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August 11, 1982

MEMORANDUM FOR: D. Okrent, Chairman, ACRS Subcommittee on Midland Plant Units 1 & 2

FROM: D. Fischer, Staff Engineer

SUBJECT: ACRS SUBCOMMITTEE ON MIDLAND PLANT UNITS 1 & 2 - JUNE 2, 1982 WASHINGTON, D.C.

I have prepared the attached meeting summary for your review. Copies are being distributed to the other ACRS members and Subcommittee consultants for their information and comment. Corrections and additions will be included in the Minutes of the meeting.

Attachment:
As stated

cc: ACRS Members
ACRS Technical Staff
E. Epler, ACRS Consultant
W. Lipinski, ACRS Consultant
J. Usterbery, ACRS Consultant
E. Case, NRR
E. Goodwin, NRR
R. DeYoung, IE
R. Minogue, RES
D. Eisenhut, NRR
R. Vollmer, NRR
J. Keppler, NRR
T. Novak, NRR
E. Adensam, NRR
D. Hood, NRR
R. Hernan, NRR
J. Knight, NRR

FOIA-85-602
B/82

FILE: MIDLAND PLANT UNIT 1 & 2

OFFICE ▶			ACRS	DFISCHER/bgs	8-11-82		
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PROPOSED SUMMARY
OF THE JUNE 2, 1982
MEETING OF THE SUBCOMMITTEE ON MIDLAND PLANT UNITS 1 & 2

PURPOSE:

The purpose of the meeting was to review the application of Consumers Power Company for a license to operate the Midland Plant Units 1 & 2.

PRINCIPAL ATTENDEES:

ACRS

D. Okrent, Chairman
W. Mathis, ACRS Member
D. Moeller, ACRS Member
E. Epler, ACRS Consultant
W. Lipinski, ACRS Consultant
D. Fischer, Designatsed Fed. Empl.
J. McKinley, ACRS Staff

NRC Staff
R. Tedesco
E. Adensam
D. Hood
R. Defayette
T. Dunning
R. Eberly
W. Hazelton
W. Jenson
J. Mazetis
C. D. Sellers

Consumers Power Company

J. Cook
T. Sullivan
D. Budzik
K. Drehobl
B. Harshe
R. Hamm
J. Zabritski
L. Gibson
H. Slager
R. Polich
J. Pastor
J. Keninger
G. Slade
P. Jacobsen
B. Margulio
R. Berry

Bechtel

T. Ballweg
M. Pratt

Babcock & Wilcox

J. Taylor

MEETING HIGHLIGHTS, AGREEMENTS, AND REQUESTS

1. The NRC Staff indicated that the list of open items and licensing conditions had not changed since the May 20-21, 1982 Midland Plant Subcommittee meeting.

2. The Subcommittee members and consultants questioned the NRC Staff and Applicant on items in the operating license Safety Evaluation Report (OL SER).

   a. Dr. Okrent asked the Staff to discuss the question of natural circulation during a small break LOCA. The Staff was not prepared to address this item.

   b. In response to a question by Dr. Okrent, the Staff indicated there was no problem with regard to diesel generator accessibility subsequent to the probable maximum flood (PMF).

   c. Dr. Moeller asked what impact flooding might have on the evacuation of the Dow Chemical plant and on Midland's Emergency Plan. The Applicant said that the chemical plant would have to be shutdown and evacuated long before the power plant would be affected (since there is a significant difference in the elevation of the plants).

   d. When questioned about turbine missile open item resolution, the Staff referred Dr. Okrent to the discussion of turbine missiles contained in "NRC Staff Responses To Questions By The ACRS Subcommittee During Meeting Of May 20-21, 1982 On Midland, Units 1 And 2."

   e. The Staff confirmed that credit cannot be taken for containment pressure when computing a pump's available net positive suction head (NPSH).

   f. While the Staff is concerned about the configuration of a plant's containment isolation system, it has no criteria regarding containment isolation reliability.

   g. Midland's containment purge and vent valves are designed to operate under the containment's design differential pressure of 60 psi.

   h. The Applicant's failure analysis of its Feed Only Good Generators (FOGG) System employs the single failure criterion.

3. The Subcommittee reviewed and discussed the NRC Staff's written response to concerns expressed in previous ACRS reports on Midland Plant, Units 1 and 2.

4. Mr. B. Harshe, CPCo. described Midland's program for reducing the potential for common cause failures. He defined common cause failures as systems interactions. He described three types of systems interactions (ie., spatial, functional, and human) and explained how CPCo is methodically searching for each type. The scope of Midland's program includes both safety-grade/safety-grade and nonsafety-grade/safety-grade types of interactions. Mr. Harshe identified several plant modifications which have been made as a result of CPCO's search for adverse systems interactions.

