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Message from the Chairman

The remaining days of 1997 are passing away very quickly. To one extent or another, we have all had a very busy and fruitful year.

This is the third issue of the 22nd ITTC News. The size of News seems to increase continually, which means that the people who are responsible for providing information for the ITTC-News have been carrying out their tasks diligently. We are grateful for their contributions. I have sent letters to the Chairman of the Standing Committee of ISSC and the Chairman of the Maritime Safety Committee of IMO, proposing increased cooperation between the ITTC and their organizations. I am expecting a favorable response from them.

I would like to take this opportunity to extend the Season's Greetings and Best Wishes for a Happy New Year to all colleagues in the ITTC community.

Prof. Chung Mook Lee, Chairman

22nd ITTC Executive Committee

Note from the Secretary

The ITTC's web site was opened on the internet

this year. The site address is
<http://www.kriso.re.kr/ITTC>

The ITTC Homepage gives general information about the ITTC, providing news about conferences, meetings and other items of interest, including:

- Introduction to the ITTC
- Rules of the Organization
- Member Organizations
- Information on the 22nd ITTC
- Symbols and Terminology

In the future, it is intended to add the ITTC Proceedings, the Guidelines and Code of Practice as well as other information circulated by ITTC Committees. All of the member organizations having web sites are requested to include information about their facilities in those sites. Linkages to the web sites of individual members will be listed in the ITTC Homepage.

News from the Executive Committee

The first meeting of the 22nd ITTC Executive Committee was held at the Bassin d'Essais des Carenes in Val de Reuil, France on September 26, 1997. Dr. Didier Husson, Director of BEC, hosted the meeting. Selected items from the extensive agenda are presented below.

Review of Advisory Council Membership

The EC Secretary will send a letter to AC members in December 1997 to start the review of the Advisory Council membership. The replies should be sent to the EC secretariat by April 10, 1998, and review information will be sent to EC members by June 15, 1998. The replies will be discussed at the meeting of EC on August 13, 1998 and a report, giving results of the EC review, will be presented at the AC meeting in March 1999.

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Arrangements for the 22nd ITTC Meeting in 1999

Preliminary arrangements for the technical program of the 22nd ITTC are reported as follows:

September 5 (Sunday/SEOUL)

- 14:00-16:00 Advisory Council meeting
- 16:00-18:00 Executive Committee meeting
- 17:00-20:00 Registration

September 6 (Monday/SEOUL)

- 09:00-09:30 Opening
- 09:30-10:30 Report of Executive Committee
- 11:00-12:30 General Committee
- 14:00-15:15 Specialist Committee
- 15:45-17:00 Specialist Committee

September 7 (Tuesday/SEOUL)

- 09:00-10:15 Specialist Committee
- 10:45-12:15 General Committee
- 13:45-15:00 Specialist Committee
- 15:30-16:45 Specialist Committee
- 16:45-18:00 Specialist Committee

September 8 (Wednesday/SEOUL-SHANGHAI)

- AM: Transfer from Seoul to Shanghai
- PM: Conference tour

September 9 (Thursday/SHANGHAI)

- 09:00-10:15 Specialist Committee
- 10:45-12:15 General Committee
- 13:45-15:00 Specialist Committee
- 15:30-16:45 Specialist Committee
- 16:45-18:00 Specialist Committee

September 10 (Friday/SHANGHAI)

- 09:00-10:15 Specialist Committee
- 10:45-12:15 General Committee
- 13:45-15:00 Specialist Committee
- 15:30-16:45 Specialist Committee

September 11 (Saturday/SHANGHAI)

- 09:00-09:30 Conference Photo
- 09:30-10:30 Plenary Session and Closing
- 11:00-12:00 Meetings of New Committees

The transfer from Seoul to Shanghai on Wednesday will be by morning flight and will be followed by the Conference half-day tour in Shanghai. A social program (reception, banquet and day trip) will be arranged.

Host Organization for the 23rd ITTC in 2002

In addition to the formal proposal submitted by the Bulgarian Ship Hydrodynamics Center, two area intentions to host the 23rd ITTC have also been presented:

- Italy, from Southern Europe Area (Adm. Grazioli)
- UK, from Central Europe Area (Mr. Bowden)

The EC requested that formal proposals be submitted before the deadline, outlining the date, venue, etc. The deadline for receipt of proposals is 1 August, 1998.

Changes in Membership of Technical Committees

Resignations from six Technical Committee members were reported. Following the Rules of the Organization, the Committee decided the replacements as listed below.

