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TOWING TANK CONFERENCE

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Message from the Chairman

I am very pleased to announce that the Federal University of Rio de Janeiro, Brazil joined the ITTC in March 2003. This coincided with the opening of their new deep ocean basin LabOcean on 18th March 2003. The new basin which measures 40 m long, 30 m wide and 15 m deep with a central pit (10 m deep) will have a multi-directional wave maker and wind and current generators. Representatives from several ITTC member organisations joined the opening of the new basin and attended the 1st International Workshop on Applied Offshore Hydrodynamics which was organised to mark the opening of the new facility. The workshop was dedicated to Dr. Kazuo Hirata whose sudden death in December 2002 was a great loss to his family and friends as well as to the hydrodynamics community. Dr Hirata worked for IPT, Technical Research Institute of Sao Paulo and made a significant contribution to the ITTC as a member of the Deep Water Mooring Committee and later of the Stationary Floating Systems Committee. Dr. Hirata was a member of the 24th ITTC Committee on the Assessment of Environmental Issues

I would like to record our thanks to Dr, George Thiery who recently left the Bassin d'Essais des Carenes, France and the Executive Committee, for his valuable contributions to the ITTC as a member of the Executive Committee representing Southern Europe. On behalf of us all I would like to wish Dr.

Newsletter editor: Mr Willem van Berlekom SSPA Sweden AB P O Box 24001 SE 400 22 Gothenburg, Sweden Thiery well for the future.

Finally I would like to extend a warm welcome to Dr. Carl Trygve Stansberg as the new Chairman of the Ocean Engineering Committee.

With very best wishes to you all,

Atilla Incecik, Chairman 24th ITTC Executive Committee

Report from the 23rd ITTC

Status of Proceedings

The preparation of volume III is undergoing heavy delay. Answers from some committees are still missing, and some need to be completed. Besides, the Secretariat of the 23rd ITTC lost for a while its principal technical co-worker, so the final issue of the proceedings will come out with some months of delay.

The issue is now planned by October. This will allow a complete correction of the material, and a revision including a check up on the use of the proper ITTC terminology and symbols in the Committee report, according to the latest version of the Symbol and Terminology Manual. Furthermore delegates contributing to the Group Discussions will be contacted again, so as to properly organise the presentation of that part of the proceedings. A preview of the whole work will be sent to the EC and AC Secretaries before the next AC and EC meetings, late September in Pusan, Korea.

ITTC web site

The permanent ITTC web site has now been established at http://ittc.sname.org and includes basic information on the ITTC, such as the list of member organisations, rules of organisation and the terms of reference and membership of the technical committees. An important part of the website will be to make the Proceedings from the ITTC Full Conferences available. This process of including the Proceedings implies scanning of the Proceedings and it is planned to work backwards from the Proceedings from the 24th Conference.

For the 24th Conference, the University of Newcas-

Published by: Advisory Council Secretariat 24th International Towing Tank Conference Tel.: +46 31 772 9063; Fax: +46 31 772 9124 E-mail: willem.van.berlekom@sspa.se Web Site http://ittc.sname.org. tle will set up a web-site, which will contain all information related to the 24th Conference. To avoid duplication of information, links will be set-up between the Conference site and the permanent site.

News from the Executive Committee

Next meeting

The next meeting of the Executive Committee will be held in Pusan on 25^{th} September 2003, in conjunction with the 8^{th} Numerical Ship Hydrodynamics Conference.

2005 ITTC Arrangement

Arrangements for the 24th ITTC are progressing well. Readers are invited to follow the arrangements on the Conference website: http://www.ittc.ncl.ac.uk

News from the Advisory Council

Next meeting

The next meeting of the Advisory Council will be held in Pusan on the 24th and 25th September 2003. The meeting will be held in conjunction with the 8th Numerical Ship Hydrodynamics Conference NSH 8. The main item on the agenda will be to review progress reports from the technical committees.

