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UNITED NATIONS CONFERENCE ON NEW  
AND RENEWABLE SOURCES OF ENERGY

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Technical Panel on Hydropower  
First Session  
Vienna, 18-22 February 1980

PROVISIONAL AGENDA

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2. Adoption of Agenda and organization of work
3. World hydropower potential
4. Evaluation of hydropower potential in each country
5. Time frame of probable development
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7. Hydraulic control structures - dams - conduits - control
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15. Special problems of hydropower programs in countries
16. Contributions of panel members and of the system to the work program
17. Recommendations and draft report

## ANNOTATIONS TO THE PROVISIONAL AGENDA

### 1. Nomination of Officers

Nomination of the Chairman and the Rapporteur. The Chairman will assume the chair.

### 2. Adoption of the Agenda and Organization of Work

The Agenda is based on the terms of reference of the Hydropower Technical Panel.

### 3. World Hydropower Potential

Issue 3-A What are the potentials of hydropower development in various areas of the world, and in view of hydropower importance, what is the time frame in which it is likely to be developed?

Comment The Panel should examine the information on the above provided by the Consultant from the World Energy Conference studies and determine how it can be utilized in the conference discussions and documents.

### Evaluation of Hydropower Potential in Each Country

Issue 4-A What further information is needed and how can the specifics of hydropower in each country be best determined?

Comment Programs to better identify hydropower sites, and especially small scale hydropower are underway in several countries and a number of methodologies are being developed and utilized. How effective have their analyses been, especially those mentioned by the Consultant on page 34 of his report? The Panel should review the programs and formulate improved procedures where possible and desirable.

### Hydropower Development

How fast can hydropower be developed?

In view of the importance of pursuing all energy sources to fill the void soon to be encountered by dwindling oil supplies, and of the advantages of hydropower as listed by the Consultant, the Panel should consider establishing some type of program for hydropower development. How can this

6. Hydrology, Topography, Geology

Issue 6-A Is present technology to obtain above information satisfactory and are methods of making the information available adequate?

Comment The Panel should examine the Consultant's comments on the above and determine where additional discussion is needed. Consideration should be given to providing guidelines concerning the above, especially for developing countries.

7. Hydraulic Control Structures - Dams, Conduits, Control Gates

Issue 7-A Is the technology of the above adequate for all types of hydropower development?

Comment The Panel should review the Consultant's comments and references and determine what additional information should be provided. Ways to reduce costs should be explored.

Issue 7-B Can present control gates be simplified and costs reduced?

Comment The Panel should consider reviewing and compiling information on various types of control gate structures and gates and make determinations on ways to improve information available to best fit the controls to the specific site.

8. Hydraulic Turbines

Issue 8-A Can improvements be made in present hydraulic turbines, especially for small scale hydropower?

Comment The Panel should examine the above question, review data available, and consider ways to compile information and make it available.

Issue 8-B Is further standardization desirable, and what are the savings in cost that can result?

Comment Same as for Issue 8-A.

Issue 8-C What type of turbine is best for small scale hydropower?

Comment The Panel should review this question and make recommendations for making selections, and for dissemination of information.

9. Electrical Generating Equipment and Controls

Issue 9-A How can present technology of above be improved to reduce costs and simplify operations?

Comment Present developments in solid state technology as applied to the above should be examined and ways for additional application be considered.

Issue 9-B Is remote control technology adequate?

Comment Present status and operating experience should be examined by the Panel and ways for improvement considered.

10. Electrical Transmission and distribution

Issue 10-A Should interties of large systems be further encouraged, and how can it be accomplished?

Comment Large systems can become vulnerable to breakdown that would effect large areas. The Panel should consider present trends and examine possible future developments.

Issue 10-B How can energy from a small scale hydropower be best utilized?

Comment While the problem is site specific, if the energy cannot be efficiently utilized, either as an isolated installation or in a large system, it doesn't count. Ways to insure efficient use of small scale hydropower in all types of systems should be examined by the Panel.

11. Economic Methodology and Financing

Issue 11-A What revisions should be made in present economic analysis methods to more realistically reflect the value of hydropower?

Comment The questions raised by the Consultant on pages 25-28 should be examined by the Panel and methods to bring the issues into focus and the procedures improved determined.