Committee	Replacement (Institution)	Geographic Area	Resignation (Institution)
Trials & Monitoring	No Replacement	Central Europe	J. Thomas (Hamworthy)
Safety of HSMV	G.J. Grigoropoulos (NTU of Athens)	Southern Europe	S. Miranda (U. di Napoli)
Propulsion	Jan Holtrop (MARIN)	Central Europe	J. Th. Ligtelijn (MARIN)
Computational Methods for Prop. Cavitation	P.G. Esposito (INSEAN)	Southern Europe	M. Landrini (INSEAN)
Deep Water Mooring	M.M. Bernitsas (U. of Michigan)	America	J. Murray (IMD)
Loads & Responses	O.A. Hermundstad (MARINTEK)	Northern Europe	J.V. Aarsnes (MARINTEK)

Dr. J. Pykkänen, of the Technical Research Center of Finland, was elected as the new Chairman of the Propulsion Committee.

ITTC Homepage on the Internet

The EC Secretary presented a draft of the ITTC Homepage which shows ITTC information such as the rules of the organization, member organizations, information about the 22nd ITTC, newsletter, membership of committees, symbols and terminology.

The Secretary noted that the Catalogue of Facilities, ITTC Proceedings, and Guidelines and Code of Practice were not yet prepared. Following the decision adopted by the AC, however, the Catalogue of Facilities will not be included in the Homepage. Rather, internet addresses of the member organizations will be listed, from which information about the facilities of individual organizations can be obtained.

Date for Next Meeting

The next meeting of the Executive Committee will take place on Thursday, August 13, 1998 in Washington, D.C., USA.

News from the Advisory Council

A meeting of the Advisory Council was held at the Bassin d'Essais des Carenes in Val de Reuil, France, on the 25 September, 1997.

Progress Reports from the Technical Committees and Groups

Progress reports from the technical committees and groups were reviewed at the meeting, and each committee has been contacted individually and informed of the Council's comments. The following points apply to all of the committees and groups.

Draft Conclusions and Recommendations

The *Rules of the Organisation* state that one of the aims of the ITTC is to establish procedures and guidelines to help the member organisations maintain their institutional credibility with regard to the quality assurance of their products and services, such as performance prediction and evaluation of designs, either by experimental or computational means. This is the main purpose of the committees and the terms of reference for each technical committee and group state that the reports to the Conference must include conclusions and recommendations that are 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),
3. Recommendations for future work.

In the past, there has been some confusion among the committees as to the differences between these three items. Further explanation is given below.

General technical conclusions are logical assertions based on the work of the committee or group. An example is:

"Many studies on impact loads have been reported with particular attention to high speed marine vehicles. Air cushion effects appeared to reduce the peak pressure but not the peak load. Also the hydroelasticity led to the reduction of impact pressure".

Recommendations to the Conference on carrying out or reporting work requiring Conference action. In the future, the Advisory Council has decided to refer to this item as recommended procedures, symbols, and nomenclature. An example is:

"It is recommended that the Conference adopt the test methods outlined in the HSMV Committee report for the investigation of dynamic instability".

Recommendations for future work. This item refers to proposals for future work by a technical committee or group. An example is:

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

As for previous conferences, the committees and groups will be asked to produce drafts of these three items so that they can be reviewed by the Advisory Council *before* the final reports are published in the *Proceedings*. The drafts must be sent to Brian Bowden, Secretary of the Advisory Council, by the 1st February 1999 so that they can be reviewed at a meeting of the Council in March 1999. (Brian Bowden will write to the chairmen of each committee and group in the second half of 1998 to remind them.) The committees will be informed of any changes made by the Council and asked to alter their reports accordingly before they are published. Each committee is encouraged to make recommendations for the future work of both General and Specialist Committees. When doing this, it should be remembered that all of the present Specialist Committees have been established for 3 years and are expected to complete their present tasks in that time.

During the meeting in March 1999, the Advisory Council will finalize the proposals for recommended procedures, symbols, and nomenclature, and for the work of future General and Specialist Committees and Groups. Those proposals will be presented by the Executive Committee chairman to the Full Conference for formal endorsement during the Final Plenary Session.

In the past, it has not always been clear when reading the *ITTC Proceedings* whether or not various recommended procedures had been adopted by the Conference. Therefore, it has been decided that, in the future, all recommended procedures and benchmark data formally adopted by the ITTC will be published in a *Quality Systems Book* which will complement the ITTC Symbols & Terminology List. The *Quality Systems Book* is now being prepared under the direction of the Quality Systems Group. It will be published in loose leaf format so that it can be updated as necessary. The Quality Systems Group is also developing a formal process for the adaptation, amendment and publication of recommended procedures.

All of the committees are reminded that the principle thrust of their work is to review the recommended procedures, benchmark data, and test cases for validation and uncertainty analyses and to update them as necessary. The General Committees should take the lead in liaising with the Specialist Committees to ensure that all of the procedures are reviewed and that they are dealt with a consistent manner. The committees should pass the information to the Quality Systems Group for publication in 1999. They should give this matter priority even if it means that they are unable to complete some of the other tasks assigned to them.