News from the Technical Committees

Propulsion Committee

The first meeting of the 24th ITTC Propulsion Committee was held during 17-19 February 2003 at the University of Southampton, hosted by Professor A. F. Molland, Chairman of the Committee. Eight members were present and one member was absent due to illness. At this meeting, the Recommendations and Tasks given to the Committee by the 23th ITTC were reviewed in detail. Specific work assignments were made among Committee members. There are aspects for potential duplicative efforts among other related ITTC Committees, which include the Azimuthing Podded Propulsion Committee, Cavitation Erosion Committee, Powering Performance Committee and Resistance Committee. The Chairman will liase with these Committees in due course in order to minimise duplication of effort.

Dr. T. Kudo, NMRI Japan, has unfortunately had to resign from the Committee due to ill health. He will be replaced by Dr. Y. Ukon, also of NMRI.

The next meeting of the Committee is scheduled for 17-19 September 2003 at the Korea Research Institute for Ships and Ocean Engineering (KRISO), hosted by Dr. Suak-Ho Van, prior to the 8th International Conference on Numerical Ship Hydrodynamics in Busan, Korea.

Manoeuvering Committee

The first meeting was held on 6-7 March 2003 at INSEAN, Rome, Italy and hosted by Dr. M. Landrini of INSEAN. Eight of the nine Committee members attended. Professor F. Stern of The University of Iowa was elected Secretary.

The Chairman presented an overview of 24th Manoeuvring Committee (MC) tasks and work of past three 21st-23rd MC. The Committee reviewed all current MC Quality Manual (QM) Procedures: 7.5-02-05-05; 7.5-02-06-01, -02, and -03; and 7.5-04-02-01. The Committee accepts all tasks, although clarification of task 2 will be requested from the Advisory Council.

The Committee discussed the pros and cons of adopting the Esso Osaka, KRISO VLCC2, and/or SR 221 A, B, C tankers as benchmarks for validation of systems- and CFD-based simulation methods. Although all are of interest, it was agreed that for present purposes SR 221 A, B, C tankers are very relevant benchmarks for manoeuvring prediction methods. The SR 221 tankers could become an important benchmark case at the same level as the Esso Osaka and the Mariner if the lines were published.

The Committee discussed needs and plans for questionnaire on experience IMO including unconventional ships and propulsors and HSMV and availability full and model scale data including lines, conditions, etc. The Committee discussed needs and plans for uncertainty analysis for captive and free model tests. Priority will be given to circular motion and pure yaw planar motion mechanism (PMM) tests.

Deadlines for progress reports, conclusions and recommendations, Committee Report, and *ittc news* were discussed along with a timetable for the work. A table of contents for the Committee Report, the responsibilites for the research and writing contributions (both for the Commitee Report and QM Procedures), and the dates and locations for future Commitee meetings were agreed upon.

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- 2. Progress in Systems-Based Simulations
- 3. Progress in CFD-Based Simulations
- 4. Progress in Model-Test Techniques
- 5. Scale Effects and Validation

Confined Waters

6. High speed & Unconventional Vessels

- 8. Review of Benchmark Data for Validation Maneuvering Predictions
- 9. Conclusions
- 10. Recommendations

Dates and locations for future Committee meetings:

No. 2: 27-28 October 2003, FORCE Technology, Lyngby, Denmark No. 3: 6-7 April 2004, Seoul National University, Seoul, Korea No. 4: 4-5 November, Bassin d'Essais des Carenes, Val de Reuil, France

Ocean Engineering Committee

The Committee work has been initiated by first carrying out a review study of the topics within the tasks defined for the Committee. The first meeting is to be held in Nantes, France, 16-17 June, 2003, hosted by Dr. P. Ferrant.

Committee on Stability in Waves

The Committee, after the 2nd meeting (October 2002), requested the task coordinators in the Committee to determine their plans of actions. Based on the submitted documents, the following actions are planned.

1. Prediction of extreme motions and capsizing of intact ships: coordinated by Dr. N. Umeda

Firstly, the assumptions and weaknesses of current numerical models will be identified by reviews and then ways of their improvements will be recommended. Finally, their validity will be tested by benchmark testing. Here we will use Ships A-1 and A-2 of the benchmark testing of the 23rd Conference in regular waves. In addition, the experimental data for future benchmark testing in transient and irregular waves will be examined.

