

<b>MINUTES OF MEETING</b>		<b>SIMMAN 2007</b>	
SIMMMAN 2007 Meeting of organizers and co-organizers no. 2		Workshop on Verification and Validation of Manoeuvring Simulation Methods <a href="http://www.simman2007.dk">www.simman2007.dk</a>	
Participants Frans Quadvlieg (MARIN), Sun Young Kim (MOERI), Riccardo Broglia (INSEAN), Claudio Lugni (INSEAN), Zao-Jian Zou (Shanghai Jiao Tong University), Hironori Yasukawa (Hiroshima University), Pierre Perdon (BEC), Andres Cura (SVA), Fred Stern (IIHR), Kristian Agdrup (FORCE)			
C.C. to Paolo Bulgarelli (INSEAN), Mathias Vogt (HSVA), Michio Ueno (NMRI), In-Young Koh (NSWC), J. Gorski (NSWC), Serge Toxopeus (MARIN), Adolfo Marón (CEHIPAR), Key-Pyo Rhee (Seoul National University), Suak-Ho Van (MOERI), Joe Longo (IIHR), Yasuo Yoshimura (Hokkaido University), Evgeni Milanov (BSHC)			
Date Jan. 20, 2006	Place INSEAN, Rome		
No. of pages 4	Minutes taken by Kristian Agdrup (FORCE)	<b>Action items</b>	
<p><b><u>1. Action items from previous meeting</u></b></p> <p>The status of the action items from Minutes of Meeting No. 1 (see <a href="http://www.simman2007.dk">www.simman2007.dk</a>) was checked:</p> <p><u>KVLCC1+2:</u></p> <p>#1 OK</p> <p>#2 S.Y. Kim informed that a) PMM tests at MOERI were carried out at full scale self-propulsion point i.e. not model self-propulsion point as stated on web site, Agdrup to add note on web site; b) time series data from dynamic tests are not directly available but will have to be reconstructed from the derivatives, Agdrup will send list of selected test cases to Kim, who will then reconstruct and send data to FORCE.</p> <p>#3 OK</p> <p>#4 Bare hull PMM tests at INSEAN will be finalized in Jan 2006. Appended hull PMM tests are scheduled for October 2006. Both models in fully appended condition will be shipped to HSVA directly after tests. Details of shipment to be agreed between INSEAN/Lugni and HSVA/Vogt.</p> <p>#5 Tests will not be performed.</p> <p>#6 Tests will not be performed.</p> <p>#7 Free model tests at HSVA are scheduled for November 2006, to be confirmed by Vogt. In case tank limitations prevent accomplishment of full program at HSVA, it may be possible to perform additional free model tests at MARIN, to be confirmed by Quadvlieg.</p> <p><u>KCS:</u></p> <p>#8 PMM tests at CEHIPAR will be performed in May 2006. Cura will participate. Details of shipment to be agreed between CEHIPAR/Marón and SVA/Cura.</p> <p>#9 CMT tests at NMRI have been performed as well as limited PMM tests. Test results should be sent by NMRI/Ueno to FORCE/Agdrup.</p> <p>#10 Status unchanged, S.Y. Kim will investigate reg. GM and helm rate and send information to Cura. Final free model tests at SVA are scheduled for Feb. 2006.</p>		No.	Responsible
		#1	Agdrup
		#2	Agdrup/Kim
		#3	Lugni/Vogt
		#4	Vogt
		#5	Quadvlieg
		#6	Marón/Cura
		#7	Ueno
		#8	Kim

<p>5415:                  #11 Static test results from appended hull PMM tests at FORCE are available. Dynamic test results will be made available in Feb 2006.                  #12 Bare hull PMM tests at FORCE/IHR/INSEAN are all finalized. Results to be sent to FORCE/Agdrup.                  #13 Bare hull PMM tests at BEC are scheduled for June/July 2006. Details of shipment to be agreed between BEC/Perdon and FORCE/Agdrup.                  #14 OK                  #15 OK</p>	<p>#9                  #10                  #11</p>	<p>Agdrup                  Agdrup/Stern/                  Bulgarelli                  Perdon/Agdrup</p>																																															
<p><b>2. Test Plan</b>                  The plan for the model tests was updated to look as follows:</p> <table border="1" data-bbox="240 584 1134 1245"> <thead> <tr> <th>Hull</th> <th>PMM app. deep</th> <th>PMM app. shallow</th> <th>PMM bare deep</th> <th>PMM bare shallow</th> <th>CMT app. deep</th> <th>CMT bare deep</th> <th>Free app. deep</th> </tr> </thead> <tbody> <tr> <td rowspan="2">KVLCC 1</td> <td>MOERI (1999)</td> <td rowspan="2">INSEAN (oct 2006)</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td rowspan="2">HSVA (nov 2006)</td> </tr> <tr> <td>INSEAN (oct 2006)</td> </tr> <tr> <td rowspan="2">KVLCC 2</td> <td>MOERI (1999)</td> <td rowspan="2">INSEAN (oct 2006)</td> <td>FORCE/INSEAN (jan 2006)</td> <td>FORCE/INSEAN (jan 2006)</td> <td>-</td> <td>-</td> <td rowspan="2">HSVA (nov 2006)</td> </tr> <tr> <td>INSEAN (oct 2006)</td> </tr> <tr> <td rowspan="2">KCS</td> <td>NMRI (dec 2005)</td> <td rowspan="2">BSHC (sep 2006)</td> <td>-</td> <td>-</td> <td>NMRI (dec 2005)</td> <td>-</td> <td rowspan="2">SVA (feb 2005)</td> </tr> <tr> <td>CEHIPAR (may 2006)</td> </tr> <tr> <td rowspan="3">5415</td> <td>FORCE (2000)</td> <td rowspan="3">-</td> <td>FORCE (2004)</td> <td rowspan="3">-</td> <td rowspan="3">-</td> <td rowspan="3">BEC (jun 2006)</td> <td rowspan="3">MARIN (2000)</td> </tr> <tr> <td></td> <td>IHR (2005)</td> </tr> <tr> <td></td> <td>INSEAN (2005)</td> </tr> </tbody> </table> <p>Columns in grey are basic benchmark data; Fields in green are tests that have been finalized to date.