Publication of Conference Proceedings

It has been decided to publish the Conference Proceedings in three volumes as follows:

Volume 1

Reports of the Executive Committee, Advisory Council, General Committees and Groups. It will also contain the Rules of the Organisation, and a list of the member organisations.

Volume 2

Reports of the Specialist Committees.

Volume 3

Programme for the 22nd ITTC. List of participants at the 22nd ITTC and Conference photograph. Discussions of technical reports. Recommendations accepted by the 22nd Conference on carrying out or reporting work (e.g., testing techniques, symbols, prediction techniques, etc). Tasks of the General and Specialist Technical Committees and Groups for the 23rd ITTC. Lists of the members of the technical committees and groups.

The General Committees are requested to keep their reports to about 50 pages, and those of the Specialist Committees and Groups should be about 30 pages. Committee Chairmen are reminded that the guidelines for the preparation of the committee reports and the submission dates must be adhered to precisely.

Future Progress Reports

Committees and groups are asked to keep future progress reports to a maximum length of 2 pages. Each committee should aim to have its next progress report available by 6 July, 1998. Nearer that date the Secretary of the Advisory Council will contact each chairman about the arrangements.

Proceedings of Previous Conferences

The Proceedings for all of the ITTC Conferences are now held by SNAME in New York. Copies can be obtained from SNAME, with a charge to cover reproduction, mailing, and administrative costs.

Date for Next Meeting

The next meeting of the Council will be held in Washington on Tuesday, 11 August, 1998. The ONR Symposium and celebrations for the centenary of the David Taylor Model Basin will also be taking place during that week.

News from the Technical Committees

Resistance Committee

The second meeting of the Committee was held on 27-29 October, 1997 at SVA, Potsdam, Germany, and hosted by Dr. M. Maksoud. All the members attended the meeting except for one who was unable to attend due to health problems.

At this meeting, the objectives of the Committee were confirmed, the tasks of those responsible for the different chapters were clarified, and progress was reviewed. The abstracts, plans of action and time schedules of the different Chapters of the Committee Report, accorded in the previous meeting, were discussed. The structure

of this report will be as follows:

- Introduction
- State of the art, and potential impact of new developments
- Resistance and flow physics
- Trends in EFD and CFD
- Uncertainty analysis in EFD and CFD
- Relationship with other professional organizations
- Conclusions, recommendations and future work.

As mentioned in the previous issue of the ITTC-News, the Committee intends to propose standard procedures for uncertainty analysis in experimental and computational fluid dynamics. Draft descriptions of these procedures are in good progress and will be tentatively applied at some of the Institutes which are represented in the Resistance Committee.

In addition, the Committee will propose a set of benchmark data to be used for CFD validation work, and an update of the list in the previous report is being taken up. Members having knowledge of new data sets with sufficient quality and completeness for use in this purpose are kindly invited to send their information to the Committee. Information should be sent to Dr. M. Abdel-Maksoud, SVA Potsdam, Marquardter Chaussee 100, D14469 Potsdam, Germany; e-mail maksoud@sva-potsdam.de.

In view of the difficulty of surveying the impact of new developments in the field of the Resistance Committee and towing tank work, ITTC members are also encouraged to send comments or opinions about this to the chairman: Dr. F. Stern, IIHR, University of Iowa, Iowa City, Iowa 52242; e-mail frederick-stern@uiowa.edu

The third meeting will be held in Osaka, 28-30 May, 1998, following the 3rd Osaka Colloquium on Advanced CFD Applications to Ship Flow and Hull Form Design.

Propulsion Committee

There have been changes in the Propulsion Committee memberships. Dr. Jaakko V. Pylkkanen was elected Chairman and Ir. Jan P. Holtrop was appointed as a Committee member by the ITTC Executive Committee on September 26, 1997.

The second meeting of the Committee was held at DGA, Bassin d'Essais des Carenes on

September 30 - October 1, 1997. All eight members attended the second meeting. Dr. Stuart D. Jessup was elected secretary.

The Chairman has contacted the chairmen of the five Specialist Committees with propulsion-related tasks. The Committees have agreed to distribute appropriate parts of the minutes of their meetings in order to avoid unnecessary overlaps in the respective Committee reports.

TASKS

Review the state-of-the-art, and identify the need for research and development in the areas of propulsors, cavitation and powering performance. With respect to this task, the Committee noted that the differences in the extrapolation methods used at various model basins can lead to significant difficulties in the comparison of predicted performances.

