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3/1/86

RECORD OF TELEPHONE CONVERSATION

DATE: 3/4/80 8:30 a.m. PROJECT: Midland

RECORDED BY: J. Kane CLIENT: Consumers Power Co.

TALKED WITH: N. Gehring 226-6793 OF COE, Detroit Dist.

ROUTE TO:

INFORMATION	ACTION
I. Heller	
R. Jackson	

MAIN SUBJECT OF CALL: Kane called Gehring to discuss future direction of COE review effort on Midland

DISCUSS on 3/6/80 — Discussed 3/7/80 Manpower study to be furnished. (Per B. Lawhead)

ITEMS DISCUSSED: NRC request to establish FIRM date for completing Subtask No. 1 was deferred until Thursday 2/6/80 to permit Detroit to complete its manpower needs study for both Bailly & Midland reviews. Hopefully this study will lead to identifying a dedicated reviewer for each of these projects.

The preliminary list of review questions provided by COE on 2/26/80 is to be revised. Some questions were answered at the site meeting (2/27 & 2/28). Others are to be expanded to specifically identify the requested information and to be referenced to a specific document & section. It is likely that these questions will be part of the letter report required under Subtask no. 1.

3/6/80 — Discussed 3/7/80 will be furnished (Per B. Lawhead)

The Corps was asked to write letter to R. Jackson ASAP to identify the Consultant's reports which they feel are needed in their review. I requested a copy of the test fill report which was informally provided to Bill Lawhead on 2/27/80.

Bill Otto was identified as the geotechnical engineering reviewer who would be most knowledgeable to discuss the DGB settlement problem at the present time.

3/6/80 — Discussed 3/7/80 COE recommendations will included in Subtask 1 letter

The Corps presently feels a need to require additional borings to substantiate the Applicants claim of successfully treating the DGB settlement problem by the surcharge program. The Corps was asked to submit in writing their reasons for this request and to recommend boring locations that needed sampling to obtain the information which should lead to resolution.

3/6/8[illegible] | Advise COE on NRC progress in providing seismic input

Preliminary Questions from COE Detroit District
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Rec'd 2/26/80
from Neil Gehring
via Telecopier

31/86 J. Kane

Dewatering

1. Dewatering the sand lenses in fill?

2. Sand lenses (fines) ~~lens~~ - how can these be monitored?

3. What kind of backup system is there for the permanent dewatering system?

4. Also, if there is a failure or shut-down of the system, could lose more fines by reverting?

5. Are the dewatering wells fully jacketed ?

6. What type of screens are there at the intakes ?

7. Is the re ~~liquefaction~~ potential in the sand lenses in the fill areas?

8. Other means of groundwater control? grout curtains etc. criteria for selection of dewatering methods?

9. Test methods to insure screens are clear, and not encrusted w/minerals over time.

10. Gravel pack gradation for each well? Gradation should vary and/or be carefully selected for each layer.

11. Pump tests to determine pumping rates required?

12. Well spacing proposed and criterial for selection?

13. What about the emergency heat sink? Will it be pumped down by the

Request COE to identify the document (e.g. File, Section ___) which serves as the basis for the question?
Expand general questions to specifically identify the needed information from Applicant. (Ex. General)
Condense questions of similar concern

7. Length of proposed piles and diameter?

8. Monitoring plans for future settlements?

9. Correction of cracks after repair of foundation.

10. Lateral support for cantilevered section.

11. Overall building stability.

12. Seepage paths around the building.

13. Differential settlement problems.

14. Want a copy of the retaining wall design.

15. Vibration of machinery in pumphouse (taken into account in design?)

16. Settlement effects on piping.

17. Circulating water in-take structure a Category I structure?

Cracking of Structure - to be repaired after remedial action completed, monitoring of cracks?

Electrical Duct Banks

1. Connections @ buildings
2. Location of duct banks Corps to be concerned with?
3. Why did duct banks temporarily support building?
4. Are these or can these all be monitoried?

dewatering system?

14. Discuss overall updated dewatering plans.

15. Seismic effect on dewatering system - shear wells, lost header pipe, etc.

16. Comparison of flow rates from the cooling pond under normal condition and earthquake conditions pumping rates vs. pumping rates.

17. What max. % water content in sand layers is allowable w/o having liquefaction potential? How do we know we're attaining these levels?

Settlement of D.C. Building

1. Where is this building on the time-settlement curve?

2. What is the basis for the 1 1/2" of add'l settlement prediction? (1/2" earthquake, 3/4" 40-year static load, and 1/4" dewatering).

3. Substantiate settlement that bldg. is in secondary consolidation phase.

4. Have additional borings been taken to demonstrate that the efficiency or effectiveness of surcharging? Location of these and future borings planned.

5. Monitoring for future settlements of the building.

6. Alternative methods for corrective measures (underpinning).

7. Seismic effects of fill under building. Is liquefaction the only

problem?

8. How can we get up-to-date boring logs and test reports so that we're not always reviewing old data.

9. Vibration analysis due to turbines operating?

10. Maximum adjustment of generator pedestals?

11. Can building utilities take settlement induced loads?

12. Cavities in foundation material, where are these, how were they caused, how can they be defined?

13. Settlement of forms during placements & documentation there of?

Service Water Pump Structure

1. Is there a control point @ cantilever? If not, why not?

2. Seismic effects on fill under cantilever?

3. What about loss of fines via dewatering under cantilever?

4. What is the rationale for weep holes in the retaining walls?

5. Remedial method pile design, including loads used.

6. What about the rest of the foundation @ the pt. of cantilever and the span between that pt. and the supportive pile. Is soil bearing capacity required in this area?

Auxiliary Building and Valve Pits

1. Design of remedial caissons

2. Details of remedial action plan

3. Origin of water in valve pit area? Why was there no concern in original design for ground water and liquefaction?

4. Foundation material under valve pit floor.

5. When will new seismic analysis be accomplished and available for review?

Borated Water Storage Tanks

1. Weight of Water for test vs. Wt of borated water?

2. Why are the rings cracked?

3. Load test seems to have insufficient loads.

4. Where is this building on the time settlement curve?

5. Details of the load test such as duration.

6. We would like to observe tanks and broken ring.

7. Seismic considerations.

Underground Diesel Fuel Tanks

1. Why are tanks held down if area is to be dewatered?
2. Design of hold down system against buoyancy with and without fuel.
3. Differential settlement, long term monitoring plans
4. Seismic considerations.

Underground Piping and Conduits

1. Bedding material, thrust blocks, etc.
2. Differential settlements concerns.
3. Which pipes are Corps to be concerned with?
4. Seismic considerations.
5. Corrosive effect due to embedment in soil? cathodic protection?
6. Live loads buried piping?

General Questions

1. What are the quality assurance program?

4. Would like to observe boring procedure?

5. How can the Corps be kept up to date on pertinent changes and data collected?

6. Bearing capacity for all soil materials supporting the Category I questions?

7. Lateral load considerations during liquefaction for all buildings.