

NATIONAL RESEARCH COUNCIL
COMMISSION ON ENGINEERING AND TECHNICAL SYSTEMS
2301 Constitution Avenue Washington, D.C. 20418

U.S. NATIONAL COMMITTEE
ON TUNNELING TECHNOLOGY

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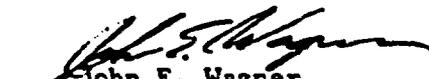
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Mr. Trueman L. Seamans
U.S. Nuclear Regulatory Commission
Mail Stop 623-SS
Washington, D.C. 20555

Dear Mr. Seamans:

The U.S. National Committee on Tunneling Technology is pleased to submit the attached Quarterly Activities Report for the Period April 1, 1983 - June 30, 1983 as required under Articles II and III of U.S. Bureau of Mines Contract No. JO 199025.

Sincerely,


John E. Wagner
Executive Secretary

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U.S. NATIONAL COMMITTEE ON TUNNELING TECHNOLOGY
ACTIVITIES REPORT

April 1, 1983 - June 30, 1983

This report covers continuing activities of the U.S. National Committee on Tunneling Technology from April 1, 1983 through June 30, 1983, under U.S. Bureau of Mines contract JO 199025. It is submitted pursuant to the provisions of Articles II and III of the contract.

International Tunnelling Association

General Assembly. A decision by the Department of State to prohibit the use of U.S. Government funds for travel to Poland and concurrent prohibition on the travel of federal employees to Poland had a major impact on the size of the U.S. delegation to the ITA General Assembly and Working Group meetings. These meetings were held May 15 to 19, 1983, in Warsaw in connection with an international symposium entitled "Underground Works-Man-Environment," jointly sponsored by the International Tunnelling Association and the Polish Federation of Engineering Associations (NOT). The U.S. delegation consisted of Mr. Dennis J. Lachel, USNC/TT Vice Chairman, and Mr. Jack K. Lemley, ITA Vice President. No federal funds were used for the travel of the U.S. delegation. A detailed report on the General Assembly and Working Group meetings will be included in the 1983 Annual Report.

Election of Officers. Officers and executive council members for the ITA were elected to 3-year terms at the General Assembly meeting. Mr. Jack K. Lemley of Morrison-Knudsen Company was elected ITA president. He is the first U.S. citizen elected to this office. Vice presidents elected were from Norway and the Netherlands. The four members of the executive council were elected from China, Japan, Poland, and Spain.

Future Plans. The 1984 General Assembly meeting is expected to be held in Venezuela in June 1984. The 1985 meeting is to be held in Czechoslovakia.

Membership. Two new member nations were accepted: Colombia and Hungary. Denmark has withdrawn from membership in ITA. As a result of the new class of Affiliate Membership, ITA has enrolled seven corporate affiliates and three individual affiliates. Approximately half of these are from the United States.

Meetings

The Subcommittee on Design Considerations held a meeting in Chicago, Illinois, May 6 and 7, 1983 to evaluate the use of precast concrete linings for small diameter tunnels.

The annual meeting of the USNC/TT was held in Chicago, Illinois, June 10-12, 1983. The meeting was held in conjunction with the biennial Rapid Excavation and Tunneling Conference (RETC), June 13-16, 1983. A detailed record of the meeting will be included in the 1983 Annual Report. Principal topics included

administration and finances, reports on the ITA meeting and subcommittee activities, review of the biennial program plan submitted for approval to the NRC's Commission on Engineering and Technical Systems, a review of committee accomplishments and objectives and suggested topics for separately funded investigations. In connection with the RETC meeting and in fulfillment of committee responsibilities to act as a focal agency for tunneling in the United States, a coordination breakfast meeting was held on June 15, 1983. The following groups reported on their underground technology programs: American Society of Civil Engineers, American Society for Testing and Materials, American Underground-Space Association, Association of Engineering Geologists, Institute for Shaft Drilling Technology, Rapid Excavation and Tunneling Conference, Society of Mining Engineers, Transportation Research Board, Underground Technology Research Council, U.S. National Committee for Rock Mechanics and the U.S. National Committee on Tunneling Technology.

In conjunction with the RETC meeting the USNC/TT operated a booth in the RETC exhibit area at which were displayed the reports of the committee. Considerable interest was shown in the report *Demand Forecast of Underground Construction and Mining in the United States* and the reports *Better Contracting for Underground Construction* and *Better Management of Major Underground Construction Projects*. A continuous slide presentation of the committee's slide set on tunneling construction methods was well received, and orders were placed for the annotated slide set.

Subcommittee Activities

The Subcommittee on Planning and Evaluation of the Subsurface briefed the committee on its study on the impact of the Pittsburgh Light Rail Transit system and proposed four more case studies over the next two years. Possible studies include impact of San Francisco's Bay Area Rapid Transit System (BART), Toronto's development of underground space (a non-mass-transit study), and the Frankfurt metro system. (The chairman is seeking support of the German Marshall Plan for the West German study.) The committee concurred in their plans, subject to the availability of funds.

The Subcommittee on Research Needs reported on the severe reductions in federal funding of tunneling research. A policy statement is being prepared on this subject.

The Subcommittee on Contracting Practices held a short meeting in Chicago to review their follow up studies for previous reports on better contracting and better management. Several papers concerned with implementation of these study recommendations were presented at the RETC meeting. The subcommittee also submitted a paper to the animateur of ITA's Working Group on Contractual Sharing of Risk.

The Subcommittee on Education and Training held a meeting in Chicago to complete the preparation of a mini slide set on rock bolting.

The Subcommittee on Design Considerations held a meeting in Chicago in May 1983 and is preparing a report on the use of precast tunnel liners.

The Subcommittee on Demand Forecasting has been in an inactive status; however, the committee feels that it is timely to begin an update of their 1981 report. This report is of considerable industrial interest. New techniques will be investigated to achieve a greater coverage than was previously possible. Partial funding support will be requested through the Associated General Contractors of America, one of the groups represented on USNC/TT

Study and Evaluation of Geologic Site Investigations

The Subcommittee on Geologic Site Investigations continued its separately funded project. Approximately 80 projects will be included in the report of this study. Writing and analysis assignments have been made to all subcommittee members and data collection is being completed.

Publications

Tunneling Technology Newsletter No. 42 (June 1983)
Report for 1981 and 1982, U.S. National Committee on Tunneling Technology

Committee Membership

New USNC/TT officers elected for the period July 1, 1983 to June 30, 1984 were installed at the annual meeting. Those officers are Dennis J. Lachel, Chairman; Z.T. Bieniawski, Vice Chairman; and Don A. Linger, Immediate Past Chairman.

The committee accepted the Institute for Shaft Drilling Technology for representation on the committee, effective July 1, 1983, subject to the approval of the National Research Council.

Financial Status

The committee has not yet received funds requested and expected from: National Science Foundation, Urban Mass Transportation Administration, or the Federal Emergency Management Agency. The committee expenditures to date are consistent with the budget established anticipating these outstanding requests.