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. Committee review has revealed some inconsistencies in the ITTC recommended procedures. Therefore, the Committee would like to get the views of the towing tank community on those ITTC recommended procedures that may require updating.

Identify the requirements for new procedures, benchmark data, validation, uncertainty analysis and stimulate the necessary research for their preparation. Several candidates for new procedures were put forward at the second Committee meeting.

Prepare an up-to-date bibliography of relevant technical papers and reports. The Committee has decided to issue the database in time to be available at the 22nd ITTC Conference.

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. The Committee will organise a workshop of comparative calculations of RANS equation and unsteady panel method codes in Grenoble on April 5-6, 1998. RANS equation codes or/and panel codes are used to predict the open water performance of the P4119 propeller. Unsteady panel codes are used to predict the performance of the P4679 propeller in inclined flow. The propeller data and the instructions for the participants will be

mailed in November 1997.

The Committee has made reasonable progress with its other task.

Dates and locations for the next Committee meetings:

- The third meeting will be held in Grenoble on April 2-4, 1998. The Committee will organise a workshop on comparative calculations of RANS equation codes and unsteady panel method codes in Grenoble on April 5-6, 1998. The CAV '98 Symposium will be held in Grenoble on April 7-10, 1998.
- The fourth meeting is presently scheduled for late November 1998 in the USA.

Dr. Bernard Gindroz is warmly thanked for hosting the successful second meeting in Val de Reuil.

Loads and Responses Committee

The first meeting of the Committee was held at the David Taylor Model Basin on 22-23 May, 1997. Seven of the nine committee members attended the meeting.

The Committee began its work with an extensive discussion of the tasks from the Executive Committee. Initially, the discussion focused on which topics to include in the Committee's state-of-the-art survey. This was motivated by the intent to limit the state-of-the-art survey to topics which are not covered by tasks of related Specialist Committees. The discussion then proceeded to approaches to be taken on the more specific tasks from the Executive Committee.

The Committee requests assistance from the member organizations of the ITTC in order to learn the current techniques for measuring loads and responses (the emphasis is on new approaches). In this regard, the Committee is developing a questionnaire which will be finalized at the upcoming meeting and will then be sent to the member organizations.

Contact has been established with the Stability, Environmental Modelling, Trials and Monitoring, and Manoeuvring Committees of the ITTC, and with the Environment, Loads, and Dynamic Response Committees of the ISSC.

The second meeting is planned for 1-2 December, 1997 at the University of Newcastle,

Newcastle upon Tyne, UK.

Ice Committee

The second meeting of the Ice Committee was held at Kvaerner-Masa Yards Arctic Research Centre in Helsinki, Finland on October 23rd and 24th, 1997. All six of the committee members attended: Dr. Kato (Chairman, IHI), Prof. Nixon (Secretary, IIHR), Dr. Jones (NRC), Mr. Izumiyama (SRI), Dr. Sazonov (KSRI) and Mr. Wilkman (MARC). Mr. Wilkman kindly hosted the meeting, and arranged for members to observe a model test at the institute's ice basin.

The Committee discussed the following tasks:

(1) Common Guidelines for Measuring Model Ice Properties

The Committee recognized unanimously that every test method should aim to obtain an index value of the mechanical properties of model ice. Also, the Committee recognized that any tests have to be accomplished in a short time and in a relatively simple manner. Based on this information, the Committee discussed each of the four sub tasks below.

ST-1 Standard Tests Description

The Committee agreed that standard test methods for measuring the flexural strength, the Young's (elastic modulus) and the specific weight are to be recommended. It was agreed that Dr. Kato will prepare a draft as soon as possible, and circulate the draft to the committee members. It was also agreed that, if possible, the draft would be presented at the ATTC meeting next September in Iowa.

ST-2 Compression Test

The Committee agreed that the floating uniaxial compression test proposed by the previous Ice Committee is promising. However, the Committee recognized that it would be too premature to recommend this method because, to date, it has only been examined by IHI and HUT. The Committee asked the member organizations to examine the method. SRI, IMD and MARC agreed to participate in the program and later MHI and NKK also agreed. The test apparatus owned by IHI will be circulated among the Japanese tanks, and will then be sent to IMD.

ST-3 Fracture Toughness Test

Prof. Nixon presented a plan and requested others to send him data. He will compile these

data and prepare a draft by the next meeting.

ST-4 Ridge Tests

Mr. Wilkman presented a draft questionnaire and the Committee agreed to send it to all the member organizations. He will compile the replies and prepare a draft by the next meeting.

(2) Model Test Procedure for Deformed Ice

The Committee admitted that there is a little published information on this matter. The members also agreed that the questionnaire prepared by Mr. Wilkman would be sent to all the member organizations. He will compile the replies and prepare a draft by the next meeting.

