

REPORT OF THE EXECUTIVE COMMITTEE

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I. GENERAL

1. INTRODUCTION

The International Towing Tank Conference started in 1933 with the First Conference held in The Hague on 13-14, July, 1933, under the name of "The International Conference of Ship Tank Superintendents".

Twenty three delegates from nine countries including ten superintendents of European tanks gathered "to give tank officials an opportunity of conferring in an open and confidential manner on their own methods and also on the manner of publication of the results".

In the half century since this initial meeting, the Japan Organizing Committee has the honour to hold the 18th ITTC Conference for the second time since the 11th Conference in Tokyo in 1966. The main intent and purpose of the Conference have remained the same over these fifty years. That is to stimulate progress in solving the technical problems which are of importance to towing tank superintendents, and to stimulate research in all fields where a better knowledge of the hydrodynamics of ships and marine installations is needed to improve the prediction of performance at full scale. Needless to say these meetings fulfill another very important aim which is to encourage better friendship among the international society of ship hydrodynamics.

In the past decades, the field of the ITTC activities has become broader and deeper. Therefore the size of the Conference has grown steadily with relatively minor influence from the

rise and decline of the shipbuilding industry. There were seven Technical Committees at the 11th Conference. Now there are three more Committees which treat Ocean Engineering, Performance in Ice-Covered Waters and High Speed Marine Vehicles. A hundred and fifty delegates and observers attended at the 11th Conference. For the 18th Conference 340 invitations have been sent to delegates and observers from 32 countries.

It has been said that the twenty-first century will be the century of the ocean. There will be many frontiers to be solved. As we recognize these new problems will join many classic problems which we have struggled with over the years. However we are gradually acquiring techniques and instrumentation of a level equal to these tasks. The effort to solve those new and old problems will continue using new tools such as precise LDV measurements, numerical hydrodynamics, and so on. This is reflected in the Group Discussion topics at the 18th Conference.

The Executive Committee as well as the Advisory Council have made efforts to seek new direction of the ITTC and will continue the efforts to achieve the purpose of the ITTC. It can be said, with this farsighted view, that the importance of the ITTC activities and its prestige will continue to increase in the future years.

2. MEMORIALS

The Executive Committee has to report with deep regret the death of four eminent colleagues who had contributed to the aims of the ITTC as delegates of Member Organizations and in some cases Executive and Technical Committee members.

Vice Admiral Andre M. Castera former director of the Bassin d'Essais des Carenes (Paris) died in the summer of 1981. He was a member of the 14th, 15th, and 16th ITTC Executive Committee and acted as the representative of western as well as southern Europe countries. Born in 1917 he entered the Ecole Polytechnique in 1938 and joined the French Corps of "Genie Maritime" in 1941. He was involved in the operations of the French fleet maintenance throughout the world and in 1954 he acted as chief engineer in charge of the construction of the aircraft carrier "Clemenceau". After completion of the ship in 1961, he was selected by Vice Admiral Brard to undertake improvements in the equipment and facilities of "Bassin d'Essais des Carenes" (Paris). He succeeded Vice Admiral Brard and served as the director of the Bassin from 1969 until his retirement in 1979. His personal qualities, technical knowledge, and broad interest in modern techniques were invaluable contributions to the ITTC members.

Prof. Stanko Silovic, former professor at Faculty of Mechanical Engineering and Shipbuilding - Zagreb, died on 22 June 1984. Before the last world war he spent long period in shipbuilding, serving as designer, surveyor, technical director and director of

shipyard. After the war he took a prominent part in rebuilding and developing Yugoslav shipbuilding industry. He undertook the pioneering work on the foundation of shipbuilding institute named Brodarski Institut and on the development of ship hydrodynamics in Yugoslavia.

Being director and technical director of Brodarski Institut, he was simultaneously teaching and educating many generations of naval architects at the faculty. His main subject was ship design, with particular interest in ship resistance and propellers. He was very active in the field of international collaboration, specially in the frame of ITTC. He was the member of 10th ITTC Executive Committee as well as the member of the Presentation Committee throughout the 9th to 12th ITTC periods.

Phillip Eisenberg died on 16 December 1984 following long and distinguished careers in both government and industry. He was a member of the ITTC Cavitation Committee from 1963 to 1972 and, as President of Hydronautics, Inc., was a member of the ITTC Advisory Council from the Council's formation in 1972 until 1983. In his early career he headed a naval hydrodynamics research group at David Taylor Model Basin and subsequently administered fundamental research projects at the Office of Naval Research. Mr. Eisenberg was elected President of the American Society of Naval Architects and Marine Engineers and served from 1973-74. He was the recipient of many awards including the Society's David W. Taylor Medal and the Gibbs Brothers Gold Medal from the National Academy of Sciences. As a researcher he is best known for his work on cavitation.

Dr. Curt Falkemo, late professor of ship hydromechanics at Chalmers University of Technology in Göteborg, Sweden, died on 6 March 1986. After graduating from the Royal Institute of Technology in Stockholm, he served at sea and ashore with the Royal Corps of Naval Architects and Marine Engineers, including a period as teacher at the Royal Swedish Naval Academy, and three years as head of the Preliminary Ship Design Office of the Swedish Naval Administration. In 1957 he was appointed to what was then the chair of Theoretical Naval Architecture at Chalmers, where he gradually established separate ship model experiment facilities for student research and training and where he pioneered underwater technology work. Dr. Falkemo was a delegate to the 12th and 13th ITTC representing the Ship Hydro-mechanics Laboratory at Chalmers, and he was an observer to the latest Conference. In later years his main interest was in wave energy research.

