



SPECIAL MEETING
DICKEY-LINCOLN PROJECT
December 3, 1977

DICKEY-LINCOLN PROJECT, MEETING OF GEOLOGICAL SOCIETY OF MAINE - DECEMBER 3, 1977

SCHEDULE FOR CORPS OF ENGINEERS PRESENTATION

- 8:30 - 9:00 AM MR. TIERSCH, NED: Opening remarks and introductions. Overview of project; status of design; schedule and allowable limitations to pursue design development.
- 9:00 - 9:30 AM MR. BLACKKEY, NED: Site setting; regional, bedrock and surficial geology; explorations; material sources; seismic refraction.
- 9:30 - 9:45 AM DR. MCKIM, CRREL: Remote sensing for geologic definition and locating construction materials; magnetometer survey.
- 9:45 - 10:05 AM BREAK
- 10:05 - 10:40 AM DR. KRINITZSKY, WES: Seismological investigations of earthquake hazards; seismic history & risk; selection of seismic design values.
- 10:40 - 11:00 AM DR. HIRSCHFELD, GEOTECHNICAL ENGINEERS, INC.: Liquefaction and cyclic mobility; pilot testing of foundation sediments; "amplification" of vibratory motions in soils at site.
- 11:00 - 11:15 AM MR. BAKER, NED: Design considerations for foundations and embankments; seepage and instrumentation.
- 11:15 - 11:30 AM (OPTIONAL): Commercial mineral and hydrocarbon potential of the project area. (by a representative of Geological Society of Maine)
- 11:30 - 12:00 AM Questions and Answers.

COMMENTS ON SUBMITTING COMMENTS

We have been advised by the Corps of Engineers that the deadline for receipt of comments on the Draft Environmental Impact Statement for the proposed Dickey-Lincoln School Lakes hydroelectric project is Thursday, December 8, 1977. It cannot be known until completion of the December 3rd meeting whether the attending Members may wish formally to draft and adopt a statement to define the position of the Geological Society of Maine with respect to the geological and geophysical investigations and findings of the Corps for the Dickey-Lincoln project.

Should individual geologists, however, wish on their own to comment in writing to the Corps or to others on matters related to their special training and professional experience, they should consider doing so at an early date. In composing individual letters, it is suggested that the lead paragraph(s) of the letter not only contain a reference to the special December 3rd meeting of the Society with the Corps on Dickey-Lincoln, but also define the writer's professional qualifications for making comments on the subject(s) discussed in the letter. (JRR)

Letters to the Corps of Engineers should be addressed to:

Colonel John P. Chandler
Division Engineer
Corps of Engineers
424 Trapelo Road
Waltham, Massachusetts 02154

SPECIAL MEETING ON GEOLOGY-SEISMOLOGY, DICKEY-LINCOLN PROJECT

Saturday, December 3, 1977

An outline including the topics listed below was submitted to the Corps of Engineers early in October, as a suggested guide for Corps' specialists to consider in planning their presentation to the Society. The several topics listed below are those which are customarily addressed by geologists and geophysicists in assessing feasibility of large hydroelectric projects. The degree to which each of them may have been considered by the Corps for purposes only of the Draft Environmental Impact Statement need not have been definitive. On November 17th, the Corps mailed us the agenda for their presentation, transcribed on the front page of this sheet. The outline presented here below, therefore, will not conform with the format used by the Corps, but may serve as a convenient check-list of items of significance.

SUGGESTED TOPICS FOR CORPS' PRESENTATION

SITE SETTING

Brief general description of the project; locations, sizes of dams, ponds, structures; general construction plans

SURFICIAL GEOLOGY

Borings programs completed
Seismic refraction surveys completed
Geologic field mapping studies completed
Glacial deposits - stratigraphy in site area
Pervious beds or horizons in surficial materials
Surficial stratigraphy (types, thicknesses) under dams
Load bearing capacities of sediments under dams
Liquefaction potential under dams, ponds, structures
Landslide potential around shorelines

BEDROCK GEOLOGY

Borings programs completed
Geologic field mapping studies completed
Distribution (frequency) of bedrock outcrops in area
Bedrock stratigraphy, rock types, character in area
Bedrock structure
 Folds, foliation, fissility
 Joints, fractures, fissures
 Faults, shear zones (style, age, frequency)
 Alteration, weathering, pervious or soluble zones
 Intrusives, dikes
Remote-sensed linears, anomalous landforms

SEISMOLOGY

Site seismic network (purpose, pattern, results)
Behaviour of soils/bedrock during prior earthquakes
Calculation of "design earthquake" for dams, embankments
 Seismicity of site region
 Nearest significant seismotectonic structure
 Earthquake intensity attenuation rates
 Selection of maximum intensity earthquake at site
 Estimated maximum g-value on bedrock at the site
 Amplification of vibratory motion in soils at site
Design procedures to stabilize hazardous soils

MISCELLANEOUS

Commercial mineral, hydrocarbon potential in the area
Hydrology; downstream effects of impoundments
Sources, volumes of fill, core material, riprap, aggregates

OTHER

Such other topics as the Corps may feel to be worthy of not