(3) Procedure for Model Tests of Offshore Structure

The Committee realised that a number of practices have been employed by the member organizations, because of the wide variety of structure types. The Committee also recognized that the best way to review current practices is to ask member organizations what kind of practice is used for what type of structure. Thus, the Committee agreed to send a questionnaire to all the member organizations. Dr. Jones and Mr. Izumiyama will prepare the questionnaire, compile it and prepare a draft by the next meeting.

(4) Review of Ice Tank Facilities

Dr. Kato presented the list of ice tank facilities, including those of non-ITTC member organizations. The Committee agreed to ask each member organization to determine if the information registered in the ITTC catalog is current. If not, the Committee will request members to up-date the ITTC catalogue.

(5) Updated Bibliography

The Committee agreed that each member would send a paper list of proceedings of ice-related symposia or conferences held between 1996 to 1998 to Prof. Nixon. He will compile appropriate references from them.

The Committee agreed that the next meeting will be held at Potsdam, New York the week before the IAHR Ice Symposium, which is scheduled for 27-31 July, 1998.

Committee on Unconventional Propulsors

Professor Neil Bose hosted the second meeting of the Specialist Committee held on September 29 and 30, 1997 at Memorial University, St. John's, Newfoundland, Canada. Seven of the

eight committee members were present, and written contributions addressing action items from all committee members from the first meeting were discussed. One of the specific goals of this meeting was to identify references and review extrapolation methods for various unconventional propulsors. At the conclusion of this meeting, a tour of the Institute for Marine Dynamics, a division of Canada's National Research Council, was hosted by Mr. Noel Murphy.

Review for the following unconventional propulsor types:

1. Propulsor having Tip Plates
2. Propulsor having Partial Ducts
3. Pre- and Post-Swirl Stators with Propulsors
4. Ducted Propulsors
5. Z-Drive Propulsors
6. Surface-Piercing Propellers
7. Oscillating-Foil Propellers
8. Propulsors having Boss Cap Fins.

Extensive discussion was held comparing ITTC-78, modified ITTC-78, and Water-Jet-96 methodology for testing and extrapolation. Discussion was focused on how self-propulsion tests are conducted, and on how the extrapolation of these tests to full-scale performance can be done.

A summary was presented of the progress to date on formulating the work of Schmiechen (1991) into a possible extrapolation methodology.

A tentative outline of the final report and each committee member's contribution was identified. The first section of the report will present model-scale to full-scale results using various extrapolation methods for unconventional propulsors. The second section will describe several extrapolation methods and the resulting test procedures. This will include the ITTC-78 baseline method, modified ITTC-78 methods, and momentum methods. The third section will present suggested guidelines for an extrapolation method and appropriate testing; i.e., self-propulsion, open water, resistance, etc. The final section will list conclusions and recommendations.

The next meeting of the Committee is scheduled to be held at the University of Genova on February 23 and 24, 1998.

Committee on Cavitation Induced Pressure Fluctuations

The second formal meeting of the Specialist Committee was held on 25 and 26 September

1997 at the Naval Surface Warfare Center, Carderock Division (David Taylor Model Basin) near Washington DC, USA. Hosted by the Chairman Michael Wilson, the meeting was arranged to occur immediately after the SNAME Propellers/Shafting '97 Symposium held 23, 24 September at Virginia Beach, Virginia USA.

The meeting was attended by all seven committee members. The stated purpose of this meeting was to have each member present a preliminary outline and discussion of what they intend to cover in their assigned technical area and a start on their literature survey. Task areas and assigned people are:

- (1) Review and comparison of computational methods for predicting unsteady hull pressures, H. Yamaguchi,
- (2) Survey and review of published full scale measurements of unsteady hull pressures, and if available, summary of corresponding hull vibration and/or inboard noise, J. Friesch,
- (3) Survey and review of published model scale measurements of unsteady hull pressures - instrumentation, techniques, analysis, procedures, and presentation of results, M. Wilson,
- (4) Review of hydromechanics of cavitating propeller induced unsteady pressure excitation, G. Bark,
- (5) Survey of methods and approaches for reducing pressure excitation levels from cavitating propellers - ship/hull side, D. Sadovnikov,
- (6) Survey of methods and approaches for reducing pressure excitation levels from cavitating propellers - propeller side, G. Caprino,
- (7) Extension of comparative model measurements and analysis of pressure fluctuations with reproducible wake (round robin test program) - additional facility involvement, H-G Lee, and
- (8) ISO 9000 issues - develop outline of procedures for screen-wake and model-wake unsteady hull pressure measurements and evaluation testing, all members.