3. COMMITTEE MEMBERSHIP

The 18th ITTC Executive Committee appointed by the Göteborg Conference consisted of the following persons :

- Prof. T. Inui (Japan)
 - Chairman
- Dr. H. Lindgren (Sweden)
 - Vice chairman, repr. Scandinavia
- Dr. R.K. Burcher (United Kingdom)
 - repr. UK et al.
- Prof. J.D. van Manen (The Netherlands)
 - repr. Northern Europe
- Dr. W.B. Morgan (USA)
 - repr. North & South America
- Dr. E.P. Nikolaev (USSR)
 - repr. Eastern Europe
- R. Adm. P. O'Dogherty (Spain)
 - repr. Southern Europe

Dr. K. Yokoo (Japan)
 - repr. East Asia

The Committee appointed Prof. H. Kato (Japan) and Dr. N.H. Norrbin (Sweden) as Secretaries.

The countries belonging to each geographical area are shown in table at the end of these Proceedings.

At its first meeting the Committee decided that its members will act as liaison officers between the Executive Committee and the Technical Committees during the 18th ITTC period as described below.

Technical Committee Committee Member

Resistance and Flow	Prof. T. Inui
Propulsor	Dr. K. Yokoo
Cavitation	Dr. W.B. Morgan
Powering Performance	Dr. H. Lindgren
High-speed Marine Vehicles	Adm. P.O'Dogherty
Manoeuvrability	Dr. N.H. Norrbin
Seakeeping	Dr. R.K. Burcher
Ocean Engineering	Prof. J. van Manen
Performance in Ice	Dr. E.P. Nikolaev
Symbols and Terminology	Prof. H. Kato

Following the retirement of Prof. J.D. van Manen as the President of MARIN on March 1st, 1986 and upon consultation with the Member Organizations of Northern Europe, the Executive Committee decided at the second meeting in Kobe to ask Dr. M.W.C. Oosterveld (The Netherlands) as area representative of Northern Europe for the rest of the period.

The Committee decided at the third meeting at Haslar to ask Mr. A. Hansen (Norway) as the representative of

Scandinavia and Prof. J.A. Aláez (Spain) as the representative of Southern Europe upon the consultation in the respective geographical areas. This

was following the retirements of Dr. H. Lindgren from SSPA on July 1st 1986 and R. Adm. P. O'Dogherty from El Pardo Tank in January 1987.

II. REVIEW OF THE ACTIVITIES OF THE EXECUTIVE COMMITTEE

1. COMMITTEE MEETINGS

During the 18th period which started in September 1984, the Executive Committee met three times. Further meetings are scheduled for the Conference week. The main topics of discussion are briefly summarized below.

The first meeting was held in Norfolk on May 20th and 21st, 1985. The main topic was the modification of the Information Committee to the Secretariat Group which was decided at the 17th ITTC Conference in Göteborg. The structure and task were discussed and decided. (see DECISIONS) The Committee discussed the preliminary program of the 18th ITTC Conference in Kobe as well as the procedure for review and acceptance of new ITTC Member Organizations and the Advisory Council membership.

The second meeting was held in Kobe on April 14th and 15th 1986. The Committee discussed time schedules for the 18th Conference, invitation of delegates and observers, themes and coordinators of Group Discussions and the treatment of written discussions. Applications for organizational membership to the ITTC and to the ITTC Advisory Council were reviewed and processed. The Committee also discussed the procedure for the replacement of Technical Committee members between Conferences.

The third meeting was held at Haslar, Gosport on April 24th 1987, being timed to coincide with the Centenary of the first model tested by R.E. Froude at Haslar on April 22nd 1887. The Committee discussed recommendations of the Advisory Council on the Organization of Advisory Council and Additional Guidelines for the Operation of the ITTC. It was decided to propose both to the 18th Conference. A new application for the ITTC membership was reviewed and accepted. Action on the applications for ITTC Advisory Council membership was postponed until the next meeting at the 18th Conference. The Committee also discussed the 18th Conference organizational activities including the structure of four Group Discussions. The lists of delegates and observers to be invited to the Conference were reviewed and finalized.

2. COMMITTEE DECISIONS

2.1 Modification of Information Committee to ITTC Secretariat

The proposal for modification of Information Committee to Information Group was accepted by the 17th Conference. The details were handed over to the 18th ITTC Executive Committee. The new "Information Group" was named as "ITTC Secretariat". The structure and membership were decided as follows.

ITTC Secretariat

Secretariat Group

- Prof. H. Kato - Chairman, 18th ITTC
Executive Committee secretary, Japan
Dr. N. Norrbin - 18th ITTC Executive
Committee secretary, Sweden
Dr. M. Oosterveld - 18th ITTC Advisory
Council secretary, The Netherlands
Dr. M. Pérez-Sobrino - member from
19th ITTC potential host country,
Spain

Symbols and Terminology Group

- Prof. B. Johnson - Chairman, USA
Dr. D. Clarke - UK
Dr. N. Matsumoto - Japan
Prof. C. Podenzana-Bonvino - Secretary,
Italy
Prof. M. Schmiechen - West Germany

Dr. J. van der Meulen (The Netherlands)
was appointed a member of Secretariat
Group in April 1986, replacing Dr.
M.W.C. Oosterveld who had become a
member of the Executive Committee.

