

RAS 5682 72-22-ISFSL - State Exhibit 211 - Rec'd 6/7/02

DRAFT

INTEROFFICE MEMORANDUM

SUBJECT: Geotechnical Design Criteria

JO NO: 05996.01
DATE: April 2, 1997

TO: PTrudeau/NTGeorges *ntg*

FROM: SMMacie

CC: JLDonnell
SCSmith

I received your latest geotechnical section of the Storage Facility and have the following comments:

1. The criteria identifies a 4" mud mat beneath storage pads to preserve the in-situ soil conditions for sliding resistance under earthquake loading. It would appear that site construction activities (i.e. bulldozing, levelling, etc.) would disturb the soil surface well before concrete could be placed.
2. The criteria assumes all storage pad mud mats will be placed on in-situ soil. However, the north half of the site is on fill to balance earthwork.
3. The criteria identifies a pad construction sequence beginning at the north end of the site. However, the proposed sequence is to start at the south end of the site. This is because the staged construction of the site must consider the possibility that only partial capacity (10,000 or 20,000 MTU) may ever be completed.
The criteria also requires pads to be loaded with casks from north to south. This would appear to maximize differential settlements. It is also restrictive with respect to facility operations.
5. Settlements are a problem. The total storage pad settlement of 5 inches in one month under full load will certainly cause differential settlements. Differential settlements are cause for concern in the NRC review and can require extensive additional structural analysis to prove the pad is adequate. Also, gross and differential pad settlements may compromise site drainage at or near the pads. It would appear prudent for SWEC to recommend a preload program to limit gross and differential pad settlements.
6. The canister transfer building foundations should be placed at a depth to limit settlements as low as reasonably achievable. It would not be unreasonable to place the footings at 10' below grade and use large spread or continuous footings to reduce soil pressure and associated settlements.
7. The storage yard area will be paved with 9" to 14" of compacted gravel. I assume structural fill will be required beneath the gravel. Settlements of 5" due to a loaded transporter in the yard will present a maintenance problem.

Post-It® Fax Note	7671	Date	4/2/97	# of pages	1
To	PAUL TRUDEAU	From	SMM MACIE		
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Docket No. _____ Official Exh. No. 211
In the matter of PES
Staff _____ IDENTIFIED
Applicant _____ RECEIVED
Intervenor REJECTED _____
Other _____ WITHDRAWN _____
DATE 10-7-02 Witness _____
Clerk pal