Issue 11-B Are the present United Nations guidelines for project evaluation satisfactory for hydropower?

Comment The UN guidelines appear to recognize in general the issues but the Panel should review the desirability of specifically outlining ways to consider the benefits of hydropower as discussed by the Consultant on page 28. The Panel should review the effectiveness of the application of the UN guidelines.

Issue 11-C How can incentives for financing hydropower be improved?

Comment The Panel should review ways to better focus attention on hydropower development advantages and methods to provide incentives for financing. Ways to make funds available for reconnaissance and feasibility studies should be identified.

### Environmental and Social Considerations

Issue 12-A How can optimum multipurpose use of water be planned and priorities of use determined?

Comment The Panel should consider the emphasis that should be placed on the optimum multipurpose use of any water resource development, and ways to provide priorities and methods to minimize conflicts in use.

Issue 12-B How can adverse environmental effects be minimized and positive effects improved?

Comment Methodologies for the above analysis are now quite well established. The Panel should consider guidelines, if any, that would be appropriate in making the above determinations.

Issue 12-C How can social benefit-cost determinations be made?

Comment The methodology of the UN guidelines for project evaluation concerning the above should be reviewed for effectiveness and improvements, if any, determined.

Issue 12-D How can assistance be given to developing nations to better identify and resolve social and environmental problems?

Comment The developed countries through expensive trial and error have made progress in better handling environmental and social problems. The Panel should consider how this experience can be made available and applied to the problems of the developing countries.

13. Legal and Political Problems

Issue 13-A What assistance can be provided to developing countries in resolving legal problems related to water rights?

Comment Extensive experience with all types of these problems has occurred. The Panel should consider ways that compilations and guidelines could be helpful.

Issue 13-B What assistance can be provided to resolving problems between countries on international rivers?

Comment Often the above is a most complex problem that requires years to resolve. The Panel should consider ways the UN, or others, could assist these resolutions by providing experienced, balanced, objective teams of experts with sound judgement capabilities to help with providing overall perspectives and resolving the problems.

14. Pumped Storage

Issue 14-A Is present technology of pumped storage adequate?

Comment The Panel should review the above and outline improvements that can be made.

Issue 14-B How can information concerning pumped storage benefits as part of an electrical system be better defined and made available?

Comment The Panel should examine the above problems and make a determination as to what, if anything, is needed.

15. Special Problems of Hydropower Programs in Developing Countries

Issue 15-A How can the relative high cost of studies and investigations for small scale hydropower be financed?

Comment The Panel should consider ways that a full river basin can be studied as one system, and ways such studies can be financed. The Consultant's discussion should be examined.

Issue 15-B What assistance can be given to developing countries to enable them to provide an adequate organizational structure to accomplish hydropower studies and development?

Comment Broad-gaged background and experience is needed to provide an organizational arrangement that can consider the many ramifications, effects and benefits of water resource development, of which hydropower is a part. The Panel should consider how the UN, or others, can provide the type of guidance in this area that would be helpful.

Issue 15-C How can the need for trained personnel in hydropower be met?

Comment The Panel should review present programs, such as seminars, that are underway; examine their adequacy and effectiveness; and make determinations of programs to meet the future needs. Ways such programs can be financed and accomplished should be examined.

16. Contributions of Panel Members and of the United Nation's System to the Work Program

Comment The members of the Panel on behalf of themselves and the organizations with which they are affiliated should advise the Chairman of definite activities related to the Conference which they would be prepared to undertake. Specialized agencies of the United Nations, Inter-Governmental Organizations and Non-Governmental Organizations in consultative status with the United Nations should also advise concerning the contributions they can make. All these should be related to proposals for working group meetings, consultant studies and other activities arising out of the deliberations of the Panel. Suggestions for further cross-disciplinary and synthetic studies should also be included.

17. Recommendations for Inter-Sessional Activities and Draft Report

Comment The final report will be drafted jointly by the Chairman, Rapporteur and Technical Secretary based on an outline listing detailed recommendations for inter-sessional activities. These will be undertaken by Panel members, the organizations to which they are affiliated, United Nations specialized agencies, IGOs and NGOs, and by such modalities as working group meetings and consultant studies.