The tasks of the two Groups were
divided as follows :

Secretariat Group

- Catalogue of facilities
- Group discussions
- Index of ITTC documents
- ITTC newsletter

Symbols and Terminology Group

- Symbols and terminology
- Dictionary of ship hydrodynamics
- Formats of data exchange

2.2 New ITTC Member Organizations

The following three organizations were
accepted as new members of ITTC at the
second meeting in April 1986.

**Wuhan University of Water
Transportation Engineering,**
Wuhan, Hubei, China

University of Osaka Prefecture,
Sakai, Osaka, Japan

Hyundai Maritime Research Institute,
Ulsan, Korea

At the same time, RMI, Inc.,
California, U.S.A. was also accepted as
a new member, but it had gone bankrupt
soon after the acceptance. Therefore
the name of RMI, Inc. has been deleted
from the list of Member Organizations.

The following organization was accepted
as a new member of ITTC at the third
meeting in April 1987.

**Huazhong University of Science and
Technology**
Wuhan, Hubei, China

2.3 Changes of Member Organizations

The following changes were reported
during the 18th ITTC period.

United Kingdom

- Admiralty Research Establishment,
Teddington was merged with the
Admiralty Research Establishment,
Haslar.
- British Ship Research Association,
and NMI Ltd. were merged on April 1,
1985 and renamed British Maritime
Technology Ltd.
- British Shipbuilders Hydrodynamics
Ltd. does not exist anymore and was
deleted from the list.

U.S.A.

- ARCTEC(US) Eng. Inc. and Offshore
Technology Corporation were merged
on February 1, 1987 and renamed
ARCTEC Offshore Corporation.

It was pointed out that Ship Research Institute, Technical University Gdansk (Poland) had been dropped from the list of Member Organizations from the 14th ITTC period. It was due to a simple printing mistake.

These changes, corrections and four new Member Organizations have been added to the list of Member Organizations.

2.4 New Members of ITTC Advisory Council

There were two applications during the 18th ITTC period. The decision was postponed until the next Committee meeting at the 18th Conference. It was partially because the new Rule on the Organization of the Advisory Council had been discussed at the Advisory Council and the Committee wanted to review them following the new Rule.

2.5 Changes of Membership within Technical Committees

The following changes in the original lists of Technical Committees, accepted by the 17th ITTC, were subsequently approved by the 18th ITTC Executive Committee :

High-Speed Marine Vehicle Committee -

Mr. B. Koops (MARIN, The Netherlands) was appointed in February 1985, in place of Dr. P. van Oossanen.

Resistance and Flow Committee -

Mr. A. Garcia (El Pardo Tank, Spain) was appointed in April 1986, in place of Mr. M. Carlier.

Propulsor Committee - Mr. L. Grossi

(CETENA, Italy) was appointed in April 1986, in place of Dr. A. Colombo.

In this connection, It was decided that the Chairman of the Executive Committee would inform through letters, the new or out-going members about the decision on their membership to avoid unnecessary confusions of the membership of Technical Committees.

2.6 Delegates and Observers at the Conference

At the 17th ITTC Conference, delegates from the following categories and observers were invited to the Conference.

Delegates

- Representatives of Member Organization - Category A
- Members of Technical Committees - Category B
- Senior member delegates - Category C
- Other country representatives - Category D

Observers

At the first meeting a motion was made to invite a limited number of experts to the full Conference who had contributed significantly to the ITTC activities. The aim is to stimulate discussions at the Technical Sessions of the Conference and also to get advice on the ITTC activities.

All members were in favor of the motion and the following were decided.

- Member Organizations may propose, through their area representative, delegates to the Conference who are not included in Categories A-D. Acceptance of such delegates will take into account the members of formal delegates attending and the contribution that

such additional delegates could make to the Conference.

Therefore the delegates for the 18th ITTC Conference are of Category A-E.

- Expert Delegates - Category E

2.7 Proposals from the Advisory Council

The Advisory Council has studied on two problems, one being on requirements for membership of Advisory Council and the other being modification of the present Additional Guidelines for the Operation of the ITTC. The Council has presented to the Executive Committee two proposals concerning the above items.

The Executive Committee has reviewed them and decided to propose them to the 18th ITTC Conference as two Recommendations to the Conference. The first recommendation concerns "New Rules of Organization of the Advisory Council" which is to replace the present ITTC Rules of Organization adopted by the 17th ITTC. (See Volume 2 of the 17th ITTC Proceedings, page 404.) The second recommendation concerns Additional Guidelines to replace the present Guidelines adopted by the 17th ITTC. (See Volume 2 of the 17th ITTC Proceedings, page 406 and 407.) Those recommendations are in Appendixes 1 and 2 of the Executive Committee report.

3 ADDITIONAL CONSIDERATIONS

3.1 Relation between the Executive Committee and the Advisory Council

The Executive Committee and Advisory Council relationship was discussed at

the first meeting of the Executive Committee.

The importance of a tight connection and frequent exchange of informations and opinions between those two organizations were recognized. The following was decided.

- The Chairman of the Advisory Council will be an exofficio member of the Executive Committee. In that capacity the Chairman of the Advisory Council will be invited to the Executive Committee meetings.

