

#2

February 15, 1983

MEMORANDUM FOR: R. F. Warnick, Director, Office of Special Cases  
 THRU: W. D. Shafer, Chief, Midland Section  
 FROM: R. B. Landsman, Reactor Inspector, Midland Section  
 SUBJECT: LICENSEE PERFORMANCE ON PIERS 12E and 12W

RIII on December 9, 1982, authorized CPCo to initiate work activities pertaining to the drift, excavation and installation of Piers 12E and 12W. Subsequent to that authorization the licensee began work on December 13, 1982. Due to the Diesel Generator Building Inspection I have had only enough time to perform five inspections to determine the acceptability of the licensee's work in regards to these piers including removal of fill concrete, shaft excavation and bracing, bell excavation and bracing, and reinforcing details and proposed concreting activities.

I have identified three concerns since underpinning work began which have been subsequently corrected or are in the process of being corrected by the licensee. They are:

- a) That the craftworkmen were not receiving the required amount of specialized remedial soils underpinning training. The licensee has agreed to expand the scope of craft training, but does not have the details worked out to date.
- b) That the licensee wanted to use a super plasticizer as an additive to the concrete mix in lieu of good concreting practices, i.e., consolidation by vibration. The licensee after what I consider to be excessive discussions finally agreed to vibrate all underpinning concrete in accordance with good engineering practice.
- c) That the third party independent assessment team is not reviewing the design documents for technical adequacy. They are only doing implementation review to assure that the design documents are being followed. From discussions with Stone and Webster personnel, it was determined that this important parameter was not included in their contract. The licensee is presently considering including this in the contract documents.

Besides these three concerns no other issues or deviations from regulatory requirements have been identified.

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| OFFICE  | RIII     |        |  | R. B. Landsman    |  |  |
| SURNAME | Landsman | Shafer |  | Reactor Inspector |  |  |

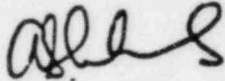


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Based upon these observations and findings, the Assessment Team is of the opinion that additional piers could be released for construction. This will benefit the quality of the work by allowing the Contractor to maintain the experienced labor teams from piers W12 and E12.

If you have any questions, please contact me at (617) 589-2067.



A.S. Lucks  
Project Manager

# Consumers satisfies NRC with turbine building work

By PAUL RAU  
Daily News staff writer

The U.S. Nuclear Regulatory Commission is satisfied with work to add a new foundation to the Midland nuclear plant's turbine building, and said in letters this week that Consumers Power Co. may soon begin underpinning safety-related buildings.

The NRC letters also approved the utility's choice of Stone & Webster Corp. of New York City to oversee the work.

After several years of discussions, the NRC said last December that Consumers Power could begin the most complex part of work to correct soil problems at the plant. The process is called underpinning, and involves tunneling under the plant's turbine and auxiliary buildings and adding 57 concrete foundation supports.

Concrete for the first two piers — called piers 12 east and west — has been poured. Those piers are under the plant's turbine building, which is not safety-related because it is not needed to safely shut down the plant.

The piers are being built in a row, and future piers will be under the auxiliary building, which is safety-related because it contains control rooms, computers and

many other systems needed to shut down the plant.

The NRC wanted to judge the quality of the underpinning work for non-safety-related structures before allowing work under the vital safety buildings. "We have confidence that they can continue," said Wayne Shafer, head of the Midland Section, a special NRC inspection team for the Midland plant.

Norman Saari, a spokesman at the nuclear plant, said: "We demonstrated on pier 12 that we have the effective program in place to assure quality on the soils program."

Tuesday, the NRC said work could proceed on piers 11 east and west (the piers are built in sets at each end of the building). Thursday, the NRC said work may start on piers 9 east and west.

"No major discrepancies were identified" in the pier 12 installation, the NRC said in a letter, but Shafer noted that two concrete feedwater isolation valve pits were cracked when workers jacked them up in order to dig underneath them.

The crack on one valve pit was big enough — 1/16 inch wide and 7 inches long — to be of concern to the NRC. The other valve pit sustained a 5 mill crack, and the

NRC is not requiring Consumers Power to monitor that defect, Shafer said. A mill is one-thousandth of an inch.

Saari said that Construction Technologies Laboratory of Chicago investigated the cracks and concluded they will not harm the valve pits.

However, Shafer said the NRC has not received that firm's report and has reached no decision on the seriousness of the cracks.

In approving Stone & Webster as the third-party, independent reviewer of the corrective soils work, the NRC concluded that the architect-engineering firm meets criteria to prevent a conflict of interest.

Sworn statements were collected attesting to the firm's "corporate and individual independence." The competence of Stone & Webster employees was examined and their work at other nuclear plants reviewed, the NRC said.

