Minutes of Exhaust Systems PG Meeting

22-23 January 2013, Rakkestad, Norway

Attendees:

David Champneys	BIHL
Graham Hawkes	Frazer-Nash Consultancy
Terje Kasperesen	Kanfa-Tec
Ole E. Torp	Mjørud
Paul Setchfield	Mjørud
Harvard Kristiansen	Mjørud
Joerg Gottwald	Statoil
Arne Skjelbakken	TechPart AS
Karen Geris	ETN

1. Review of the minutes of last meeting

The minutes of the meeting were approved.

2. CFD Benchmark Case - update

Karen Geris reported that Shell had contacted ETN that they had a unit which could be suitable for the CFD Benchmark Case. However, during the meeting it became clear that the unit proposed by Shell was a HRSG rather than a WHRU, which meant that the geometry of the HRSG exhaust would differ too much from the proposed WHRU geometry to obtain the required results. Additionally, the size of the GT was a lot larger than conventional Oil & Gas units. The group therefore that the proposed unit was not suitable for the CFD Benchmark Case

The group decided that it would be better to wait for the next unit from Total (2014), as it would also allow the Project Group more time for the necessary logistical and financial preparations.

The group continued the discussion by outlining the chapter on the mechanical design and analysis. Joerg Gottwald stated, and the group confirmed, that the scope of the CFD benchmark and the accompanying section should be to guide the user on how to design, discuss certain design tools and shortly state what would be acceptable values for stress, strain etc. All this should be put in relation to the level of CFD performed during the design phase. The chapter should (at least) include the following:

- turbulence models
- mesh sizing
- computer capacity
- flow patterns, pressure pulsations

Frazer-Nash and Mjørud would cooperate to write the chapter on CFD.

3. Review of comments on the WHRU Standard

During the meeting, the present project group members reviewed the summary of comments to the standard item by item.

The project group members also discussed the extra input provided by Paul Setchfield (Mjørud) and David Champneys (BIHL) which can be found in the document "Revision on comments – January 2013", which can be found in the attachment to these minutes.

The text was edited progressively in accordance with the discussion and the agreed changes. The spreadsheet would later be re-issued for further review. Comments which did not fit in the excel sheet can be found in the document "Additional comments to spreadsheet – 22 and 23 January 2013" which can be found in the attachment to these minutes.

The following comments were to be further reworked:

Action Owner	Description	Deadline date
Karen Geris	Convert all temperatures into degrees Celsius	-
Kanfa-Tec/ Mjørud	Write chapter on casing materials, considering various design conditions	4 March 2013
Frazer-Nash/ Mjørud	Write chapter on CFD Analysis	4 March 2013
Total	Write chapter on installation and commissioning	4 March 2013
Kanfa-Tec	Write new text on the damper air pressure reservoir	4 March 2013
BIHL	Draft text on the issue of "man safe" access	4 March 2013
Total	Write text on the "Operation" chapter	4 March 2013

4. Next Meetings

In order to finalise the review of the standard as soon as possible, the group decided to extend the meeting in Pisa to include the afternoon of 17 April 2013. After this meeting, the first round of comments on the standard should be finished and the additional chapters discussed in this (January) meeting should be reviewed. The project group members expressed their concern with strict deadlines and now aim to have the ETN version of the standard ready by the end of 2013 after which it will be submitted to ISO.

Several project group members, including Mjørud and Statoil, stressed the importance of having more end users involved in the Project Group. They suggested to contact Conoco Philips and British Gas, and suggested to ETN to try to get Dresser-Rand more involved in the group again. Each project group member would check with their respective contacts or send contact details to ETN.