

## **EffShip Project Meeting 5 Draft Meeting Minutes**

**Meeting date and time:** 2011-01-18, 13:00 – 16:00

**Location:** SSPA, Chalmers Tvärgata 10, Göteborg, Mässrummet

### **Meeting Attendees:**

Björn Allenström, SSPA

Per Fagerlund, ScandiNAOS

Bengt Ramne, ScandiNAOS

Per Holmström, DEC Marine

Göran Andersson, Göteborgs Energi

Anders Knös, S-Man AB

Lennart Haraldsson, Wärtsilä

Thomas Stenhede, Wärtsilä

Per Stefenson, Stena

Joanne Ellis, SSPA

Karin Andersson, Chalmers

Björn Södahl, Chalmers

Venkata Koneru, DEC Marine

### 1. WP1 Information från projektledningen, uppföljning av förra mötets MoM

- Reporting of project activities: Björn Allenström (BA) said that most partners have sent in a report of their activities for the first year of the project.
- Invoicing: Partners should send in an invoice for all time and costs incurred. The invoice should NOT include MOMs. Partners receiving 50% funding from Vinnova will be paid half of the No. of spent personmonth. Partners are reminded that they have travel budget and these costs should be noted separately from personnel costs on the invoice.
- Project presentation to Vinnova: BA will present EffShip in Stockholm tomorrow at a presentation of “miljöinnovation” projects funded by Vinnova.
- Bengt Ramne (BR) reviewed project reporting. A status report has been compiled.
- Time reporting: BR stated that a more strict routine for reporting hours per quarter should be followed. Time spent in each work package should be reported. Bengt has a spreadsheet for tracking time spent per work package and partner.
- Project plan: BR reviewed the Excel project schedule, noting some areas where the project is behind. We are now in month 14 and partners should ensure that they have resources in place to use the allocated budget and produce project results. The project plan will be followed up on a regular basis.
- Deliverables: Each work package leader should develop a list of deliverables and provide this to Bengt. Deliverables do not need to be public documents.

**Action:** All WP leaders should submit a list of expected deliverables to Bengt.

### 2. WP 2, Present and Future Maritime Fuels

- Lennart Haraldsson (LH) gave a short overview of the activities carried out in WP2 during the first project year, as summarized for the project status report.
- The workshop on present and future maritime fuels in Nov. 2010 was well-attended and many positive comments were received.

- Methanol and DME are considered the main candidates as alternatives to HFO and LNG and are now being investigated further within WP2. DME can be used in a diesel engine with some retrofitting (but note that for transport and storage DME is similar to LNG. It is transported under pressure as a gas). Methanol could be used in the same type of engines as LNG. Methanol is a liquid at ambient temperature and pressure. Both DME and methanol will meet the incoming SO<sub>x</sub> and NO<sub>x</sub> regulations without any after-treatment.
- LH reported that Volvo will support the work being carried out on DME. They have investigated this for truck transport, as reported at the seminar in 2010.
- Wärtsilä has had discussions with Chalmers (Internal Combustion Engine Engineering) and they will run CFD simulations with both DME and methanol.
- Maria Grahn from Chalmers met with WP2 participants on Jan. 17, and is interested in working together with EffShip on improving the Chalmers alternative fuel model for marine transport. This will be discussed further at the next WP2 meeting
- Regarding deliverables, the WP2 group will discuss this at their next meeting, which will be held in about 2 weeks.

### 3. WP3, Exhaust Gas Cleaning:

Venkata Koneru(VK) reported the following:

- CSNO<sub>x</sub>: Additional information has been found and VK feels that it works as described, but there are potential problems with how the CO<sub>2</sub> is mixed with seawater. This can result in acidification which is a problem for some receiving waters. There needs to be further investigations about these effects. Göteborg University has been contacted regarding potential effects on the Baltic Sea. Another drawback of the CSNO<sub>x</sub> solution is the energy requirement of the system. Currently there are no other systems that are feasible for CO<sub>2</sub> removal. Other systems are in the research phase and all require a lot of energy.
- SCR system with zeolite-type catalysts: VK has investigated these systems as well – there is a supplier in Norway. One problem with this catalyst type is that it is susceptible to sulphur poisoning, which is an issue with HFO.
- SCR with urea catalysts: The issue here is disposal of residuals, which is a concern in the Baltic.
- Deliverable: A report will be produced, rather than an Excel file or catalogue as previously discussed. The information collected for each method is quite extensive so it is better suited to a report format.

### 4. WP4, Energy Efficiency and Heat Recovery:

- Data collection: Anders Knös reported that he has been onboard Stora Enso's *Spanborg* and collected more data. Data has also been collected onboard the *TransPaper*.
- Literature study: This is a bit behind due to personnel turnover but will be addressed soon.

### 5. WP5, Energy Transformers:

Thomas Stenhede (TS) reported that there have been discussions with ship owners to find a ship where a test application of the ORC can be installed. The plan is to test the system at

Göteborg Energi's Högsbo facility this year. Ship installation would follow this to demonstrate the applicability on board a vessel.

#### 6. WP6, System Impact when Using Wind, Wave, and Solar Energy:

- BA has been working on a wind turbine model, in consultation with Chalmers.
- The mathematical modelling of the Flettner rotor (using Fluent CFD program) is almost complete. The EU Ulysess project will start in the spring and Chalmers plans to do calculations with the Flettner rotor within this project. The results from within EffShip will be shared with this group.
- Results of the kite modeling will be shared with SkySails as they are very interested and provided information to the project.
- Fixed Sail: SSPA has started to model this and there are a few results. Work will continue on this.

#### 7. WP7, Logistic System Analysis:

No progress to report. Work to begin in late February.

#### 8. WP8, Demonstration of Findings:

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#### 9. WP9, Dissemination:

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#### 10. Other business:

Venkata Koeneru informed the following (received by e-mail after the meeting):

*The committee that I have specified from ISO Working Groups at the end of the meeting is **TC8 – SC2 Marine Environmental Protection Committee**. The below link defines the member committees and their role.*

[http://www.iso.org/iso/standards\\_development/technical\\_committees/list\\_of\\_iso\\_technical\\_committees/iso\\_technical\\_committee\\_participation.htm?commid=45816](http://www.iso.org/iso/standards_development/technical_committees/list_of_iso_technical_committees/iso_technical_committee_participation.htm?commid=45816)

*Even though Sweden always played a major role in the Marine Environment with many initiations, it was sad that our recommendations can only be considered but cannot be validated by a vote if we come to that situation. The rule says that any recommendation shall be supported by at least 5 member states.*

Björn Södahl informed about the project Markis, info is available on the web.

Bengt Ramne and Per Fagerlund informed about the plans for 'Stora Marindagen'

Bengt Ramne proposed EffShip to have a stand at Norshipping. SSPA declared not willing to contribute, other hesitated. Bengt Ramne will come back regarding the matter.

#### 11. Next Meeting:

Date and time: Tuesday April 12, 9-12

Place: SSPA Sweden AB, Chalmers Tvärgata 10

*Joanne Ellis and Björn Allenström*