3.2 On Written Discussions

Until the 17th ITTC Conference written discussions to the Technical Committee reports were submitted only a few days before the respective session. This gave the Technical Committees very limited time to prepare a reply. The Committee decided to set a recommended date of written discussions a few weeks prior to the Conference for the convenience of replies. The date for the 18th Conference is September 20th, 1987 which is about 4 weeks before the opening of the Conference. Never-the-less discussions will also be accepted even after this recommended date.

3.3 On Future Conference of ITTC

19th ITTC - During the 17th ITTC period the Executive Committee received an invitation from Spain to hold the 18th ITTC, including an alternative offer for the hosting of the 19th ITTC in 1990. At the first meeting of the Committee Adm. O'Dogherty presented a formal invitation for the 19th ITTC Conference on behalf of Canal de Experiencias Hidrodinamicas in 1990 in

Madrid, Spain. The Committee decided to recommend that the 18th Conference accepted the invitation from Spain.

20th ITTC - The Committee will recommend the 19th Executive Committee to consider America area possibly Brazil for the 20th ITTC in 1993.

4. ON ORGANIZATION OF THE 18TH ITTC

4.1 General Arrangements

The 17th ITTC Conference in Göteborg decided at the final General Session that the 18th ITTC be held in Kobe, Japan in October, 1987. Later the 18th Executive Committee decided that it will be a seven day conference from October 18 until 24, 1987 held at the International Conference Center, Kobe. Two domestic steering committees, the Japan Organizing Committee (Chairman Dr. M. Kinoshita) and the Japan Executive Committee (Chairman Prof. T. Inui) were organized in April, 1985. A Working Group was formed under the two Committees and started the conference organizational activities. The progress of the organization work were announced to all Member Organizations by the ITTC Newsletters.

4.2 Formal Invitations to Delegates and Observers

Personal invitation letters were sent in May 1987 to about 340 delegates and observers in accordance with the lists of names reviewed and approved by the Executive Committee which are reproduced in the Volume 1 of the Proceedings. The list of delegates includes 38 senior members.

4.3 Reports of the Technical Committees

Guidelines for the preparation of the Committee reports and blank sheets for the manuscripts were sent to Secretaries of the Technical Committees on July 31st, 1986. The Guidelines were based on the proposal of the 17th ITTC Information Committee entitled "Guidelines for the preparation of ITTC Proceedings". This was published as Appendix 10 of the Committee Report in the Volume 1 of the 17th ITTC Proceedings. It was modified partially and new Guidelines are shown as Appendix 3 of this report. The manuscripts of the Technical Committee reports including those of Symbols and Terminology Group, were received by the organizers during the period between March 2nd and July 2nd.

4.4 Technical Program of the Conference

There will be two General Sessions pertaining to the work and policy of the ITTC, nine regular Technical Sessions for each subject covered by the nine Technical Committees, one Session on Symbols and Terminology, and four Group Discussions at the Conference.

At the final General Session of the 17th ITTC Conference it was suggested to have a joint Technical Session of Propulsor and Cavitation Committees. The Executive Committee decided, however, to have two separate Sessions at the 18th ITTC Conference after consulting the Advisory Council's opinion. The details are also presented in the Report of the Advisory Council.

According to the suggestion made by the Executive Committee, session hours of

differing length were scheduled based on the statistics of number of written discussions given at past Conferences.

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. The list of Session Chairmen is presently as follows :

Session on	Chairmen
Resistance and Flow	Prof. T. Inui
Propulsor	Dr. K. Yokoo
Cavitation	Dr. W. B. Morgan
Powering Performance	Mr. A. Hansen
High-Speed Vehicle	Prof. J.A. Aláez
Manoeuvrability	Dr. E.P. Nikolaev
Seakeeping	Dr. R.K. Burcher
Ocean Engineering	Dr. M.W.C. Oosterveld
Performance in Ice	Prof. O. Krappinger
Symbols and Terminology	Prof. H. Kato

The technical sessions will include ;

- presentation of the reports of the Technical Committees,
- presentation of written contributions to the Committee report,
- oral discussions from the floor, and
- replies by the Committees.

As mentioned in 3.2, a recommended date

of written discussions was set for the preparation of replies by the Committees. Written discussions should be prepared in duplicate. It is recommended that one be submitted to the Secretary of the appropriate Technical Committee, and the other sent to the Society of Naval Architects of Japan before September 20, 1987. Each session will include sufficient time for discussion especially regarding the Recommendations of the Committee.

The Group Discussions will be made on Saturday, October 24, 1987 on the following four subjects. The subjects and organizers are :

- 1 Report of the Advisory Council working group on validation
- Dr. G.S. Rodenhuis
- 2 Impact of numerical techniques in tankery
- Dr. W.-C. Lin, and Dr. L. Larsson
- 3a Applicability and accuracy of LDV measurements
- Dr. T.T. Huang and Dr. T. Sasajima
- 3b Advances in yacht testing technique
- Prof. B. Johnson and Dr. P. van Oossanen.

Whereas the organizers invited specialists to present short contributions, informal discussions will be encouraged.

III. REVIEW OF THE ACTIVITIES OF THE ITTC SECRETARIAT

1. INTRODUCTION

As mentioned in Section 2.1 in this report, the ITTC Secretariat was newly organized from the 18th ITTC period.

It consists of two Groups, Secretariat Group and Symbols and Terminology Group. The report of Symbols and Terminology Group is presented as the separate report in these Proceedings.