5. Mr. R. Hamm, CPCO, outlined the functions, interfaces, and improvements that have been made in Midland's integrated control system (ICS). He compared Midland's ICS with the standard B&W ICS. Mr. Hamm described CPCo's extensive efforts to preclude loss of power to both the ICS and the non-nuclear instrumentation (NNI). CPCo now has a non-safety grade loss of ICS/NNI power alarm in the control room. He mentioned evaluations of the ICS, NNI, and Evaporator Steam Demand Development (ESDD) that are ongoing. These evaluations will essentially constitute a systems interaction study relative to the ICS.

6. Mr. J. Zabritski, CPCo, discussed the seismic and environment qualification of equipment important to plant safety. He mentioned the organizations that are participating in Midland's equipment qualification programs. He highlighted the elements of the equipment environmental qualification program and provided a status of the environment qualification review. Similarly, Mr. Zabritski discussed the elements and status of Midland's program to seismically qualify equipment.

7. Mr. L. Gibson, CPCo, described the various means of removing reactor decay heat at Midland following a shutdown or reactor trip. He explained simplified system diagrams of the auxiliary feedwater (AFW) and decay heat removal (DHR) systems. He indicated that each loop of the DHR system can handle the system's design heat load. He also said that one high pressure coolant injection pump operating at the power operated relief valve setpoint is capable of removing the primary system's decay heat.

8. Mr. H. Slager, CPCo, outlined the bolting experiences at the Midland site. He listed four groups of low-alloy quenched and tempered bolts which have failed or been found deficient. These bolts include: Unit 1 reactor vessel anchor bolts, pipe whip restraint bolts, steam generator anchor bolts, and reactor coolant pump snubber anchor bolts. The failure mechanism and corrective actions for the reactor vessel anchor bolt problem were discussed in detail. Mr. Slager described an ongoing low-alloy quenched and tempered bolt survey. The Staff acknowledged the adequacy of CPCo's program to correct bolting deficiencies.

9. Mr. R. Polich, CPCo, summarized Midland's fire protection program. He indicated that the open item related to fire protection would soon be resolved. The potential for flooding and wetting of critical components was discussed. Mr. Polich highlighted fire damper design and operation (fire dampers are not gas-tight). Midland's ability to achieve and maintain hot shutdown in the event of a fire was mentioned.

10. Mr. B. Harshe, CPCo, discussed Midland's control room habitability and specific hazards existing at the Midland plant that could affect control room habitability. He explained how data was collected about potential hazards in order to establish the design basis for the plant and to identify potential worst case situations. A number of these situations were analyzed in detail. Based on these analyses, CPCo has or will be instituting a number of plant protective features. Plant protective features incorporate: telephone and radio communications with the DOW Chemical and Dow Corning plants, a hazardous gas monitoring system which can automatically isolate the control room, numerous control room design features, and self-contained breathing apparatus in the control room for plant operators. Mr. Harshe also outlined the special habitability features of the various emergency response facilities at Midland. Dr. Moeller questioned CPCo on how it would assure itself of the adequacy of the control room heating and ventilation systems.

11. The Subcommittee discussed with the NRC Staff, the Applicant, and their consultants responses to questions raised by the ACRS Subcommittee on Midland Plant Units 1 and 2 during its May 20-21, 1982 Subcommittee meeting.

    The Staff provided the Subcommittee with written "NRC Staff Responses To Questions By The ACRS Subcommittee During Meeting Of May 20-21, 1982 On Midland Plant, Units 1 And 2." In general, the Subcommittee was satisfied with the Staff's responses. Dr. Okrent questioned the Staff on the criteria it is using to resolve the turbine missile open item. The Staff said that it was awaiting receipt of a GE report, which the Applicant is taking credit for, and that uses a turbine missile generation probability on the order of ten to the minus nine per year. The Staff, which used to assume that the probability of generating the missile was ten to the minus four per year, is now taking a close look at missile generation probabilities when it reviews an Applicant's calculations. The Staff is still using a damage criterion of ten to the minus seven per year.

    The Applicant indicated that the two off-site power supply lines could not interfere with each other if one of the supporting towers was to fall over. In response to a request by Dr. Moeller, the Applicant described those systems at Midland which are capable of being drained and/or flushed. The Applicant's criteria for draining and flushing radioactive systems fits into its comprehensive program to control occupational exposure.

12. The Subcommittee chairman outlined some of the topics for discussion at the June 4, 1982 ACRS full Committee meeting.

13. The meeting went into closed session to discuss Midland's plant security program and systems.