

## REPORT OF THE EXECUTIVE COMMITTEE

### CONTENTS

#### I. GENERAL

1. INTRODUCTION
2. MEMORIALS
3. COMMITTEE MEMBERSHIP

#### II. REVIEW OF THE ACTIVITIES OF THE EXECUTIVE COMMITTEE

1. COMMITTEE MEETINGS
2. COMMITTEE DECISIONS
3. ADDITIONAL CONSIDERATIONS
4. ON ORGANIZATION OF THE 17TH ITTC

#### III. RECOMMENDATIONS

##### I. GENERAL

###### 1. INTRODUCTION

In the period following the 16th Conference the International Towing Tank Conference passed its fiftieth anniversary, a fact which has already been recognized in the previous Report of this Committee, and which the 17th Conference will surely come back to. An anniversary of less dignity is also associated with this 17th ITTC in Göteborg, where a similar Conference met thirty years ago.

Upon the suggestion of the late Professor H F Nordström and the Scandinavian Management Committee for the 1954 Conference, the Standing Committee

of the Ship Tank Superintendents adopted the name "(Seventh) International Conference on Ship Hydrodynamics" for that Conference. It brought together here 77 Delegates and 4 Visitors, including several bright scientists in these fields of hydromechanics, which are of particular importance to ship model testing establishments, and it helped to form the ITTC we know. It was not until 1957, however, that our Organization met under its present name.

The early fifties had witnessed the appearance of the 30 000 and 40 000 tdw tankers as well as the twenty knots cargo liners. The demand for new ships

was virtually unlimited. A growing shipbuilding industry turned to the Ship Tank Superintendents for advice, and new testing facilities were planned in the traditional shipbuilding countries. The work of the Conference was focused on seven "subjects", six of them covering various aspects on viscous resistance, propellers and propulsion factors and one, on Seagoing Qualities of Ships, now for the first time represented by a separate Committee. (The five Technical Committees had 24 Members.) There were lengthy sessions on questions of model/ship correlation and form factors, of the influence of the tunnel walls on a cavitating propeller, and of the accuracy in producing and measuring waves when comparing tests on ship models towed against a regular sea. Between sessions Delegates discussed the pioneering new papers on how to use such tests to predict the motion in a real, confused sea. Simultaneously the Standing Committee was looking for a means of retarding the further rapid growth of the size of the Conference.

During the years past the ITTC has established itself as an Organization of high standards and integrity, which has been instrumental in co-ordinating new testing techniques and improving prediction methods. World shipping and offshore industry is constantly changing, but just because of that it is in continuous need of the experience and vision of ITTC.

The Technical Committees, now ten in number with nine Members each, have brought together experts, who have not only measured the state of their art, but who have in many cases also worked together to advance its frontiers. Still, many of the old problems of "tankery"

remain with us just as thirty or fifty years ago, while others have become apparent to us in the light of the new knowledge. Today the traditional model basin has become also a computer centre with the facilities for testing the validity of its methods. What is ahead? Is there a need for a redirection of the efforts we pay our Organization? Can we afford them? Or can we do without them?

## 2. MEMORIALS

The Executive Committee has to report with deep regret the death of four eminent colleagues, who had all served in different Technical Committees and contributed to the aims of the Organization.

Mr Michail Michailidis died in a tragic road accident in Yugoslavia in July 1983 together with his wife Maria and two of their three children. He was a Member of the 17th ITTC Ice Committee, representing the Arctic Vessel and Marine Research Institute (formerly the Marine Dynamics and Ship Laboratory of the National Research Council, Canada), where he was head of the Research Section. During his sixteen years with NRC Mr Michailidis had been project officer within all areas of marine hydromechanics and a member of several government interdepartmental committees and task groups responsible for Marine Transportation R&D and Marine Safety Standards. In his later years he was also in charge of the AVMRI projects involving arctic marine transportation technology.

Dr YN Prishchemikhin, Assistant Professor at the Leningrad Shipbuilding Institute, died on 17 August 1983. Dr Prishchemikhin was a Member of the 14th ITTC Propeller Committee, then representing the Krylov Shipbuilding

Research Institute, where he worked from 1945 to 1976 on experimental ship hydro-mechanics. His main interest was in the fields of propeller-hull interaction and cavitation.