Therefore only the activities of the Secretariat Group is reported here. The membership and tasks of the Secretariat Group are given in Section 2.1.

2. ACTIVITIES OF THE SECRETARIAT GROUP

The Secretariat Group met once in Berkeley, California, USA on July 14, 1986. The main discussion item was on the organization of Group Discussions.

It was planned to ask two co-organizers for each subject of the Group Discussions. The title and name of organizers are shown in Section 4.4 of this report. The organizational work has been made with those organizers.

Updating of Index of ITTC-Documents and Catalogue of Facilities is an important task of the Group. The updated Index of ITTC-Documents is given in Appendix 4. It should be updated in the future for each ITTC Conference with new material which has become available.

Additions and corrections to the Catalogue of Facilities have been submitted to the Secretariat and published in the ITTC Newsletter. The list of Catalogue of Facilities which have been distributed during the 18th ITTC period is given as Appendix 5.

3. ITTC-NEWSLETTER

The publication of the ITTC-Newsletters was one of the Information Committee tasks in previous terms. For the 18th ITTC period, however, it was decided at the 17th ITTC Conference that the publication of the ITTC-

Newsletter would become part of the Secretariat's activities. We acknowledge the appreciation to the Information Committee, especially its chairman Dr. M.W.C. Oosterveld, and to MARIN for the preparation of the ITTC-Newsletters in the past.

For the 18th ITTC period Mr. H. Kasai, Nagasaki R & D Center, Mitsubishi Heavy Industries, Ltd. was appointed as the editor. The publication and distribution of the Newsletter were made by him under the supervision of the Secretariat.

During the 18th ITTC period, six biannual Newsletters were issued and distributed. The distribution included all Member Organizations, all members of Executive and Technical Committees and Groups and a limited group of additional organizations and persons nominated by the Executive Committee. The Newsletter publication was as follows ;

- No. 11 January, 1985
- No. 12 June, 1985
- No. 13 January, 1986
- No. 14 June, 1986
- No. 15 January, 1987
- No. 16 June, 1987

The six Newsletters included the following items :

- News from the Executive Committee
- News from the Advisory Council
- News from the ITTC Secretariat
- News from the Technical Committees
- News from the ITTC Member Organizations
- Calendar of events including conferences, symposia, and international meetings related to the aim of the ITTC

- Catalogue of Facilities updates
- List of Committee members

It is proposed that the Newsletter should continue to be published twice a

year. In Appendix 6 the general format of the Newsletter with publication schedule for the 19th ITTC period is also proposed.

IV RECOMMENDATIONS

The Executive Committee recommends that the Conference adopts new Rules of Organization of the Advisory Council and Additional Guidelines for the Operation of the ITTC, as given in

Appendixes 1 and 2 respectively. It also recommends that the Conference accepts the invitation from the Canal de Experiencias Hidrodinamicas to hold the 19th ITTC in Madrid Spain in 1990.

APPENDIX 1

RECOMMENDATION TO THE CONFERENCE

to adopt new Rules of Organization of the Advisory Council, proposed by the Advisory Council to replace the present Rules adopted by the 17th ITTC.

ITTC RULES OF ORGANIZATION

4. ORGANIZATION

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. Shall carry out a substantial portion of their work for clients and shall be able to demonstrate a prior and on-going responsibility for the prediction of performance of actual vessels.
- b. Shall have a long history of work in support of the ITTC as evidenced by membership of Committees, providing data in support of Committee work or making written contributions to Committees.

c. Shall have the capability of performing a variety of investigations within the scope of ITTC.

No limit is put on the total number of members.

Member Organizations of the ITTC may nominate their representative on the Advisory Council accepting that this representative will be their sole voice in the policy of the ITTC.

This representative should be a senior technical member of the management of the Member Organization able to contribute to technical discussions on hydrodynamic testing and with the authority to agree to providing members of Technical Committees and undertaking work in support of the ITTC.

In the event of the nominated representative being unable to attend, Member Organizations may send an alternate representative with either full authority, satisfying the foregoing paragraph, or as an observer. The level of authority must be conveyed in writing to the Advisory Council by the Member Organization before the meeting.

The Chairman, Vice-Chairman and Secretary of the Advisory Council shall be elected by its members between one year and half a year prior to the next Conference. They shall take office immediately following the end of this Conference.

The Chairman and Vice-Chairman should both be director of a Member Organization of the Advisory Council, or his representative.

APPENDIX 2

RECOMMENDATION TO THE CONFERENCE

on Additional Guidelines for the Operation of the ITTC, proposed by the Advisory Council to replace the present Additional Guidelines adopted by the 17th ITTC.

1. No delegate should serve in more than one official capacity of the ITTC at the same time. An official capacity is considered to be :

- a. Membership of the Executive Committee :
- b. Chairman and Secretary of the Advisory Council ;
- c. Chairman of a Technical Committee.

2. Membership on a single Technical Committee should not be for more than three consecutive periods of three years.

3. The work of all the Technical Committees should be directed towards the techniques and understanding of physical modelling as a means of predicting full scale behaviour. Whilst maintaining an awareness of progress, fundamental theoretical studies and numerical fluid computation should be covered by other forums such as ONR symposia etc.

4. The Technical Committees have to be advised in more detail about the nature of their "Conclusions and Recommendations". The conclusions and recommendations of the Technical Committees should be divided into three separate parts :

- a. General technical conclusions;
- b. Recommendations to the Conference on carrying out or reporting work requiring Conference action (e.g. testing techniques, standard symbols, prediction techniques, etc.);
- c. Recommendations for future work of the Committee.

