



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

J. Gallagher, Jr.

JAN 8 1982

Docket Nos. 50-329/330

MEMORANDUM FOR: Robert L. Tedesco, Assistant Director
for Licensing
Division of Licensing

THRU: James P. Knight, Assistant Director
for Components and Structures Engineering
Division of Engineering

FROM: George Lear, Chief
Hydrologic and Geotechnical Engineering Branch
Division of Engineering

SUBJECT: INSPECTION OF UNDERPINNING WORK AT MIDLAND

Plant Name: Midland Plants, Units 1 and 2
Licensing Stage: Post CP
Docket Numbers: 50-329/330
Responsible Branch: LB No. 4, D. Hood, LPM

It is the understanding of the Hydrologic and Geotechnical Engineering Branch that a meeting will be held in the office of NRC Region III with Division of Licensing and the Office of Inspection and Enforcement on January 12, 1982 and will include discussions on NRC needs for inspection of the remedial underpinning work that is now beginning at the Midland site. In recognition of the complex and unprecedented nature of the underpinning work to be undertaken at Midland, we recommend that Region III be encouraged to provide an experienced geotechnical engineer on site to inspect completion of the underpinning operation for the Auxiliary Building, Feedwater Isolation Valve Pits, and Service Water Structure.

We would anticipate the time that an experienced inspector would be required at the site would vary with the criticalness of the underpinning operation being performed and would range from a few weeks of full time inspection to occasional visits during the less active construction periods.

The reasons which prompt us to recommend that I&E utilize an experienced engineer include the following:

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1. The underpinning work to be completed at Midland is not readily available for visual inspection and approval since it is performed below ground beneath the foundations of completed safety related structures and piping. This work, which is to be completed in confined areas with very limited access, has the potential, not only to adversely impact the structures which are to be fixed, to also impact adjacent structures by causing a loss in their foundation stability due to excavations needed to reach the structures to be underpinned. For these reasons, a carefully planned sequence of construction, complete with detailed monitoring of this work has been developed by the Applicant and reviewed by the NRR staff. To assure fulfillment of the detailed design and monitoring plans during actual construction in the field, a vigorous inspection, significantly beyond the customary audit inspection by someone knowledgeable of the established requirements and commitments, is essential.
2. The critical nature of some aspects of the underpinning work requires immediate decisions by experienced engineers in resolving unanticipated developments, without delays for deliberations. The availability of an experienced on-site NRC engineer during these periods of the underpinning operation would be beneficial to the Applicant by avoiding delays and to the NRC by documenting safety items.
3. Having an experienced NRC engineer on-site in close contact with the NRR staff would permit early confidence to be gained for accepting the construction, as completed. This early confidence is important in recognition of the compressed Midland schedule between completion of construction and the requested OL completion date.

HGEB staff will be available to either DL or Region III office to further discuss this matter, if you desire. Please contact Joseph Kane at 20153 for further information.

We request that you submit our recommendation to James G. Keppler at the above referenced January 12, 1982 meeting.

Original signed by George Lear

George Lear, Chief
 Hydrologic and Geotechnical
 Engineering Branch
 Division of Engineering

- cc: R. Vollmer
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