Appendix 2

New Committee Structure of ITTC

1. STRUCTURE OF THE TECHNICAL COMMITTEES

Commencing with the 22nd Conference the structure of the ITTC technical committees will be changed. There will be 4 General Technical Committees which will be of a permanent nature. In addition, there will be a number of Specialist Technical Committees dealing with detailed, well-defined tasks that can be completed in 3- or a maximum of 6-year periods. The organisation of General and Specialist Committees for the 22nd ITTC is shown in Fig. 2.1.

The Executive Committee will continue to establish Groups from time to time to carry out specific tasks for the Conference which are not technical issues; for example, the Symbols and Terminology Group and the Quality Systems Group.

2. TERMS OF REFERENCE FOR THE GENERAL AND SPECIALIST TECHNICAL COMMITTEES

2.1 General Committees

Each General Committee will be responsible for a general subject area. It will review the state-of-the-art, identify the need for research and development, and carry out longer term studies with broad impact.

The principal thrust of the work of the General Committee will be to establish procedures and guidelines to help the ITTC member organisations maintain their institutional credibility with regard to quality assurance of products and services such as performance prediction and evaluation of designs. The committee will develop detailed technical plans in accordance with Conference recommendations and its work should be directed towards the techniques and understanding of physical and numerical modelling as a means of predicting full-scale behaviour. While maintaining an awareness of progress, fundamental theoretical studies and fundamental aspects of numerical fluid computation should be covered by other forum.

Each committee will submit a report on the results of its work to the Full Conference. The conclusions and the recommendations of the General Committee should be structured into three separate parts:

1. General technical conclusions.

2. Recommendations to the Conference on carrying out or reporting work requiring Conference action (e.g. testing techniques, symbols, prediction techniques, etc.)

3. Recommendations for future work of the General Technical Committee and identification of tasks which may be appropriate for Specialist Committees.

2.2 Specialist Committees

Specialist Committees will be proposed by the ITTC Advisory Council. Each Specialist Committee will be responsible for studying a specific technical problem such as 'Prediction

of Waterjet Performance'. The committees will be appointed for a limited duration; it is expected that they will complete their tasks within one or two ITTC periods, i.e. within 3 to 6 years. They should interact closely with the appropriate General Committees.

Each Specialist Committee will present a final report on the results of its work to the Full Conference and interim reports on progress if the duration of the committee spans more than one Conference. The conclusions and the recommendations of the Specialist Committee should be structured into three separate parts:

1. General technical conclusions.

2. Recommendations to the Conference on carrying out or reporting work requiring Conference action (e.g. testing techniques, symbols, prediction techniques, etc.)

3. Recommendations for future work and identification of tasks which may be appropriate for Specialist Committees.

2.3 Groups

Groups may be established from time to time by the Executive Committee to carry out specific tasks for the Conference which are not technical issues. Membership of a Group should not exceed three consecutive terms of three years, but the Executive Committee may make exceptions. Also, normally Groups shall have fewer members than the Technical Committees. Such Groups shall be disestablished upon completion of their respective task objectives.

3. MECHANISM FOR IDENTIFYING NEW SPECIALIST TECHNICAL COMMITTEES

As part of their terms of reference, the General Committees will be instructed to consider the need for new tasks and include appropriate recommendations in their technical reports. If the Advisory Council identifies a need for a new specialist committee when it reviews the draft recommendations of the general committees, the Council will prepare and agree a statement of the technical aims and objectives for the work of the Specialist Committee.

Independently of the recommendations of the General Committees, the Advisory Council will keep under continuous review the requirement for Specialist Committees.

When the need for a new Specialist Committee has been agreed by the Advisory Council, the draft statement of technical aims and objectives will be presented to the Executive Committee for endorsement. If the Executive Committee approves the formation of a new Specialist Committee, it will present the proposal to the Full Conference for endorsement.

4. TASKS OF TECHNICAL COMMITTEES AND GROUPS OF 22ND ITTC

4.1 General Committees

Resistance Committee. Review the state-of-the-art, comment on the potential impact of new developments on the ITTC, and identify the need for research and development for resistance and flow. Monitor and follow the development of new experimental techniques and extrapolation methods.

Review the ITTC recommended procedures, benchmark data, and test cases for validation and uncertainty analyses and update as required. Pass the information to the Quality Systems Group for publication in 1999.