In particular the second and third part would have to be very specific.

5. There should be no more than 4 meetings of a Technical Committee between Conferences.

6. A Technical Committee member, who is unable to take further part in the Committee work, will be replaced according to the following guidelines :

- a. The name of the replacement Technical Committee member may be suggested by a Member Organization, the pertinent Technical Committee Chairman or the Executive Committee Area Representative of the member to be replaced.
- b. The Technical Committee Chairman and the above Executive Committee Area Representative will jointly recommend the name of the replacement member to the Executive Committee.
- c. The Executive Committee appoints the new Technical Committee member.

(Item 1, 4 and 6 have been changed.)

APPENDIX 3

GUIDELINES FOR THE PREPARATION OF ITTC PROCEEDINGS

1. GENERAL

1.1 Subdivision of the Proceedings

The Proceedings will consist of two parts:

Part 1 containing the Executive and Technical Committee Reports should be published and distributed before the Conference.

Part 2 containing invited papers, written contributions, and final recommendations will be published after the Conference.

1.2 Contents of the Technical Committee Reports

Each Technical Committee Report must reflect the opinion of the complete Committee, even if individual members are made responsible for compiling separate parts.

Any member of the Conference on his own behalf or on behalf of any other individual, may contribute material of possible value to the Report of a Technical Committee.

Such contributions must be sent to the Chairman of the Committee concerned. They should not exceed 1000 words. The Technical Committees may include parts of those contributions which they consider important in their Reports. These contributions will not be published separately in the Proceedings.

1.3 Structure of the Technical Committee Reports

Each Report must include the following parts:

- Table of Contents
- General
- Review of Research on ... of Importance to the ITTC
- Conclusions and Recommendations
- Appendices

These parts should include:

General:

- Membership and meetings
- Recommendations of the past Conference

Review of Research on ... of Importance to the ITTC:

- Introduction

-

-

- Conclusions
- Acknowledgements
- References

Conclusions and Recommendations:

- Conclusions of the Committee
- Draft Recommendations to the Conference
- Draft Recommendations for the Future Work of the Committee

These "Conclusions and Recommendations" should be divided into three separate parts:

- a. General technical conclusions
- b. Recommendations to the Conference on carrying out or reporting work requiring Conference action (e.g. testing techniques, standard symbols, prediction techniques, etc.)
- c. Recommendations for future work of the Committee.

In particular the second and third parts would have to be very specific.

The complete Committee Report including illustrations should not exceed 50 pages or 15000 words.

1.4 Numbering of Divisions

Divisions and subdivisions of each report and appendices, if any, shall be numbered according to the international standard ISO 2145 "Numbering of divisions and subdivisions of written documents".

1.5 Invited Papers

Authors may be invited to present papers within the Conference Session on selected topics related to "tankery". These papers will be included in Part 2 of the Proceedings. They should not exceed 15 pages including illustrations or 4500 words.

2. GUIDELINES FOR PREPARATION OF TECHNICAL COMMITTEE REPORTS AND INVITED PAPERS

2.1 Paper and Typing

Manuscripts should be typed in black preferably with 1 1/2 spaces between lines on the sheets of paper supplied to Secretaries and authors. If possible IBM Courier letter type (10 pitch) should be used.

The text should extend up to, but not beyond, the preprinted frames. The text should be typed with two columns to a page, on one side of the sheets only. The style to be followed for headings as well as other details of the lay-out are shown on the sample manuscript. Clean manuscript pages ready for photographic reproduction have to be provided. The pages will be photographed and printed exactly as

received, reduced by 20% to the standard size A4 (210mm x 297mm). The bottom right-hand corner should be used for identification and preliminary pagination. The pagination must not be used for reference purpose since consecutive pagination will be inserted by the organizers. All text below the preprinted frames will be masked.

2.2 Equations

If possible, equations should be typed. Otherwise they should be carefully handlettered in Indian ink. Numbers of equations should be within round brackets at the right-hand margin. Refer to equations as Eqn. (1) etc. in the text.

2.3 Illustrations

Illustrations should be traced in Indian ink and should be inserted in the text. Photographs submitted must be black and white mat print and they should be supplied in duplicate. Refer to the illustrations as Fig. 1 etc. in the text.

2.4 References

A list of references, either numbered in the sequence of appearance or arranged in alphabetical order by author's name and year of publication, must be provided after the text. Refer to the references as Ref. 1 etc. in the text, or by author's name, year of publication, and page numbers.

2.5 Table of Contents

Each Committee Report shall include a Table of Contents, preferably within one page length, including the divisions and sub-divisions.