These presentations were well prepared and thoroughly discussed during the intensive two day schedule. Additionally, it was agreed that certain members should make the necessary personal contacts with members of the Propulsion Committee and the Computational Methods for Propeller Cavitation Specialist Committee to avoid any direct overlap of in-depth treatment of common technical subject areas.

The next meeting will be held in Hamburg at HSVA (tentatively on 2-3 April, 1998) in connection with the CAVITATION '98 Symposium in Grenoble France, April 1998.

Committee on Computational Methods for Propeller Cavitation

The Second meeting of the Specialist Committee was held on 18-19 September, 1997 at David Taylor Model Basin, U.S.A. Six of the seven members attended. Mr. Pier Giorgio Esposito, from Italian Ship Model Basin (INSEAN), Italy, attended the meeting as the substitute for Dr. Landrini. The Executive Committee agreed that Mr. Esposito should join the Committee, since Dr. Landrini was obliged to resign from the Committee due to other commitments.

A questionnaire, surveying the use of computational methods for cavitation prediction, has been sent to ITTC member organizations.

Progress was presented on the following tasks:

- Cavitation prediction using Lifting Surface (L-S) Methods,
- Boundary Element Methods(BEM)/Panel Methods,
- Coupled Boundary Layer Methods with L-S or BEM,
- Euler, RANS, 2-Phase Flow Model Methods,
- Semi-Empirical and/or Stochastic Methods

It is noted that this Committee should communicate with the related Committees in order to avoid overlapping of work scopes. The next meeting will be held at the BEC office in Paris 1-3 April 1998, in connection with the Propulsion Committee Workshop and the CAVITATION '98 Symposium.

Committee on Trials and Monitoring

The second meeting of the Specialist Committee was held on August 27-29 in Paris, at the Bassin d'Essais des Carenes and was hosted by Dr. Pierre Perdon. The meeting was attended by five of the original seven members. Dr. A. Kracht was absent, and Dr. J. Thomas has resigned from the Committee.

The 3-day meeting was set-up to review and up-grade the work developed within the 5 tasks defined during the first meeting. A progress summary follows.

Task 1 - Speed/Power Trials and Analysis

Tentative guidelines have been discussed and reviewed, based on each member's experience of sea trials. The first revision of the guidelines

will be available for comments in early 1998. ISO 9001 procedure will be also integrated in the guidelines.

Task 2 - Manoeuvring Trials and Analysis

In developing a Guide, reference will be made to the IMO standards which apply to ship manoeuvrability, with the addition of recommendations on computer-based acquisition systems and correcting procedures.

Task 3 - Seakeeping Trials and Analysis

The core of the guidelines will refer to the unclassified criteria and procedures for seakeeping tests developed within the NATO Working Group and adapted to the merchant fleet requirements.

Task 4 - Performance Monitoring System

The role of the task leader was re-assigned from Thomas to Kracht. For the time being, only an up-grade of reference lists was being prepared.

Task 5 - Global Positioning System

For the time being, only an up-grade of reference lists was being prepared.

The next meeting will be held in Japan, Yokohama or Tokyo, on May 13-15, 1998. To receive comments and integrate contributions on Speed/Power Trials Guidelines an afternoon meeting with representatives of the Japan Shipbuilding Industry will be arranged by Dr. R.Fujino.

Committee on Stability

The third meeting of the Specialist Committee was held in Crete on 30 and 31 October 1997. This followed the very successful Third International Workshop on Theoretical Advances in Ship Stability and Practical Impact.

Progress within the four working groups was discussed according to the Guidelines for model tests on intact stability, Techniques for numerical simulation of intact stability, Guidelines for model tests on damage stability, and Techniques for numerical simulation of damage stability.

In addition, proposed symbols for ship stability were discussed, and the differences between ITTC symbols and IMO symbols were noted.

It was agreed to establish benchmark tests for member organisations to use in comparing their mathematical models for simulation of capsizing,

both in intact and damage conditions. A container ship and a Ro-Ro vessel, respectively, will be used for these tests. The Committee is now in the process of developing standard conditions which can be compared with results from model tests. Once this has been satisfactorily carried out, the data will be sent to all member organisations along with an invitation for them to become involved.

The next meeting will be held in St. John's, Canada on 30 September and 1 October 1998 in conjunction with the Fourth International Workshop on Theoretical Advances in Ship Stability and Practical Impact.

Committee on Environmental Modelling

Following the first meeting of the Specialist Committee, Dr. Carl Trygve Stansberg attended the International Association for Hydraulics Research (IAHR) seminar on Multidirectional Waves and their Interaction with Structures held in San Francisco.

Prof. Guenther Clauss attended the 13th International Ship and Offshore Structures Congress in Trondheim. The report of the Environment Committee (Committee I.1) was developed as a continuation of the work of the previous committee on the environment; in particular to assess developments over the last three years in methods of characterising the environment.