Identify the requirements for new procedures, benchmark data, validation, uncertainty analyses and stimulate the necessary research for their preparation.

Prepare an up-to-date bibliography of relevant technical papers and reports.

Review ASME and ITTC recommendations on quality assurance and uncertainty analyses. Derive procedures for implementing guidelines for typical ITTC experiments in the field of resistance and flow.

Monitor the development of CFD methods.

Continue to encourage and monitor CFD validation including liaison with other organisations such as ASME.

Propulsion Committee. Review the state-of-the-art, comment on the potential impact of new developments on the ITTC, and identify the need for research and development in the areas of propulsors, cavitation and powering performance. Monitor and follow the development of new experimental techniques and extrapolation methods.

Review the ITTC recommended procedures, benchmark data, and test cases for validation and uncertainty analyses and update as required. Pass the information to the Quality Systems Group for publication in 1999.

Identify the requirements for new procedures, benchmark data, validation, uncertainty analyses and stimulate the necessary research for their preparation.

Prepare an up-to-date bibliography of relevant technical papers and reports.

Review the development of design and analysis methods for propulsors with special emphasis on the modelling of the vortex wake. The Committee should consider repeating the 18th ITTC comparative exercise.

Review research on the performance of propellers operating in various conditions such as for ships when turning, accelerating, decelerating, backing, or operating in waves.

Review available LDV data for propulsors.

Review the correlation of liquid quality (liquid tension and nuclei distribution) with cavitation inception and the stability of cavitation patterns. Cavitation experimental techniques should be reviewed to predict cavitation behaviour more accurately. The effects of turbulence and propeller blade roughness should be taken into account.

Manoeuvring Committee. Review the state-of-the-art, comment on the potential impact of new developments on the ITTC, and identify the need for research and development into manoeuvrability. Monitor and follow the development of new experimental techniques and extrapolation methods.

Review the ITTC recommended procedures, benchmark data, and test cases for validation and uncertainty analyses and update as required. Pass the information to the Quality Systems Group for publication in 1999.

Identify the requirements for new procedures, benchmark data, validation, uncertainty analyses and stimulate the necessary research for their preparation.

Prepare an up-to-date bibliography of relevant technical papers and reports.

Strongly promote comparative model tests and force predictions including experimental, semi-empirical, computational methods, and comparisons with the results of sea trials for modern ship types in deep water. Specific interest is in the full-load condition, waterjet propulsion, and the effect of aft-body variations.

Develop a reliable method of predicting manoeuvring in shallow and restricted water, including squat.

Continue to promote research into manoeuvrability standards, including the IMO interim standards, in order to provide advice to organisations who set standards, such as the IMO, and pilot organisations.

Loads and Responses Committee. Review the state-of-the-art, comment on the potential impact of new developments on the ITTC, and identify the need for research and development in the areas of seakeeping and ocean engineering. Monitor and follow the development of new experimental techniques and extrapolation methods.

Review the ITTC recommended procedures, benchmark data, and test cases for validation and uncertainty analyses and update as required. Pass the information to the Quality Systems Group for publication in 1999.

Identify the requirements for new procedures, benchmark data, validation, uncertainty analyses and stimulate the necessary research for their preparation.

Prepare an up-to-date bibliography of relevant technical papers and reports.

Review experimental and theoretical methods to evaluate the seakeeping performance of multihull forms and HSMVs including active motion control systems and prepare guidelines.

Review progress made in studying the mechanism of deck wetness impact loads, bottom and bow flare slamming loads and the impact of

green water and wave loads on moored offshore vessels.

Examine hydroelastic problems in ocean engineering.

Identify sources and interaction of potential and viscous origin forces to determine the low frequency motions of moored offshore vessels.

Develop a standard formulation of wave spectrum for short-crested seas including sea waves and swell.

4.2 Specialist Committees

The following Specialist Committees will be established for 3 years :

Unconventional Propulsors. Develop guidelines for carrying out propulsion tests and extrapolating the results to full-scale for propellers with ducts, partial ducts, pre- and post- swirl devices, tip-plates and z-drives.

Waterjets. Formulate guidelines for waterjet performance prediction methods based on (1) momentum flux methods and (2) direct thrust measurements.

Cavitation-Induced Pressure Fluctuations. Recommend procedures for predicting cavitation-induced pressure fluctuations from propulsors.