1. ITTC ORGANIZATION

<u>Document:</u>	<u>Where to obtain:</u>
1.1 Rules of organization as adopted by 17th ITTC 1984	Proceedings of 17th ITTC, Volume 2 (pp. 403-405), also Proceedings of 18th ITTC, Volume 1
1.2 Composition of the Executive Committee and geographical areas	Proceedings of 17th ITTC, Volume 2 (p. 406), also Proceedings of 18th ITTC, Volume 1
1.3 Selection of ITTC Technical Committee members	Proceedings of 16th ITTC, Volume 2, Recommendations of Executive Committee (pp. 296-297)
1.4 Guidelines for preparation of ITTC-proceedings	Proceedings of 18th ITTC, Volume 1, Report of Executive Committee, Appendix 3
1.5 Standard format for Catalogue of Test Facilities	Proceedings of 15th ITTC, Volume 1, Report of Information Committee
1.6 General format of ITTC-Newsletter	Proceedings of 16th ITTC, Volume 1, Report of Information Committee (p.504)
1.7 Standard format for exchange of seakeeping data on computer compatible media	Proceedings of 16th ITTC, Volume 1, Report of Information Committee (pp. 495-503)
1.8 Guidelines for the application of organizational membership of the International Towing Tank Conference (ITTC)	Proceedings of 13th ITTC Extract from Rules of Organization

2. PROCEEDINGS

<u>Proceedings:</u>	<u>Where to obtain:</u>
2.1 International Conference of Tank Superintendents The Hague, 13-14 July, 1933 Collected Papers and Notes Ed. L. Troost	Wageningen: Maritime Research Institute Netherlands (Photostatic copies, price Hfl. 50,--)
2.2 Summer Meetings of the Seventy-fifth Session and International Conference on Experiment Tank Work London, 10-13 July, 1934	London: Institution of Naval Architects, 1934 Trans. INA 76 (1934) (not available)
2.3 Congres International des Directeurs des Bassins Paris, Octobre, 1935 Memoires présentés et résumés des discussions Ed. MM. Barrilon, Pelabon et Guntzberger	Paris: Bassin d'Essais de Carenes de Paris, 1935 (not known)
2.4 Internationale Tagung der Leiter der Schleppversuchsanstalten Berlin, 26-28 Mai, 1937 Berichte, Beiträge u. Entschliessungen Ed. H.M. Weitbrecht	Berlin: Preussische Versuchs-anstalt für Wasserbau und Schiffbau, 1937 (Loose leave copies, price DM 60,00)
2.5 Fifth International Conference of Ship Tank Superintendents London, 14-17 September, 1948 Papers and Discussions Ed. G. Hughes	Teddington: Ship Division, National Physical Laboratory, 1949 (out of print)
2.6 Sixth International Conference of Ship Tank Superintendents Washington, 10-15 September, 1951 International Committee Reports, Introductory Remarks, Discussions and Conclusions. Ed. H.E. Saunders	New York: Society of Naval Architects and Marine Engineers, 1953 (unbound copies, price SNAME members US \$ 56,00,--, non SNAME members US \$ 76,00,--)

- 2.7 Seventh International Conference on Ship Hydrodynamics Oslo, 10-20 August, 1954
General Lectures with Discussions
Ed.
Trondheim, Skipsmodelltanken, Norges Tekniske Hogskole (Norwegian Ship Model Experiment Tank, Publ. No. 32-37, out of print)
- Seventh International Conference on Ship Hydrodynamics Göteborg, 20-31 August, 1954
International Committee Reports, Discussions and Conclusions
Ed. H.F. Nordström and H.E. Edstrand
Göteborg: Statens Skeppsprovvningsanstalt, 1955 (SSPA publ. No. 34, price S.kr. 125,00).
- 2.8 Eighth International Towing Tank Conference
Madrid, 15-23 September, 1957
Proceedings
Ed. M.L. Acevedo and L. Mazarredo
El Pardo/Madrid: Canal de Experiencias Hidrodinamicas, 1959
(Proceedings, price Pts. 5000,00)
- 2.9 Ninth International Towing Tank Conference
Paris, 8-17 September, 1960
Proceedings
Ed. R. Brard and S. Bindel
Paris: Bassin d'Essais des Carenes (not known)
- 2.10 Tenth International Towing Tank Conference
Teddington, 3-12 September, 1963
Proceedings, 2 Volumes
Ed. G.J. Goodrich
Teddington: National Physical Laboratory (Proceedings, price £ 10.00 plus £ 7.50 overseas postage)
- 2.11 Eleventh International Towing Tank Conference
Tokyo, 10-20 October, 1966
Ed. M. Kinoshita and K. Yokoo
Tokyo: Society of Naval Architects of Japan (Proceedings, price ¥ 5000 plus ¥ 1620 seamail, ¥ 9140 air mail)
- 2.12 Twelfth International Towing Tank Conference
Rome, 22-30 September, 1969
Proceedings
Ed. Istituto Nazionale per Studi ed Esperienze di Archtettura Navale
Roma: INSEAN
(Proceedings, price It. lire 100.000,-- plus 2% tax plus postage)

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|--|---|
| <p>2.13 Thirteenth International Towing Tank Conference
 Berlin/Hamburg, 4-14 September, 1972
 Materials for Reports, Materials of Interest
 Proceedings, 2 Volumes
 Ed. S. Schuster and M. Schmiechen</p> | <p>Berlin: Versuchsanstalt für Wasserbau und Schiffbau, 1972/73
 (Material for Reports, Material of Interest, price DM 60,--
 Proceedings, price DM 120,--)</p> |
| <p>2.14 Fourteenth International Towing Tank Conference
 Ottawa, 2-11 September 1975
 Proceedings, 4 Volumes</p> | <p>Ottawa: National Research Council of Canada, 1975/76 (Proceedings, price Can.\$ 140)</p> |
| <p>2.15 Fifteenth International Towing Tank Conference
 The Hague, 3-10 September 1978
 Proceedings, 2 Volumes
 Ed. M.W.C. Oosterveld</p> | <p>Wageningen: Maritime Research Institute Netherlands, 1978/79 (Proceedings, price Volume 1, Hfl. 80,-- price Volume 2, Hfl. 40,--).</p> |
| <p>2.16 Sixteenth International Towing Tank Conference
 Leningrad, 31 August - 9 September 1981
 Proceedings, 2 Volumes
 Ed.</p> | <p>Leningrad: Krylov Ship Research Institute (Proceedings, price Volume 1..., price Volume 2...)</p> |
| <p>2.17 Seventeenth International Towing Tank Conference
 Göteborg, 8-15 September 1984
 Proceedings, 2 Volumes
 Ed. N.H. Norrbin</p> | <p>Göteborg: SSPA Maritime Consulting AB, 1984/85 (Proceedings, price Volume 1 SEK 350.-, price Volume 2 SEK 150.-)</p> |

