR OUTSIDE CONTAINMENT

DATA FOR ACTUATORS

NO.	ACTUATOR MANUFACTURER	ACTUATOR TYPE	ACTUATOR PART OR MODEL NUMBER	INFORMATION FOR PILOT VALVE IF AIR CYLINDER ACTUATORS: MANUFACTURER	PART OR MODEL NO.	INSIDE OR OUTSIDE CONTAINMENT

Which Valve Assemblies have been seismically qualified?

AVERAGE PURGE TIME (HOURS) PER YR PER VALVE