However, the NRC required Consumers Power to broaden its contract with Stone & Webster to provide Quality Assurance (QA) overview of design work packages, the program to recertify Quality Control (QC) inspectors and of the training of workers involved with the soil

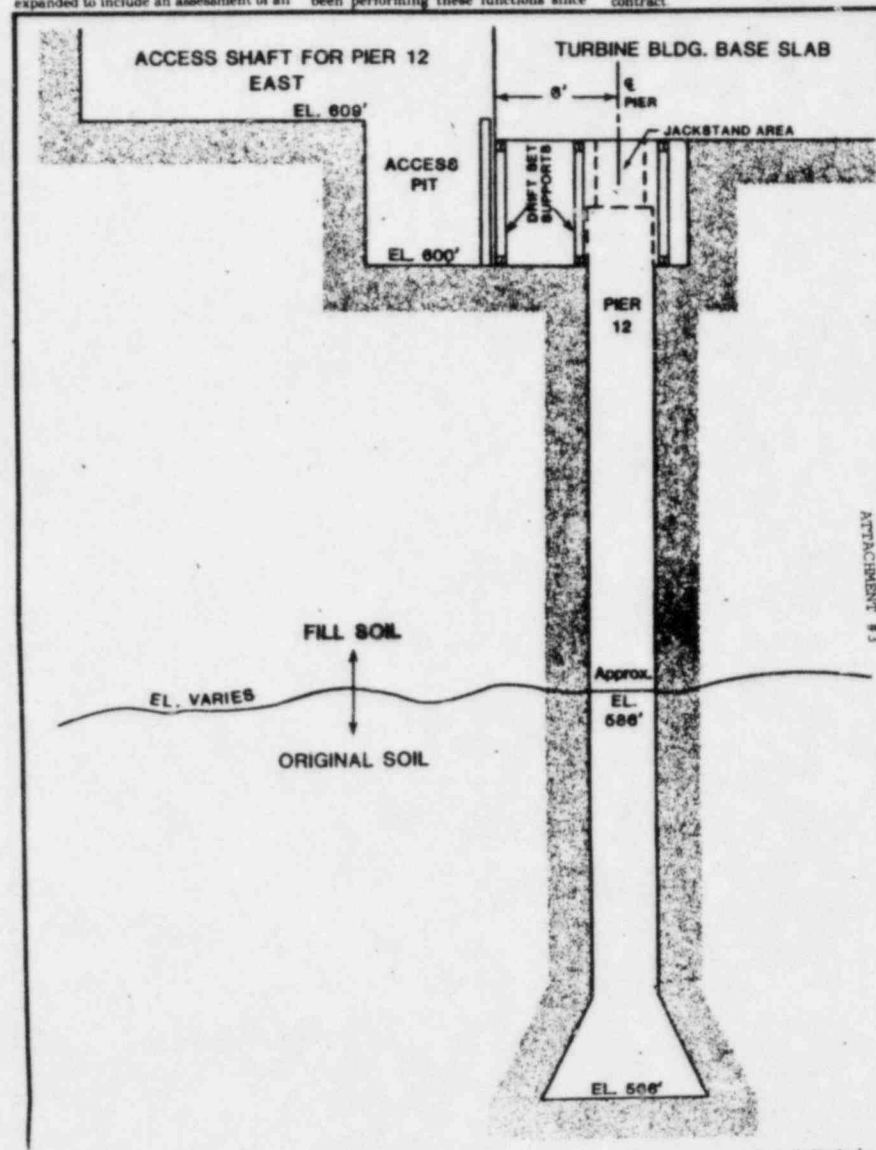
work.

In a fourth requirement, the NRC said the Stone & Webster contract should be expanded to include an assessment of all

underpinning work on safety-related structures.

Saari said Stone & Webster already has been performing these functions since

Sept. 20, 1982, but Shafer said the NRC discovered problems in the four areas and felt the need to spell out the duties in the contract.



...support being built underneath the Midland nuclear plant's turbine and auxiliary buildings. Before each of the piers can be poured, workers must

using hand shovels. (Consumers Power Co. diagram)

## N-plant tightens examination rules

Consumers Power Co. has tightened controls on how tests are given at the Midland nuclear plant, after a case in which a copy of an examination was removed from the test site.

The utility's Midland Project Quality Assurance Department has been training and certifying quality control inspectors, people who inspect and verify the quality of work which has been done.

Inspectors are given written tests and in this case, "apparently one of the individuals walked out of the class with the exam," construction supervisor Bruce

Peck said. He said he did not know who that was.

Later, "one of the inspectors came to us and said 'I have a copy of the exam,'" said Gary Ewert, section head for training and administration.

Consequently, the inspectors who took that test were re-tested, he said. The department administers a number of different tests; this one related to civil engineering.

Also, the department has implemented a new procedure under which all test

copies are sequentially numbered and the instructor or examination proctor must sign out copies of the test from a clerk. All copies must be returned after the tests are graded.

They also must complete a form showing the steps they took in making up the test out of a question bank, and in signing out and returning copies.

Ewert said he has no reason to believe similar cases have happened in the past.

"We feel this is an isolated case," Peck said.