Dr George Hughes, former Senior Principle Scientific Officer of the Ship Division, National Physical Laboratory - now NMI Ltd - died on 4 October 1983. Dr Hughes was a Member of the 6th ITTC Skin Friction Committee and of the Committees on Skin Friction and Turbulence Stimulation throughout the 6th - 9th ITTC periods. At NPL he was responsible for an extensive experimental program on viscous resistance, involving tests with flat plates, pontoons and ship model geosims, which brought new material to the Conference discussions and had important bearing on the final formulation of the 1957 ITTC Friction Line. To the profession he was previously known by his early towing tank studies of the wind resistance of ships.

Mr Robert N Newton, late Deputy Director of Naval Construction and former Superintendent of the Admiralty Experiment Works (Haslar), died on 29 February 1984. Following long service with the RCNC, with responsibilities for advanced submarine design and cruiser modernization, he joined AEW in 1954 and was appointed to succeed Dr R W L Gawn only two months before the 8th ITTC in Madrid. His previous experience as a user of model experiment results and his balanced understanding of new techniques and procedures made him a respected spokesman for good "tankery", with a broad field of interest. He was a Member of the 9th ITTC Committee on Scale Effects on Propellers and on Self-Propulsion Factors as well as a Member and Secretary of the first Manoeuvrability Committee.

The Committee honours the memory of these four Delegates and Friends.

### 3. COMMITTEE MEMBERSHIP

The 17th ITTC Executive Committee appointed by the Leningrad Conference included

Dr H Lindgren	- Sweden
(Chairman)	
Prof D M Rostovtsev	- USSR
(Vice-Chairman)	
Prof J Breslin	- USA
Mr W A Crago	- United Kingdom
Prof T Inui	- Japan
Dr P G Maioli	- Italy
Prof J D van Manen	- The Netherlands
R Adm P O'Dogherty	- Spain

The Committee appointed Dr N H Norrbin (Sweden) and Prof V N Treshchevsky (USSR) as Secretaries.

Following the retirement of Dr Maioli from INSEAN in the spring of 1984 and upon consultation with the Member Organizations of Southern Europe (see below) the Executive Committee decided to ask Dr E Balzerano to join the Committee for the rest of the period.

Each Member of the Committee has served as an Area Representative for one of the eight Geographical Areas, to which each Member Country has up till now been associated. (These Areas are essentially the same as were agreed upon by the 12th ITTC Executive Committee. See p 626.)

## II. REVIEW OF THE ACTIVITIES OF THE EXECUTIVE COMMITTEE

### 1. COMMITTEE MEETINGS

In the period reviewed the Executive Committee met five times, while further Meetings are scheduled for the Conference Week. The main topics for discussion are briefly summarized below.

At the First Meeting, on the final day of the Leningrad Conference, four new Members took seat on the Committee, Dr Lindgren to chair the Committee in his capacity as President of the 17th ITTC, Prof Rostovtsev to take over the responsibilities of Dr Matveyev as Past President and Vice-Chairman, Prof Inui to represent Eastern Asia and Adm O'Dogherty to represent the Belgium-France-Spain Area. It was tentatively agreed that the 17th Conference should be held in Göteborg during the second full week of September 1984.

The Second Meeting was held in Göteborg in June 1982, discussing time schedules for the new Conference, instructions for Technical Committee Reports and principles for the invitation of Delegates and Observers. A large number of applications for organizational membership of the ITTC and of the ITTC Advisory Council were reviewed and handled. The Committee also took note of and interest in one formal invitation and one proposal to hold the 19th ITTC in Spain and Brazil respectively. (See below.)

The Third Meeting was held in Nagasaki in May 1983, on the occasion of the 75th Anniversary of the Nagasaki Technical Institute, to which the Committee had been kindly invited. The Committee reviewed and accepted to place before the Conference the proposals from the Advi-

sory Council on a new subdivision of Geographical Areas and on new Rules of Organization. The Committee discussed the Future Scope of ITTC and the structure and tasks of future Technical Committees, and it agreed to request the Advisory Council to look into these last questions in depth.