Computational Methods for Propeller Cavitation. Evaluate computational methods for predicting cavitation inception and patterns. Prepare a guide for selection of such methods.

Ice. Review the ITTC recommended procedures, benchmark data, and test cases for validation and uncertainty analyses and update as required. Pass the information to the Quality Systems Group for publication in 1999.

Prepare an up-to-date bibliography of relevant papers and reports.

Carry out tests in different tanks to clarify ice loads and also the performance of an open propeller in level ice. The tests should improve the modelling practice in the field of propeller/ice interaction.

Continue work to achieve common guidelines for the measurement of model ice properties. Also develop procedures to conduct and analyse model and full-scale tests.

Develop model test procedures in deformed ice and the measurement of the properties of deformed ice.

Analyse methods to correct ice resistance for small deviations from target values of ice thickness, ice strength, and hull friction.

Analyse methods for conducting tests involving offshore structures and moored vessels in ice in view of the results obtained in the comparative cylinder tests.

Trials & Monitoring. Recommend updated procedures for conducting full-scale trials and long term performance monitoring and their analyses. Consideration to be given to powering, manoeuvring and seakeeping. Evaluate the use of onboard performance monitoring systems and Global Positioning Systems. The Committee should contribute to the work of the ISO-on standards for speed trials' evaluation.

Stability. Examine the techniques for carrying out model tests to investigate capsize of intact and damaged vessels and provide guidelines for such tests. Assess the methods available for numerical simulations of capsize of intact and damaged vessels.

Environmental Modelling. Survey the work done by the IAHR and others and recommend techniques for modelling the environment, including simultaneous generation of waves, currents and wind. Evaluate physical and numerical modelling of realistic wave time histories. Assess the quality of modelling of full scale conditions and the uncertainty in results due to differences from ideal conditions.

Deep Water Mooring. Evaluate techniques and recommend procedures for the experimental and numerical simulation of moored vessels in wind, wave and currents.

Safety of High Speed Marine Vehicles. Study the dynamic instabilities of high speed craft and develop procedures to solve problems relating to high speed roll, pitch and directional stability anomalies.

Develop by means of test procedures and computer codes, information on dynamic instabil-

ity which can be used to improve coverage of this topic in the IMO High Speed Craft Code.

Catalogue incidents and accidents to high speed passenger-carrying vessels to identify trends and areas of hydrodynamic inadequacy.

Develop full-scale test procedures to define and determine high speed craft safety.

Model Tests of High Speed Marine Vehicles . Review the status of hydrodynamic technology related to model tests of high speed marine vehicles summarised in the Proceedings of the 16th ITTC (1981) and recommend codes of practice for carrying out model tests for high speed marine vehicles.

4.3 Groups

Symbols and Terminology. Carry out the continuous updating, revision and extension of the ITTC Symbols and Terminology List, including sections of the old ISSC list not presently covered.

Widely disseminate the ITTC Symbols and Terminology List in various media to the member organisations and other interested parties, such as naval and commercial shipbuilders, universities, ISO, IMO and ISSC.

Monitor the international efforts in the field of neutral data formats and co-ordinate the development of neutral formats for the exchange of information between ITTC member organisations and their clients.

Convert the ITTC Symbols and Terminology List to a terminological data base.

Produce a document that can replace the ISO Standard 7463, First Edition September 15,1990, based on the obsolete 1975 Version of the S&T List.

Quality Systems. Provide guidance on the steps which must be followed and issues to be addressed by ITTC member organisations to achieve ISO 9000 certification.

In association with the Technical Committees, produce a new series of publications containing guidelines, recommended procedures and summary descriptions of bench mark data and test cases.

Stimulate, monitor and support validation work within the technical committees.

PROPOSED ITTC TECHNICAL COMMITTEES AND GROUPS

1996-99

GENERAL COMMITTEES	SPECIALIST COMMITTEES	GROUPS
Resistance	Unconventional Propulsors	Quality Systems
	Waterjets	Symbols & Terminology
	Cavitation-induced Pressure Fluctuations	
Propulsion	Computational Methods for Propeller Cavitation	
	Ice	
	Trials and Monitoring	
	Stability	
Manoeuvring	Environmental Modelling	
	Deep Water Mooring	
	Safety of High-Speed Marine Vehicles	
Loads and Responses	Model Tests of High-Speed Marine Vehicles	