



128

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

FEB 15 1984

MEMORANDUM FOR: Sherwin E. Turk
Counsel for NRC Staff
Office of Executive Legal Director

FROM: John S. Ma, Structural Engineer
Structural Engineering Section A
Structural and Geotechnical Engineering Branch

SUBJECT: WATERFORD 3 CONCRETE BASE MAT

This is in response to your telephone request on February 14, 1984 to prepare comments and questions in connection with the GAMBIT newspaper, dated December 10, 1983 and F. L. Phearson's memo, dated December 15, 1975 for your meeting with NRC Region IV staff.

The GAMBIT newspaper stated that "... the engineers who came to that conclusion (i.e., the cracks had no threat to the public) did not know about the massive deficiencies in records detailing potential flaws in the construction of the foundation". This was a correct statement of my assessment of the situation. The Phearson memo has revived my original hypothesis that localized porous zones due to improper construction exist as stated in a October 17, 1983 memo from G. Lear to G. Knighton. That hypothesis was later abandoned because both the licensee (October 13, 1983 submittal) and NRC Region IV (J. T. Collins to D. G. Eisenhut, dated November 16, 1983) stated that the concrete base mat was properly constructed.

The charges contained in both the GAMBIT article and Phearson's memo are serious and must be dealt with carefully. I have listed some comments and questions in the enclosure for your consideration in meeting with Region IV staff.

John S. Ma, Structural Engineer
Structural Engineering Section A
Structural and Geotechnical
Engineering Branch
Division of Engineering

Enclosure: As stated

cc: J. Knight
G. Knighton
G. Lear
D. Jeng
~~J. Wilson~~
R. Pichumani
J. Ma

8402290375 XP

B/22

ENCLOSURE

1. J. T. Collins' memo, referenced in J. Ma's affidavit, stated that the concrete base mat was properly constructed. However, memos of inspector Hill and Davis, as reported in GAMBIT, stated that they found a broad range of deficiencies in virtually every record package examined and the situation demanded a complete review of all civil/structural records. The Phearson's memo, if determined to be accurate, would substantiate a part of charges made by inspectors Hill and Davis. NRC needs to produce evidence to substantiate its claim that the concrete mat was constructed properly, or revise its position in the light of new information.
2. Presumably the Phearson's memo had not been available or was not noticed by Region IV when the Collins' memo was prepared. What is Region IV's assessment on the Phearson's memo?
3. Was the NRC inspector witnessing the concrete placement No. 499-2? Was placement No. 499-2 same as Block No. 10B or 19? Was the NRC inspector qualified in the field of Civil/Structural (concrete) engineering? Did he agree with Phearson's memo? What kind of action did he take?
4. Has Region IV determined whether the charge that unqualified QC/QA inspectors were employed (second paragraph of the last column on page 27 of GAMBIT) is accurate? More specifically, are those inspectors qualified in Civil/Structural engineering?
5. Was the falsification charge on castweld splices of reinforcing bars accurate (the last column on page 27 of GAMBIT)?

6. Has the Region IV determined whether the cadweld splices were properly performed and inspected by qualified people?
7. What were the problems in the seven NCR's on QA deficiencies in concrete as mentioned in the last column on page 28 of GAMBIT and how were they disposed of?
8. What were the problems of soils, waterstops, cadweld splices, and the placement of concrete as mentioned in the third column on page 22 of GAMBIT and how were they resolved?