The Fourth Meeting was held in Madrid in February 1984. The Committee discussed the preliminary findings and recommendations of the Advisory Council on the structure of the Technical Committees, and it also decided to ask the Advisory Council to arrange a special Meeting in May 1984 to evaluate new ideas. The Committee also discussed the 17th ITTC organizational activities and finalized the lists of Delegates and Observers to be invited to the Conference.

The Fifth Meeting was held in Göteborg in May 1984, directly following the special Meeting arranged with the Advisory Council and the Chairmen of the Technical Committees on Resistance, Propeller, Cavitation and Performance. Whereas alternative proposals for a possible restructuring of some of the Technical Committees had now been formulated by the Ad Hoc Working Group any recommendation to the Conference must await the final advice from the Council at its first September Meeting. In this context the Committee discussed additional recommendations to the Chairmen of the Technical Committees concerning the pursuit of their work. The Committee could finally grant the admission to the Advisory Council of its first Member Organization from South Korea, raising the total Membership to 32.

## 2. COMMITTEE DECISIONS

### 2.1 New ITTC Member Organizations

During the period and out of a total of nine applicants the following four Organizations were accepted as new Members of ITTC:

Hiratsuka Research Laboratory of Sumitomo Heavy Industries, Ltd  
Kanagawa, Japan  
(from June 1982)

Shanghai Ship & Shipping Research Institute (SSRI)  
Shanghai, China  
(from May 1983)

Institut für Schiffbau der Universität Hamburg (IfS)  
Hamburg, FRG  
(from February 1984; IfS was active in ITTC prior to the present restructuring in 1972)

Ship Propeller Department of the Institute of Fluid Flow Machinery, Gdansk, Poland  
(from February 1984)

For a full list of the Member Organizations, see page 627 of these Proceedings.

### 2.2 New Members of ITTC Advisory Council

During the period there were six applications for Advisory Council status. The following Member Organizations were elected new Members of the Advisory Council:

Research Institute of Ishikawajima-Harima Heavy Industries Ltd  
Yokohama, Japan  
(from June 1982)

Schiffbautechnische Versuchsanstalt  
Vienna, Austria  
(from June 1982)

Ship Hydrodynamics Laboratory of Helsinki University of Technology  
Helsinki, Finland  
(co-operating with VTT Ship Laboratory; from February 1984)

Versuchsanstalt für Binnenschiffbau  
Duisburg (VBD), FRG  
(from February 1984)

Ship Research Station of the Korea Institute of Machinery and Metals (KIMM)  
Chungnam, South Korea  
(from May 1984)

In the list of Member Organizations on page 627 an asterisk indicates an Advisory Council Membership.

### 2.3 Changes of Membership within Technical Committees

The following changes in the original lists of Technical Committees, accepted by the 16th ITTC, were subsequently approved by the 17th ITTC Executive Committee:

Performance Committee - Mr D Bailey was appointed a Member in April 1982, taking the seat originally reserved for a representative of the UK area.

High-Speed Marine Vehicle Committee - Mr P C Knowles was accepted to replace, in November 1982, Mr M J Stevens, who had changed his position within BHC.

Performance in Ice-Covered (Ice) Committee - Dr E Enkvist was appointed new Chairman of the Committee in May 1983,

replacing Dr E Mäkinen, who had moved to other duties. Dr F M Williams was accepted to replace the late Mr Michailidis from November 1983. The Executive Committee took notice of the fact that Mr T Heideman had been engaged as Secretary to the Chairman of the Ice Committee, this without being a formal Member of that Committee.

#### 2.4 Proposals from the Advisory Council

Upon Recommendation by the 16th ITTC Executive Committee the Advisory Council has studied the problems associated with the Organization of ITTC and its representation in Geographical Areas and with the future scope of ITTC. The present Executive Committee further requested that the Advisory Council look into the structure and tasks of the future Technical Committees, and that the Council also consider in which way the total number of Conference Delegates could be maintained at the present level. (See Report of the Advisory Council.)