A decision was made by the Joint Old and New Standing Committees that close contact should be maintained between the related ITTC committees.

Prof. Yusaku Kyojuka attended the OMAE 1997 Conference on Safety and Reliability. Dr. Roumen Kishev attended the 6th International Conference on Stability of Ships and Ocean Vehicles (STAB '98) held in Varna.

Minutes of the meetings of the following ITTC committees were distributed: Loads and Responses, and Stability.

The next meeting will be held in Taejon at the Korean Research Institute of Ships and Ocean Engineering on 5-6 February, 1998. This meeting will follow the International Workshop on Modeling of Ocean Environments in Wave and Current Basin (RealSea '98), arranged for 3-4 February, 1998.

Up to 20 papers are planned for the RealSea '98 workshop with contributions from Europe, North America, Korea, Japan and China. Topics for discussion include:

- Directional wave modelling
- Wave generation
- Extreme effects
- Fluid interaction with structures
- Current measurement

This meeting will also coincide with the opening of the new multidirectional wave and current basin at KRISO. The basin (56m x 30m x 4.5m) has a centrally located deep section (12 m) and a multidirectional wave generator.

Committee on Deep Water Mooring

The Specialist Committee welcomes Prof. Michael M. Bernitsas, University of Michigan, Ann Arbor, U.S.A., as a new member. He will replace Dr. John J. Murray, who decided to resign from the Committee due to a change in his job.

The Committee will hold its next meeting on December 1-2, 1997 in London.

Committee on Safety of High Speed Marine Vehicles

The next meeting of the Specialist Committee will be held on December 8-9, 1997 at the Danish Maritime Institute and hosted by Dr. Anderson of the DMI.

Committee on Model Tests of High Speed Marine Vehicles

The second meeting of the Specialist Committee was held at the University of NSW, Sydney on the 23 July, 1997 at the time of the FAST '97 Conference. Seven of the eight Committee members were present.

During the meeting the progress of the Questionnaires, which had been circulated to ITTC members, was discussed, together with progress on the tasks of individual Committee members and the draft format of the Final Report.

Over 30 replies to the Questionnaires had been received so far out of the 84 circulated. Members are again asked to ensure that their organizations have replied to the Questionnaires since the information is an important input in

developing recommended codes of practice. At the same time, it is appreciated that model test techniques for HSMV are under continuous development. Consequently, contributions (concerning special tests relating to HSMV for which descriptions have not yet been published or included in the Questionnaires) are also welcomed by the Committee.

Liaison with other ITTC committees is being established and, to date, contacts have been made with the committees dealing with Stability, Environmental, Safety, Manoeuvring and Propulsion. These contacts will hopefully enable effective liaison to develop as the committees work develops further.

The next meeting of the Committee will be held at MARIN, Wageningen, on 2 and 3 April, 1998.

Symbols and Terminology Group

The SaT Group will meet during the First International Conference on Maritime Terminology in May of 1998 in Brussels, Belgium, and also during one of the several events in the summer of 1998 commemorating the 100th anniversary of the David Taylor Model Basin.

The revised Final Version 1996 (dated May 1997) of the Symbol and Terminology List, with hypertext-linked table of contents, can be downloaded from several locations: the ITTC Home Page in Korea (<http://www.kriso.re.kr/ITTC/>), the Naval Academy Hydromechanics Lab World Wide Web (WWW) site (<http://web.wse.nadn.navy.mil/nahl/>) and the WWW Virtual Library in Naval Architecture and Ocean Engineering site on the Internet.

Professor Jerzy Matusiak of Helsinki of the ITTC Stability Committee suggested that the heading of Section 1.2.4 should be changed to Hydrostatics and Static Stability and that an additional section, 1.2.5 on Dynamic Stability, be added. This useful idea will be implemented for the next version of the list along with some suggested additions to the list of symbols from the Stability Committee.

At the Waves97 Conference, it was known that the recent Proceedings of the IAHR Seminar on Multidirectional Waves, and their Interaction with Structures, contains an update for multidirectional waves for the IAHR List of Sea State Parameters. Appropriate sections from this update will be added to the 1998 Version of the SaT List.

The 22nd ITTC Symbols and Terminology Group continues to seek comments and suggestions for additions and clarifications concerning the symbols and their definitions from anyone associated with towing tank testing.

Committee on Waterjets

The first meeting of the Specialist Committee will be held at the Bssin d'Essais des Carenes, Val de Reuil, France on December 4-5, 1997, hosted by Dr. Bertrand Lamberti. A review and discussion of the current ITTC recommendations for the "waterjet self-propulsion test", and the development of a plan to validate and address inadequacies in these procedures is scheduled. Dr. Lamberti has correctly pointed out to the Committee that it must guard against a natural desire to create recommendations with the "Research Minds" versus less stringent, but more affordable "common commercial practices". To meet this end, it is hoped to formulate a plan to incorporate a manufacturers participation in future discussions.