3. ITTC PUBLICATIONS

Publication:

- 3.1 International Towing Tank Conference, Standard Symbols, 1976

Translations into:

Chinese

French

Where to obtain:

BSRA Technical Memorandum No. 500, 1976

CSSRC - Wusih

Association Française de Normalisation (AFNOR)

German	Collatz, G., Schiff und Hafen 27 (1975) No. 10. International Vereinbarte Buchstabensymbole und Bezeichnungen auf dem Gebiet der Schiffshydrodynamik.
Italian	Proceedings of 14th ITTC, Vol. 4, Report of Presentation Committee, Ap. II.
Japanese	Transactions of the Society of Naval Architects of Japan, No. 538, April 1974.
Russian	Brodarski Institute Publication No. 28, Zagreb 1974
Spanish	Simbols Internacionals en Arquitectura Naval, AICN Publication No. 7/75, July 1975, Madrid.
3.2 ITTC-Dictionary of Ship Hydrodynamics	RINA Maritime Technology Monograph No. 6, 1978
Translations into:	
Chinese	CSSRC, Wusih
Russian	KSRI, Leningrad
Translation of Overall Index of Titles of Dictionary of Ship Hydrodynamics	
Volume 1,	CETENA, Genova
1A French in alphabetic order	
1B German " "	
1C Italian " "	
1D Portugese " "	
1E Spanish " "	
Volume 2,	University of Tokyo,
Chinese	Tokyo
Japanese, Korean	
Russian	
3.3 Catalogue of Facilities	Secretary of ITTC Executive Committee

3.4 List of Catalogue of Facilities updates

Nos. 0001 - 0024

Proceedings of 17th ITTC, Volume 1,
Report of Information Committee
(pp. 63-64)

Nos. 0025 - 0027

Proceedings of 18th ITTC, Volume 1,
Report of Executive Committee,
Appendix 5

3.5 ITTC-Newsletter

Nos. 1-10

MARIN - Wageningen

Nos. 11-16

Nagasaki R & D Center,
Mitsubishi Heavy Ind. Ltd.
Ed. H. Kasai

4. ITTC ADDRESSES

List:

Where to obtain:

4.1 Member Organizations of ITTC

Secretary of ITTC Executive Committee

4.2 Member Organizations represented
in Advisory Council

Secretary of ITTC Advisory Council

4.3 Executive Committee and Technical
Committee members

Secretary of ITTC Executive Committee

4.4 Distribution of ITTC Newsletter

Secretary of ITTC Executive Committee

APPENDIX 5

LIST OF CATALOGUE OF FACILITIES UPDATES

The following list includes all contributions received from June, 1984 to June, 1987, which have been distributed with Newsletter No. 10 through No. 16.

CATALOGUE OF FACILITIES

0025 CIRCULATING WATER CHANNEL, 1983

Research Institute,
Ishikawajima-Harima Heavy
Industries Co. Ltd.
Yokohama, Japan

0026 ICE MODEL TANK, 1983

Research Institute,
Ishikawajima-Harima Heavy
Industries Co. Ltd.
Yokohama, Japan

0027 ICE MODEL BASIN, 1986

Nagasaki Research & Development
Center,
Mitsubishi Heavy Industries, Ltd.
Nagasaki, Japan

APPENDIX 6

GENERAL FORMAT OF THE ITTC-NEWSLETTER

CONTENTS

- List of Contents
- News from the Executive Committee
- News from the Advisory Council
- News from the Technical Committees
- News from the Member Organizations
- Calendar of events
- List of Catalogue of Facilities updates

GENERAL NOTES

- (1) The first page should have an ITTC logotype at the top. Each issue should be numbered and dated.
- (2) The Editor's address, and telephone and telex numbers should be listed at the bottom of the first page of each issue.
- (3) News from Member Organizations should include prominent personnel changes, special lectures, progress notes on the implementation of new facilities, etc.
- (4) The Newsletter should be typed in the same two-column format which is used for the Conference Proceedings and the pages should be numbered.

PROPOSED PUBLICATION SCHEDULE FOR THE 19th ITTC NEWSLETTER

NEWSLETTER NO.	DEADLINE FOR SUBMISSION OF MATERIAL	DATE OF ISSUE
17 (19-1)	November 15, 1987	December 15, 1987
18 (19-2)	May 15, 1988	June 15, 1988
19 (19-3)	November 15, 1988	December 15, 1988
20 (19-4)	May 15, 1989	June 15, 1989
21 (19-5)	November 15, 1989	December 15, 1989
22 (19-6)	May 15, 1990	June 15, 1990