So far the Advisory Council has presented two proposals concerning "Geographical Areas and Composition of the Executive Committee" and "ITTC Rules of Organization", which have been reviewed and accepted by the Executive Committee, and which will accordingly be placed before the Conference. (See Recommendations below.)

### 3. ADDITIONAL CONSIDERATIONS

#### 3.1 Co-operation with Other Organizations

Following correspondence initiated by the Secretary of the International Ship Structures Congress (ISSC) the Executive Committee did not find sufficient evidence for any additional mutual benefit

to be derived from a formal co-operation beyond that accessible through informal contacts between Technical Committee Members from ISSC and ITTC. Similar arguments were found to apply with respect to a formalization of the co-operation with the International Cooperation on Marine Engineering Systems (ICMES).

#### 3.2 On the Extended Length and Frequency of ITTC Technical Committee Meetings

Statistics have been presented showing a marked increase in length as well as frequency of Committee Meetings and reflecting the growth of work laid upon the Members. To some extent this additional work may be due to the introduction of the "integrated" Reports, first implemented by the 15th ITTC Committees. The Executive Committee considers it to be a future task of the Advisory Council to study the general purpose and scope of the work of the Technical Committees and the proper way of compiling their Reports.

#### 3.3 On Future Conferences of ITTC

18th ITTC - Prior to the 16th ITTC in Leningrad the Executive Committee received a formal invitation to hold the 18th ITTC in Japan in 1987. The present Executive Committee has received a similar invitation from Spain, including an alternative offer for the hosting of the 19th ITTC. The Committee will recommend the 1984 Conference to accept the long-standing invitation from Japan.

19th ITTC - The Committee will recommend the 18th ITTC Executive Committee to consider Spain for the 19th ITTC in 1990. The Committee has also taken much interest, however, in a proposal received on

the idea of having the 19th ITTC in Sao Paulo in Brazil, and it feels it to be appropriate for a future Conference to meet in this area.

#### 4. ON ORGANIZATION OF THE 17TH ITTC

##### 4.1 General Arrangements

At its final General Session the Lenin-grad Conference decided that the 17th ITTC be held in Göteborg, and the new Executive Committee later decided that it be confined to eight days, from 8 through 15 September 1984. A preliminary announcement was circulated to all Member Organizations by the Secretary in a letter of 14 July 1983.

##### 4.2 Formal Invitations to Delegates and Observers

Personal invitations were issued in early April 1984 to some 270 Delegates and Observers in accordance with the lists of names reviewed and approved by the Executive Committee and reproduced in the first Volume of the Proceedings. The list of Delegates includes 32 Senior Members.

##### 4.3 Reports of the Technical Committees

Detailed guidelines for the preparation of the Committee Reports were circulated to the Chairmen and Secretaries of the Technical Committees with letter of 15 October 1982, largely based on the principles developed for the 15th and 16th ITTC. (Cf also proposal for standard "Guidelines for the preparation of ITTC Proceedings" included in Appendix 10 of the 17th ITTC Report of the Information Committee.) The manuscripts of the Technical Committee Reports were all received by the organizers between 20 February and

5 April 1984.

##### 4.4 Technical Program of the Conference

As was recommended by the Executive Committee there will be two General Sessions pertaining to the work and policy of ITTC and one regular Technical Session for each subject covered by the tasks of the ten Technical Committees. In co-operation with the Information Committee arrangements have also been made for four Group Discussions, and the formal Session on Information has been shortened to give time for a separate Session on New Facilities. It was the expressed view of the Advisory Council that parallel Sessions should be avoided.