</p> <p>Note about shallow water PMM tests with KCS at BSHC (discussed after meeting):</p> <ul style="list-style-type: none"> <li>- Tests should be performed with SVA model (4.37m) so that both free, deep water and shallow water PMM tests are performed with same model.</li> <li>- Preliminary test programme proposed by BSHC including h/T-ratios 1.2, 1.5 and 3.0 is accepted (only model size should be changed).</li> <li>- Test date will be September 2006 after deep water PMM tests at CEHIPAR. Model will be available for 1.5 months as requested. Details of shipment to be agreed between BSHC/Milanov and CEHIPAR/Marón.</li> <li>- Free model tests in semi-shallow water (h/T about 3.0) should be possible with the selected model and would be valuable to the workshop. BSHC will check whether resources are available to include these in test scope.</li> <li>- Stern will clarify/confirm the above issues directly with BSHC/Milanov.</li> </ul>			Hull	PMM app. deep	PMM app. shallow	PMM bare deep	PMM bare shallow	CMT app. deep	CMT bare deep	Free app. deep	KVLCC 1	MOERI (1999)	INSEAN (oct 2006)	-	-	-	-	HSVA (nov 2006)	INSEAN (oct 2006)	KVLCC 2	MOERI (1999)	INSEAN (oct 2006)	FORCE/INSEAN (jan 2006)	FORCE/INSEAN (jan 2006)	-	-	HSVA (nov 2006)	INSEAN (oct 2006)	KCS	NMRI (dec 2005)	BSHC (sep 2006)	-	-	NMRI (dec 2005)	-	SVA (feb 2005)	CEHIPAR (may 2006)	5415	FORCE (2000)	-	FORCE (2004)	-	-	BEC (jun 2006)	MARIN (2000)		IHR (2005)		INSEAN (2005)
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<p><b>3. Form of workshop</b>                  Various aspects regarding the most appropriate form for the workshop was discussed including:</p> <ul style="list-style-type: none"> <li>• number of days</li> <li>• presentations vs. poster sessions vs. group discussions</li> <li>• parallel sessions or not</li> </ul> <p>There was agreement to give high priority to discussion of the comparisons of the results for each hull/method, however, no final decision was made. Estimated length of workshop at present is <u>3 days</u>. The executive organizing committee will make a proposal for the programme.</p>	<p>#12                  #13</p>	<p>Stern/Milanov                  Stern/Agdrup</p>																																															

<p><b>4. Subcommittees</b></p> <p>The concept and purpose of subcommittees was discussed. It was agreed to keep the <b>subcommittees for coordination of model tests for each hull</b>. Current members are given on web site/Announcement.</p> <p>Their tasks should be: <i>(added after meeting)</i></p> <ol style="list-style-type: none"> <li>1. Coordinate execution of tests incl. model transportation</li> <li>2. Ensure that test data is submitted to FORCE in agreed formats.</li> <li>3. Present overview of performed tests and lead discussion at workshop Q&amp;A on any data issues from floor to co-organizers responsible for taking data.</li> </ol> <p>It was agreed to form one subcommittee for each group of simulation methods i.e. A) systems based and B) CFD based. Each of these subcommittees should contain at least 3 persons so that there will be one or two persons in charge of comparing the results of the relevant methods for each hull (KVLCC1&amp;2, KCS and 5415). Current candidates are:</p> <p><b>A) Subcommittee for comparison of systems based methods:</b></p> <ol style="list-style-type: none"> <li>1. Key-Pyo Rhee (Stern to contact him to get confirmation)</li> <li>2. Quadvlieg (depending on available resources)</li> <li>3. ?</li> <li>4. Agdrup (link to organizing committee and other subcommittees)</li> </ol> <p><b>B) Subcommittee for comparison of CFD based methods:</b></p> <ol style="list-style-type: none"> <li>1. J. Gorski (Stern to contact him to get confirmation)</li> <li>2. Cura (depending on available resources)</li> <li>3. ?</li> <li>4. Stern (link to organizing committee and other subcommittees)</li> </ol> <p>The executive org. committee will look for candidates for the missing members.</p> <p>Their tasks should be: <i>(added after meeting)</i></p> <ol style="list-style-type: none"> <li>1. Select cases for comparison and define instructions for formats</li> <li>2. Collect and set-up comparison of test cases</li> <li>3. Present comparison and lead discussion session at workshop including Q&amp;A from floor on any issues concerning simulation methods.</li> </ol> <p>Deadline for item 1. is one year before the workshop i.e. Oct 2006.</p>	<p>#14</p> <p>#15</p> <p>#16</p> <p>#17</p> <p>#18</p>	<p>Stern</p> <p>Quadvlieg</p> <p>Stern</p> <p>Cura</p> <p>Stern/Agdrup</p>