The current experimental procedures will be revised and extended by monitoring its implementation of member organisations.

2. Prediction of dynamics of damaged ships: coordinated by Prof. A. Papanikolaou

Firstly the assumptions and weaknesses of current numerical models will be identified by reviews. A new benchmark study on roro ships will be designed by January 2004. This study will be completed by the end of 2004.

The current experimental procedures for roro ships will be revised and extended to non roro ships.

3. Stability safety assessment: coordinated by Prof. A. Francescutto

Deterministic and probabilistic methodologies as well as criteria will be reviewed. In addition, the analysis will include the determination of how existing methods and procedures (experimental and/or numerical) would fit in an overall risk based design framework for intact and damaged ships. Gaps will be identified.

4. IMO matters: coordinated by Prof. D. Vassalos

Committee members are invited to provide initial comments on IMO HSC model tests – Interim Guidelines by September 2003.

5. Evacuation in waves: coordinated by Prof. J. Matusiak

State of art for different life saving appliances and evacuation systems will be reviewed.

6. ITTC Member survey: coordinated by Prof. S. Fan

The necessary questionnaire surveys will be carried out for the member organisations with regard to intact and damage stability.

For facilitating the above tasks, the Committee invited the following specialists as corresponding members: Dr. Shigesuke Ishida from Japan, Dr. Walter Kühnlein from Germany, Mr. Andrew Peters from the UK, Prof. Kostas Spyrou from Greece and Mr. Lew Thomas from the USA.

The next meeting will be held in Madrid, Spain, as announced in the last issue, in conjunction with the 8th International Conference on Stability of Ships and Ocean Vehicles (STAB2003) on 15-19 September 2003. This conference will be organised by Prof. Luis Perez-Rojas, Polytechnical University of Madrid, and cover all aspects of ship stability with refereed papers from the world. Its web site is now available with following address:

http://www.etsin.upm.es/Noticias/STAB/STAB2003 .php

Committee on Assessment of Ocean Environmental Issues

The Committee on the Assessment of Ocean Environmental Issues held its first meeting in Vancouver, Canada, on April 10 and 11, 2003. Four of five committee members attended. Committee Chair Chang-Gu Kang called the meeting to order and Brian Veitch was appointed Secretary. The tasks of the committee were reviewed and elaborated upon before being allocated to the members for action. Each committee member will prepare a brief written report in advance of the next meeting. The Committee's second meeting will be in January 2004 in Kyushu, Japan. It will meet for the third time in August 2004 in St. John's, Canada in conjunction with the ONR symposium.

Committee on Validation of Waterjet Test

The committee coordinates standardization tests and CFD work in three areas: Self propulsion tests, Pump and Waterjet System tests, and supporting CFD computations.

On the Self Propulsion Tests, work is going on in two areas in the world. One model is touring Asia and is currently in Korea, where KRISO has recently completed the self propulsion tests. The other model is touring Europe, where MARIN and INSEAN have completed their resistance and propulsion tests. The European model is currently at El Pardo. We are facing a delay of approx. two months relative to the original schedule but measures are taken to make up for this in the course of the project.

Good news comes from INSEAN, where a copy of the Gulf Coast model (the ITTC adopted standardization model) has been built. INSEAN has planned an important extension to the minimum experimental program, incorporating also direct thrust measurements on the waterjet system during self propulsion tests.

The situation on the Pump and Waterjet System tests is less clear at the moment. We have a delay in the delivery of the large scale waterjet pump that needs to be used for these tests. Delivery of the pump is at the moment of writing yet uncertain.

On the supporting CFD computations, work is under way to initiate the computational effort. The computations were originally scheduled to be finished by Feb. 2004. This schedule seems too ambitious now and the targeted end date will most likely be scheduled in the summer of 2004.

