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**COPY!!!**

**Japan Marine Standards Association**  
**Attn. Prof. M. Ikehata**  
**Convener of ISO/TC8/SC9/WG2**  
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**Japan**

Berlin, April 15, 1998

Sub.: **Ship Speed Trials: Assessment of Performance**  
here: **Contribution concerning the proposed ISO Standard**  
Ref.: Your letter JMSA 97-231 of March 25, 1998  
with attachment N20: ISO/WD 15016

Dear Professor Ikehata,

with great interest I have followed and continue to follow the activities aiming at a standard for the evaluation of ship speed trials. While I was still on duty at VWS, the Berlin Model Basin, I have actively taken part in the discussions of the first Japanese proposal at the German Standards Organisation DIN/NSMT.

Since one year I am retired now and I am studying various fundamental problems, which I could not finally solve while still at the model basin due to the daily workload, mostly non-scientific of course. Among these problems is full scale testing of ships, which I had the opportunity to study in great depth based on my rational theory of hull-propeller interaction not only in connection with the METEOR project, but further in connection with the SES CORSAIR project.

Immediately when I saw the first draft of the Standard, prepared by the SRAJ Panel SR-208 in March 1993, I sat down and drafted my own version much along the lines of my thoughts and my experience, which I have explained in detail in my workshop on the rational theory of hull-propeller interaction, the 2<sup>nd</sup> INTERACTION Berlin '91. I recall that the workshop was attended by members of the 20<sup>th</sup> ITTC Powering Performance Committee with their Chairman Professor Nakatake.

My draft was discussed quite extensively in our German ad hoc Trials Group at DIN/NSMT, but the decision was that the time was not yet ripe for the drastic change of the approach, which I am advocating and promoting. The position of the group is known to you and has evidently led to the new proposal now under discussion. From the style you may guess that the annex of the German position on 'Corrections of shaft power and propeller speed' is based on input I have drafted.

When I saw this new proposal my old reservations concerning the whole procedure, as it is followed traditionally, and concerning the standardisation of special theories, became virulent again and I felt that the members of the ISO Working Group 2 should at least know my proposal, which I attach in an up-dated version, and consider it themselves, before taking decisions on a standard, which is quite fundamental and with considerable impact on industry.

Of particular interest in this context is the extensive discussion of the Report of the 21<sup>st</sup> ITTC/PPC, by Japanese colleagues in particular, and a note of Dr. Kitagawa to Prof. Huse, mentioning that most of the shipbuilders in Japan were complaining about the proposed guidelines and felt it to be dangerous

for shipbuilders. To my knowledge the same feeling prevails at European shipbuilders concerning the new standard proposed. Dr. Kitagawa rightly concludes with the remark, that we need to be much more careful with our reports, and I add: with our proposals of standards as well.

My approach is based on the theory of conflict resolution, on a simple model of hull-propeller interaction and the basic facts of systems identification in the presence of noise, even feed back of noise in closed loops. It is the approach systems engineers, knowing little or nothing about ship theory, would take. And you may find it difficult to tell, where this approach is wrong or inadequate. It is not only much more convincing and trustworthy than the traditional approach, but may even be proved to be correct, avoiding unnecessary and maybe even irrelevant diversions.

The sketchy style in the format of the layout of the standard serves the same purpose and needs of course to be changed, if the ideas are followed up some day. From the ITTC Newsletter I see that the Unconventional Propulsors Committee is already trying to use my methodology for extrapolation.

Evidently I am not writing in an official capacity any more, but strictly as an individual researcher interested in an adequate solution of a difficult problem, which in my view has been neglected by ship theory far too long in favour of more fashionable topics.

In standardisation work, which I know from many years of active participation in the ITTC Symbols and Terminology Group and from my later contributions to the STEP Ship Hydromechanics Model as well as my interest in quality management of model and full scale testing, I noticed that many things are not known to the extent we would like to know them and should know them before we try to standardise them.

Therefore I am happy that Japanese scientists have undertaken to work again on the problem of trials evaluation. Please ask them to excuse my very pronounced exposition, the purpose of which is to make my point absolutely clear. I feel that this can only be done by stripping the problem from all irrelevant professional traditions, boiling it down to the bare essentials.

In the interest of our profession, science and technology, and the costumers, yards and owners, I am strongly suggesting a serious discussion not only of the details, but of the fundamentals in the first place. We need to take the discomfort of the industry we are serving very serious and come ourselves up with adequate solutions before outsiders or industry tell us what we better should do or should do better.

In this situation I find it particularly disturbing that at the same time a European Standard on the same subject is being drafted. From the files I know that the corresponding ISO groups concerned have been notified. I am sure you have already organised the cooperation necessary. I will let this group and the ITTC Trials and Monitoring Committee (TMC) have copies of my contribution together with this letter, which I consider as part of it, as an extended preface.

With my best regards to the members of the Working Group 2 and to the colleagues in Japan  
sincerely yours,

Michael Schmiechen.

Enclosure: Contribution concerning the proposed ISO Standard  
'Guidelines for the assessment of ship speed and power performance  
by means of speed trials'

Copies:

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and, in the meantime, others