

Abstract of a talk proposed on the  
**Analyses of traditional powering trials  
with the bulk carrier ANONYMA  
in ballast at two trim settings**

by Michael Schmiechen

Berlin, 01.08.2013

The incentive of my recent, varied work on the analysis of ship powering trials has been the request to analyse the trials with a bulk carrier in ballast at two different trim settings using my rational method. As in earlier projects the purpose of the exercise has been, trustworthy to establish full scale differences predicted, in this case numerically.

The analyses turned out to be particularly delicate, thus forcing me, thoroughly to re-think my rational conventions and throw further 'ballast', remaining professional superstition, over board. The insights gained have been continuously discussed with Dr. Klaus Wagner and, following his encouragement have in detail been described in a paper. My thanks are also due to Dr. Karsten Hochkirch of FutureShip, Germanischer Lloyd Group, for critical impulses and especially for granting the permit to publish the details of the analyses.

In view of the many other recent incentives my paper, in the style of a rather formal 'letter' to my colleagues and students, became longer than originally intended. The purpose was to provide a reminder of well known deficiencies of the traditional methods and to explain, how these can be avoided on principle. The letter is also addressed to all those, who should be interested in the results of my work, ship builders and ship owners, members of towing tanks as well as members of the STA-Group and of the governing bodies of ITTC, ISO and IMO.

At the recent situation many colleagues note at the latest, that many methods for the powering prediction have been developed, erroneously mistaken for ship-theory, but except for mine none for the proof of the pudding, the trustworthy full scale evidence of the results, meeting today's, *i. e.* their own requirements. 'Theoreticians' have left the very difficult trials problem 'simply' to the practitioners at ship yards and model basins. And ship owners still accept that the same people providing the predictions are performing and evaluating the trials 'as well'.

The 'letter' mentioned has the same structure as the theory with all its branches and their developments and successful applications over the past 25 years, the analyses of the ANONYMA trials marking the (current) end. But many of my expositions purposely start with the theory of trials, clearly to demonstrate and beyond doubt, that the evaluation of powering trials does not require any theory of propulsion, but only some elementary mechanics, some common sense and, last but not least, the often missing extreme care in analysing the trials data obtained at great expense.

This short talk has to be restricted to the theory and the examples stated in the title of traditional trials, having been performed as usual, *i. e.* without measurements of the propeller thrust, of the ship speed through the water and of the sea state. Following the short, necessary explanation of the rational conventional method the conventions for the power delivered, current velocity and power required are explicitly stated and the results for both trials are discussed.

The three conventions or 'laws' adopted have only two parameters each, the values of which usually can be identified *solely* from the data at hand, as it must be for the objective, observer independent evaluation, not only in case of trials in ballast. Due to the propeller ventilation with the smaller trim at runs up wind only few additional 'assumptions', *i. e.* acceptable conventions, became necessary.

The complete analyses, the 'letter' mentioned and all related discussions etc are to be found under 'News on ship powering trials' on my website [www.m-schmiechen.de](http://www.m-schmiechen.de). At the same place the complete draft (presently available in German only) of the talk proposed has already been published with the invitation to contribute to the discussions.