Further committee meetings are scheduled for Oct 2003 (in conjunction with FAST'03), July 2004 and Feb. 2005. The progress of work by the Committee

can be monitored on its web site: <u>http://www.ittc-wjc.insean.it/</u>

Committee on Cavitation Erosion on Propellers and Appendages on High Powered – High Speed Ships

All members of the committee attended an enjoyable and productive meeting at Pennsylvania State University. The meeting was hosted by the Chairman, Michael Billet, and took place on the 16th and 17th January.

The objectives of the committee were discussed, a meeting plan agreed, and a number of tasks assigned to the individual members. The committee intends to research the detailed physics of the cavitation process and why procedures, which are effective at slower speeds are no longer so effective in higher speed and propeller loading regimes. Committee members will be contacting test tanks via a questionnaire to discover current practice and likewise design groups as to how appendage erosion problems are dealt with.

It also hoped that a workshop will be held next year where cavitation experts from all disciplines will debate the current state of the art. The next meeting will be in Gdansk, Poland in October 2003.

Committee on Azimuthing Podded Propulsion

The committee had their first meeting at the School of Marine Science and Technology of Newcastle University, UK in November 2002. During this meeting, which had full attendance, the five main tasks of the committee have been shared amongst the eight members depending upon their relevant experience and knowledge as reported in the last issue of *ITTC-News*.

One of the committee tasks, which involves to review impact on off-design conditions to loads and stability, has required further clarification from the Advisory Council. The consultation with the council indicated that the off-design loads are associated with the manoeuvring and crash stop while the concern of stability is associated with possible appreciable effect of heeling that may be caused by the pod thrust acting as a side force during manoeuvring.

Since then the members have been working on their tasks to discuss and refine them at a tentatively scheduled 2nd meeting in June 2003. However, because of the unavailability of some members and close dates of two forthcoming relevant conferences in Italy (Numerical Towing Tank Symposium and FAST'03), the 2nd meeting will now take place in 2-3 October in Genoa to be hosted by CETENA.

Committee on Powering Performance Prediction

The first meeting of the specialist Committee was held on the 22^{nd} and 23^{rd} January 2003 at the Istanbul Technical University (ITU), Istanbul, Turkey. Seven members of the Committee attended the meeting. Prof. N. Bose of Memorial University of Newfoundland chaired the meeting, and Dr. M. Insel of the Istanbul Technical University was elected as the secretary.

At this first meeting, the tasks of the Committee were reviewed. These would entail

- updating/writing speed/powering trials preparation and analysis procedures in correlation of ISO standards, including uncertainty analysis for trials analysis,
- Reviewing new extrapolation techniques,
- Validating extrapolation techniques by collecting and utilising speed/powering trials data, model scale data including uncertainty analysis,
- Review of powering margin prediction methods,

A questionnaire on extrapolation methods which use RANS codes, shall be prepared and distributed. Comments and feedback will be utilised to establish new extrapolation methods.

The Committee is aware of the need to liaise with other relevant ITTC Committees including the Seakeeping committee.

The next meeting of the Committee will be held at the Vienna Model Basin from 1st to 3rd October 2003

Address Corrections

The following address corrections have been reported:

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News from Member Organisations

Bassin d'essais des carènes, France

After 5 years as Director of the Bassin d'essais des carènes, Georges Thiery has moved on to new challenging responsabilities at the head of DCN/Lorient shipyard. He has been replaced by M. José Godin.

Institute of Industrial Science University of Tokyo, Japan

A new facility was opened on April, 2003. See enclosure.

National Maritime Research Institute of Japan, Japan

National Maritime Research Institute of Japan has made the first announcement for CFD Workshop Tokyo 2005 in March, 2005, Tokyo, which will be the successor of the CFD Workshop Gothenburg 2000.

Information on the workshop will be available at <u>http://www.nmri.go.jp/cfd/cfdws05/index.html</u>

University of Newcastle, UK.

University of Newcastle will arrange T-pod - the 1st International Conference on Technological Advances in Pod Propulsion - in April 2004.

Information on the conference can be found at <u>http://fastpod.ncl.ac.uk</u>

JAPAN

4-6-1 Komaba, Meguro-ku, Tokyo 153-8505, Japan URL : http://seasat.iis.u-tokyo.ac.jp/rheem/iisoeb.html

