

## OBJECTIVES AND SCOPE

### Workshop Objectives

The workshop was held to address probability and reliability assessments for identification, for prioritization, and for funding of federal projects having significant geotechnical components. The scope was restricted to dams, locks, and levees, and included safety assessment, maintenance, and rehabilitation of existing facilities, and design and construction of new structures.

Among the specific issues addressed in the workshop were:

- What are appropriate uses of probability and reliability methods and theories in federal agency geotechnical applications?

Among the uses considered were (1) maintenance fund allocations, (2) structural safety in lieu of a safety factor, (3) dam safety evaluation including risk to life.

- How are probability and reliability theories being used by non-federal agencies and in private practice?
- What is the state-of-the-art with respect to application of these theories? Are they (can they) be accurate? Can they be applied using conventional data and information?
- What should be the policy or policies of federal agencies with regard to these methods? Should they be used beginning immediately? Is it necessary to develop resource materials to enable their use later? Is it impractical to use the theories now or later?

### Organization and Attendance

Attendance at the workshop was limited to 30 individuals to facilitate discussion and debate. It included representatives of the relevant Federal agencies, academic and practice leaders in the development and application of probability and reliability analysis for geotechnical purposes, and interested participants from the Center for Geotechnical Practice and Research member organizations. A list of attendees and the workshop program can be found in the next section.

### Summary of Discussions

Following the presentations the participants were organized into four groups for the purpose of developing responses to 10 specific questions. These questions, in order, and the responses from each group are given in a subsequent section.

The visual aids used by the speakers, collected in Appendix 2, provide an overview of the workshop content. Appendix 3 contains copies of recent papers by Kaare Hoeg and Norbert Morgenstern that are relevant to the subject of the workshop. The paper by Hoeg was distributed to attendees, but was not discussed during the workshop. The paper by Morgenstern was not distributed at the workshop, but is included here because of its relevance.