APR 27 1983

Docket Nos. 50-329/330

MEMORANDUM FOR: Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing

FROM: Ronald W. Hernan, Project Manager
Licensing Branch No. 4
Division of Licensing

SUBJECT: NOTICE OF MEETING - MIDLAND PLANT, UNITS 1 AND 2

DATE AND TIME: May 11, 1983
9:00 a.m. - 3:00 p.m.

LOCATION: Room P-110
Phillips Building
Bethesda, Maryland

PURPOSE: To discuss topics related to SER Open Item No. 7 and Confirmatory Item No. 7 in regard to natural circulation and RV head vent. (See attached agenda)

PARTICIPANTS: 1/

NRC

W. Jensen - RSB
W. Kennedy - PTRB
R. Hernan - LB #4

Consumers Power Company

L. Gibson, et al.

Babcock & Wilcox

C. Fally, et al.

Ronald W. Hernan, Project Manager
Licensing Branch No. 4
Division of Licensing

Enclosure:
cc: See next page

1/ Meetings between NRC technical staff and applicants for licenses are open for interested members of the public, petitioners, intervenors, or other parties to attend as observers pursuant to "Open Meeting and Statement of NRC Staff Policy". 43 Federal Register 28058, 6/28/78.

OFFICE	DL:LB#4	DL:LB#4					
SURNAME	RHernan:eb	EAdensam					
DATE	4/27/83	4/27/83					

MIDLAND

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MEETING AGENDA

MAY 11, 1983 MEETING ON NATURAL CIRCULATION AND HEAD VENT

1. Analyses by Babcock & Wilcox indicate that the cooldown rate of the upper head may be limited to low as 1.7 °F/hr, which would also limit the maximum depressurization rate of the reactor coolant system in approaching cold shutdowm to approximately 14 psi/hr. To reach cold shutdown at a ccoldown rate of 1.7 °F/hr would require approximately 200 hours. The following aspects of these limitations will be discussed:

   a) Uncertainties in the head cooling circulation and possible conservatisms.
   b) Beneficial effects of the proposed head vent in cooling the upper head and in relieving steam when opened.
   c) The proposed "natural circulation cooldown" approach to power testing including;

      i. Instrumentation including reactor vessel head thermocouples
      ii. Proposed cooldown rate and justification
      iii. Proposed depressurization rate and justification
      iv. Test procedure provisions in the event of head bubble formation
      v. Extent of test temperature and pressure range and justification for not extending the test to cold shutdown
      vi. Justification for not preforming an idle loop natural circulation test and conditions under which a single loop cooldown would be required. (i.e. partial AFW failures, steam generator tube rupture.)
      vii. Application of test data in providing guidance to the operator in natural circulation cooldown procedures.

   d) In the event cooldown rates are limited to 1.7 °F/hr can the requirements of RSB 5-1 still be met? For example:

      i. Are pressurizer heaters required to prevent the pressurizer from cooling down faster than the reactor vessel head?
      ii. Is an adequate supply of safety grade AFW water available?

   e) The impact of a possible cooldown limit of 1.7 °F/hr on conditions which may require rapid cooldown such as steam generator tube rupture or technical specification requirements (i.e. excessive primary system leakage, ECCS failure, containment failure etc.)

f) The significance of possible head bubble growth into the reactor vessel hot leg nozzles which could produce loss of natural circulation and/or thermal shock (as discussed in the B&W idle loop cooldown report).

g) The analyses of two loop cooldown which were referred to in the B&W idle loop report.

h) Establishment of system analytical bounds for cooldown rate without bubble formation.

i) Dynamics of the plant with a bubble in the reactor vessel head.

j) Potential for estimating bubble size through changes in pressurizer level.

k) Potential for head cooling through bubble formation (i.e. steam formation should accelerate head cooldown).

MEETING NOTICE DISTRIBUTION

Docket File 50-329/330
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bcc: Applicant & Service List