It was decided that the Members of the Executive Committee would act as Liaison Officers with the Technical Committees and as Session Chairmen at the Conference. With reference to the program of the Conference the listing of Session Chairmen is presently as follows:

Session on	Chairman
Resistance	Prof T Inui
Performance	Dr H Lindgren
High-Speed Vessels	Mr W A Crago
Propellers	Prof J P Breslin
Cavitation	Prof J P Breslin
New Facilities	Adm P O'Dogherty
Information	Adm P O'Dogherty
Manoeuvrability	Dr E Balzerano
Performance in Ice	Prof D M Rostovtsev
Seakeeping	Prof J D van Manen
Ocean Engineering	Prof J D van Manen

Each regular Technical Session will include sufficient time for presentation of the Committee Report and of Written Contributions to the Report as well as for discussion from the floor and for

replies by the Committee representatives. The Written Contributions should be made available before the Conference or handed to the Secretariate on the day before the presentation at the latest. The details will in each case be agreed upon by the particular Session and Committee Chairmen.

The Members of the Conference have been invited to give brief descriptions of new facilities or systems incorporating new designs or ideas within the field of "tankery" and to forward summaries to reach the Secretary by 1 August 1984. A limited number of these descriptions will be selected for presentation at the Session on New Facilities.

The Group Discussions will be run in parallel in two halls (a and b), the four subjects and Chairmen being

- 1a Full scale measurements Dr B Della Loggia
- 1b New wavemaker design and experience Prof B Johnson
- 2a Stability testing and correlation Prof O Krappinger
- 2b Full scale wave data acquisition and analysis Dr N Hogben

Whereas there will be short specialist introductions informal discussions will be encouraged.

### III. RECOMMENDATIONS

The final recommendations of the Executive Committee will be formulated at the Conference. They will address the Full Conference, the Advisory Council, and the Technical Committees. In some cases the Conference will be requested to take a decision on major issues concerning the Organization, which have been or are presently being prepared by the Advisory Council. (See II.2.4 above and the Report

of the Advisory Council.)

The Executive Committee recommends that the Conference adopts new "Rules of Organization" as given in Appendix A, and that the Conference decides on a new "Composition of Executive Committee", based on a rearranged "List of Geographical Areas", all as given in Appendix B.

## APPENDIX A

## RECOMMENDATION TO THE CONFERENCE

to adopt the new Rules of Organization given below, proposed by the Advisory Council in March 1983 to replace the present Rules adopted by 13th ITTC

## ITTC

## RULES OF ORGANIZATION

## 1. AIMS

The primary aim of the International Towing Tank Conference is to stimulate progress in solving the technical problems which are of importance to towing tank Directors and Superintendents who are regularly responsible for giving designers, builders and operators of ship and marine installations advice and information based on the results of experiments with models. The Conference also aims at stimulating research in all fields in which a better knowledge of the hydrodynamics of ships and marine installations is needed to improve model experiment methods, at recommending standard procedures for general use in carrying out ship and marine installation model experiments, at formulating collective policy on matters of common interest, and at providing an effective organization for the interchange of information on such matters.

## 2. ACTIVITIES

The aims of the Conference shall be pursued by:-

2.1 Stimulating research into specific topics

2.2 Organizing and encouraging meetings to review progress in this research

2.3 Making such recommendations and decisions on joint action and policy as seem desirable to the members of the Conference

2.4 Recording and publishing discussions taking place at ITTC meetings

## 3. MEMBERSHIP

Membership of the Conference shall be open to all towing tanks or model test laboratories which regularly have direct responsibilities to the designers, builders and operators of ships and marine installations and also to other organizations which contribute to the aims of the Conference. Each such organization shall satisfy the Executive Committee that it is eligible for membership. Each Member Organization shall be represented by its Director, Superintendent or his equivalent. In addition, the Executive Committee may invite individuals who have contributed significantly to the aims of the Conference to take part in the work of the Conference.

## 4. ORGANIZATION

## CONFERENCE

The Full Conference will consist of the representatives of the Member Organizations, members of the Technical Committees and such additional Individuals invited and approved by the Executive Committee and mentioned under Paragraph

3. The Full Conference shall determine its policies, decide what subjects it shall consider, elect the Executive Committee and appoint Technical Committees.

#### EXECUTIVE COMMITTEE

The Executive Committee shall normally consist of eight members, broadly selected on a geographic basis, each of whom shall normally serve for a period of six years. The Chairman of the Executive Committee shall be appointed by the members of that Committee immediately following the end of a Full Conference and act as Chairman until the end of the next Full Conference.