<p><b>5. Release of model test data for simulations</b></p> <p>There was general agreement that the purpose of the workshop would be best fulfilled if the different simulation results are produced "blindly" where possible. This means that each participating group will have only the model test data necessary for the relevant method. All test data should be sent to FORCE/Agdrup in the agreed formats. Data will be stored on an ftp-server, and participants should then "apply" for a package of data corresponding to the specific hull and the specific method they intend to use. The full set of test data will be made available for comparison at the workshop and thereafter it will be possible for all interested parties to download this data from the workshop web site.</p> <p>Cura will provide a list of the free model tests corresponding to the minimum requirement to enable simulation using system identification.</p> <p>Yasukawa pointed out that the groups using the Japanese MMG model for the simulations require more data than the standard PMM/CMT test results, namely resistance, self-propulsion, propeller open water data as well as rudder forces and propeller thrust and torque to be measured during the PMM/CMT tests (which are only optional at present). This means that the MMG method will not be applicable for all hulls, but at least for the KCS using the NMRI results.</p> <p>Regarding the format of the dynamic test results from PMM tests it was agreed that data should be delivered in the form of time series of <u>hydrodynamic</u> forces for <u>one</u> complete PMM cycle <u>after</u> filtering and averaging over the measurement period.</p> <p>Agdrup to update the web site to reflect these changes.</p>	<p>#19</p>   <p>#20</p>	<p>Cura</p>   <p>Agdrup</p>

<p><b>6. Schedule</b></p> <p>The schedule was updated to look as follows:</p> <table border="1"> <tr> <td>March 2005</td> <td>Information available on web site: hull geometries specific test programs formats for test results</td> </tr> <tr> <td>December 2005</td> <td>First test results available</td> </tr> <tr> <td>October 2006</td> <td>Web site open for registration Formats for comparison results available</td> </tr> <tr> <td>December 2006</td> <td>Captive model tests finalized and results available</td> </tr> <tr> <td>February 2007</td> <td>Free model tests finalized and results available</td> </tr> <tr> <td>July 31<sup>st</sup> 2007</td> <td>Deadline for submission of paper manuscripts and results</td> </tr> <tr> <td>October 2007</td> <td>Workshop in Copenhagen (3 days)</td> </tr> </table> <p>The schedule on the workshop web site to be updated accordingly.</p>		March 2005	Information available on web site: hull geometries specific test programs formats for test results	December 2005	First test results available	October 2006	Web site open for registration Formats for comparison results available	December 2006	Captive model tests finalized and results available	February 2007	Free model tests finalized and results available	July 31 <sup>st</sup> 2007	Deadline for submission of paper manuscripts and results	October 2007	Workshop in Copenhagen (3 days)	#21	Agdrup
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<p><b>7. Sponsors</b></p> <p>ONR London Office/Charles Calvano has indicated intention to give financial support to the workshop. Stern will send formal application to them when proposal for workshop programme (#13) is available.</p> <p>Quadvlieg will investigate into the possibilities of obtaining financial support from the EU.</p>		#22 #23	Stern Quadvlieg														
<p><b>8. Next meetings</b></p> <p>The executive organizing committee will try to setup a meeting with the two comparison sub-committees in Copenhagen in June.</p> <p>Next meeting of organizers and co-organizers will be <u>October 19<sup>th</sup> 2006 in Shanghai</u> (in continuation of the next ITTC Manoeuvring Committee meeting).</p>		#24	Stern/Agdrup														