The first objective is to evaluate the procedures for model waterjet self-propulsion tests through actual experiments. An exploratory waterjet self-propulsion test, performed at NSWC, will be used in the validation of the recommended procedures of the ITTC. Both the momentum flux and direct thrust measurement methods were used during these model tests for comparative purposes. Additionally, the United States Marine Corps and General Dynamics Amphibious Systems are continuing their development of a waterjet propelled Advanced Amphibious Vehicle (AAAV). Computational fluid dynamic models, physical models, and full scale trials, including the application of the momentum flux method at full scale, will be used for the maturing of the waterjet design. It is hoped that the findings of these studies will be incorporated into the contributions to the ITTC.

Mr. Zangeneh, University College London, has noted at the imperative of the second objective: to promote cooperation between laboratories, manufacturers, and designers by promoting the exchange of information. It is considered the objective, "to promote cooperation and free exchange of information", will depend upon using electronic communications. Therefore, the Committee intends to create a WEB site and Home Page that can be used for disseminating information and communications. The first goal would be to establish this site and provide download capability of the recommendations and

technical papers from the 21st Waterjet Committee. The second goal should be to encourage the technical community to use this site, not only to communicate with the Committee, but also to use it as a common point to exchange ideas. Some thought has been given to the management of the proposed web site.

News from the Member Organizations

David Taylor Model Basin, NSWC

TWENTY-SECOND SYMPOSIUM ON NAVAL HYDRODYNAMICS

The 22nd Symposium on Naval Hydrodynamics will be held in Washington, DC, 9-14 August 1998 at the National Academy of Sciences, Washington, DC. The Symposium is jointly sponsored by the Office of Naval Research, the National Academy of Sciences, and the Carderock Division of the Naval Surface Warfare Center. The purpose of the symposium is to provide a forum for the formal exchange of technical information on naval hydrodynamics, including vehicle, ocean, and structure hydrodynamics of interest to navies. A special emphasis is placed on the incorporation of new developments in the general field of fluid mechanics as they relate to naval hydrodynamics. The Proceedings traditionally provide archival documentation of the state-of-the-art for naval hydrodynamics. The Symposium is scheduled to coincide with the Centennial of the Experimental Model Basin/David Taylor Model Basin.

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SSPA

In August 1997 the telephone and fax numbers of SSPA Maritime Consulting AB were changed:

Tel: +46 31 772 9000

Fax: +46 31 772 9124

SVA

The telephone and fax numbers of the Schiffbau Versuchsanstalt Potsdam GmbH are

Tel: +49 3 31 567 12~0

Fax: +49 3 31 567 12~49

Samsung Heavy Industries Co., Ltd., Korea

The representative of Daeduk R&D Center, Samsung Heavy Industries Co., Ltd. was changed from Mr. Jong Soo Jung to Dr. Ho Sup Lee.

VWS

The representative of the Versuchsanstalt für Wasserbau und Schiffbau is Dipl. Ing. Frank-Peter Schindler

Obituary

Dr. Boris Biscoup, one of the leading specialists of Krylov Shipbuilding Research Institute, St. Petersburg, Russia, and the head of the Ship Propulsor Laboratory, died suddenly on 19th June 1996 at the age of 61.

Dr. Biscoup was born on July 27, 1935 in Svobodny, Amurskaya region, USSR. After graduating from the Leningrad Shipbuilding

Institute (now Marine Technical University) with an honours diploma in the specialised field of ship hydromechanics in 1959, Dr. Biscoup was employed as an engineer at Ship Hydrodynamics Department, Krylov Shipbuilding Research Institute.

His areas of scientific interest concerned ship propulsors, namely design, model and full scale tests, strength, cavitation, pressure fluctuation and acoustics of propellers and waterjets. One of Dr. Biscoup's principal achievements was the creation of a method to calculate unsteady forces transmitted from propeller to ship hull through the shaft and the water. This method was the subject of his doctoral dissertation (1967) and has been applied by shipbuilders for many years. Scientific studies by Boris Biscoup are published in more than 40 papers, in the monograph (1973) and the Ship Theory Handbook (1985).

As a member of ITTC Committees from 1981 to 1996, Dr. Boris Biscoup made a significant contribution to the activity of the 17th, 18th, 19th and 21st ITTC Propulsor Committees and to the 20th ITTC Cavitation Committee.

Deadline of Next Newsletter

The deadline for submitting material to the June 1998 issue (No.38) is 15 May 1998.