The Executive Committee shall implement the policies determined by the Full Conference. It proposes Members and Chairmen of Technical Committees for appointment by the Full Conference.

#### ADVISORY COUNCIL

The Advisory Council shall recommend to the Executive Committee subjects to be considered, bearing in mind that the primary aim of the Conference is to solve technical problems of importance to Tank Directors and Superintendents. It will review the Recommendations of the Technical Committees and advise the Executive Committee accordingly.

The member organizations to be represented on the Advisory Council shall be proposed by the Executive Committee for appointment by the Advisory Council. Such organizations have to satisfy all the following conditions:

- a. In addition to the normal work appropriate to the towing tank there shall be a capability for performing a variety of investigations, such as resistance and propulsion, manoeuvrability, seakeeping, simulation, propeller characterization, and cavitation.
- b. A substantial portion of their work supported by commercial and/or governmental or intergovernmental sponsors.
- c. Shall have a long history of work in support of the aims of the ITTC.

Each selected organization shall be represented by its Director or Superintendent. Members of the Advisory Council may attend all meetings of the Advisory Council. Members of the Advisory Council may also be members of the Executive Committee or the Technical Committees.

The Chairman and Vice-Chairman of the Advisory Council shall be elected by its members immediately following the end of a Full Conference.

#### TECHNICAL COMMITTEES

The Technical Committees shall plan in detail the recommended programme of work. Each Technical Committee shall normally consist of not more than eight members, including the Chairman, who should in all cases be selected for their personal contributions to, interest in, and ability to contribute to the fields of the Technical Committee. The membership of each Technical Committee shall be reviewed by the Conference at intervals of not more than three years. No person may serve on more than one Technical Committee at any one time.

Written contributions to the programme of work of a Technical Committee may be submitted to its Chairman by any member of the Conference on his own behalf or on behalf of any other individual. Each Technical Committee may include a short abstract of any such contributions in its report, with an indication of the source from which the full text may be obtained. Conference proceedings and technical reports are not to be used as vehicles for disseminating technical papers.

Following the Technical Sessions each Technical Committee will recast its Recommendations if necessary. The Advisory Council will review these Recommendations and advise the Executive Committee accordingly. At the Final Session of the Full Conference these Recommendations will be presented for approval.

## 5. MEETINGS

### MEETINGS

Meetings of the Executive and Technical Committees and the Advisory Council shall be held whenever their members consider them necessary.

### CONFERENCES

Full Conferences will be held from time to time; these have been held at three-year intervals, but the Full Conference may alter this at any time. The host country may invite Observers to attend the Conference but they may not take any active part in its work apart from contributing verbally to technical sessions. The detailed organization of each Conference is the responsibility of the host country which will also arrange for the preparation and publication of the Proceedings of that Conference.

Each Conference will include Technical Sessions at which the Reports and Recommendations of the Technical Committees may be discussed by all Delegates; no discussion will be permitted which is not directly related to the Report and the Recommendations under consideration.

APPENDIX B

RECOMMENDATION TO THE CONFERENCE

to decide about the Composition of the Executive Committee, based on rearranged Geographical Areas, all as proposed by the Advisory Council in March 1983

1. COMPOSITION OF EXECUTIVE COMMITTEE	<u>Name of Region</u>	<u>Countries included</u>
1.1 The Executive Committee shall consist of eight members	Southern Europe	France Greece Israel
1.2 The president and host of the next Conference shall be Chairman		Italy Spain Turkey
1.3 There shall be seven regional Representatives, one for each of the Geographical Areas given here	Scandinavia	Yugoslavia Denmark Finland Norway Sweden
2. LIST OF GEOGRAPHICAL AREAS		
<u>Name of Region</u>	<u>Countries included</u>	
America	Argentina Brazil Canada Mexico USA Venezuela	United Kingdom etc Australia India United Kingdom
East Asia	China Japan South Korea	
Eastern Europe	Bulgaria Dem. Rep. Germany Poland Romania USSR	
Northern Europe	Austria Belgium Fed. Rep. Germany Netherlands	