

B. Jagannath

ADVANCED SYSTEMS DIVISION, ALBUQUERQUE OPERATIONS

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CENTER

TO: DPhoenix

FROM: RRager *rl* '85 AUG 19 P4:13

DATE: August 13, 1985

SUBJECT: Design Standards Meeting With the NRC in San Francisco on 8/6/85

A meeting was held on August 8, 1985 in M-K's San Francisco office to discuss the preliminary draft design documents prepared by DOE and the Standard Review Plans prepared by the NRC. The meeting attendees represented the DOE (RAC and TAC) and the NRC (NRC and COE). A list of attendees is attached.

Items discussed included:

- o Site Characterization
- o Geology
- o Geomorphology
- o Settlement
- o Slope Stability
- o Liquifaction
- o Seismic Hazards

WM Record File

WM Project 39
Docket No. _____
PDR ☒
LPDR _____

Distribution:

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Details of the discussions follow:

Site Characterization

- o It should be emphasized that the proposed site characterization is a minimum requirement.
- o Provide for a phased approach should unusual or extensive problem soils be encountered.
- o State objective of defining extensive slimes areas.
- o Allowance should be made for continuous sampling.
- o If some data has not been collected, make a statement to that effect.

Geology

- o Geology of the site should be included in any site characterization. A design approach paper should be prepared for this item.

Geomorphology

- o Geomorphology was not originally considered as part of this groups discussion issues. However, since JValdez (NRC) and RWeeks (DOE) are part of the group, the subject will be reviewed. A discussion will be conducted between these two individuals once Jose has had the opportunity to review the paper which was given to him at this meeting.

Settlement

- o Expand discussion paper, pointing out the importance of characterizing soft zones i.e. slimes, etc.
- o Allow alternatives to time-settlement, such as preloading, wicking, dynamic deep compaction, remove and replace, etc.
- o Discuss method of relating top slope to predicted settlement.

Slope stability

- o Use standard, accepted minimum factors of safety.
- o Perform an end of construction seismic analysis using one-half the long term seismic coefficient for this loading condition.
- o Other stability items relating to seismic stability will be discussed under the "seismic hazard" heading.

Liquifaction

- o Liquifaction will be performed using the Seed and Idriss method. Other simplified methods may be used to verify results.

Seismicity

- o NRC definition of capable fault (10 CFR 100) will be used.
- o Trenching to define faulting at sites is not envisioned unless linement trends indicate the potential.
- o A floating earthquake will be defined, exactly how will be worked out in the near future.

- o Epicentral history of province in which the site is situated will be determined, adjacent provinces will be evaluated if the site is near a province boundary.
- o Campbell 84th percentile site attenuation values will be used to determine the maximum site acceleration.
- o This value will be used as a surface acceleration if soils are very stiff or are less than 30 feet thick. Amplification from bedrock must be considered for deep and soft soil sites.
- o The acceleration will be directly input to liquefaction analyses.
- o For stability analyses a minimum of 0.10 horizontal seismic coefficient will be used for pseudo-static analysis. If accelerations are above 0.10, the coefficient will increase according to two-thirds of the derived maximum acceleration, up to 0.20. Above 0.20 the pseudo-static analysis will be performed using a coefficient equal to two-thirds a MAX along with a deformation analysis such as Makdisi and Seed, using a MAX. Should a soft soil site be encountered along with high accelerations, a full finite element seismic study, including field and laboratory investigation to determine dynamic soil properties would be performed.
- o The use of the term "Design Earthquake" to replace "MCE" should be investigated.

All areas of design considered have been agreed to with NRC except as noted above. Resolution on these remaining items is pending.

RR:kg
Attachment

cc: BKeshian
JCaldwell
All Meeting Attendees
All TAC Geotechnical Engineers

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