



Date: April 16-17, 2009
Location: Amsterdam, Netherlands
Hosted by: Shell



Innovative Approaches in Managing Water Resources



The spring 2009 PERF Meeting was hosted by Shell in Amsterdam, Nederland at the Shell Technology Centre Europe, Amsterdam. The theme for this PERF meeting is "Innovative Approaches in Managing Water Resources".

INTRODUCTION:

In the time of CO₂ challenge all around the world, the water issue is taking more and more place in the debate. The energy industry is a large consuming of water, and more especially of fresh water. That's why researches on new technologies and new management schemes, the anticipation of regulation evolution are essential for Petroleum companies.

The Board of directors met on April 15 working on the next PERF meeting in 2009. The technical meeting started on April 16 at the Shell Technology Centre. On April 17, there were additional technical presentations and roundtable discussions on Downstream and Upstream. Business items (status report and project proposals) took place on April 17 as well.

AGENDA:

You can download the agenda on the meeting recap webpage:
http://www.perf.org/home.php/recent_events/internal/79th_perf_meeting_shell_amsterdam/

PRESENTATIONS:

The presentations can be downloaded online on the meeting recap page by the PERF members only.

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For further information, you can access the Speaker contact information list available on the meeting recap page

http://www.perf.org/home.php/recent_events/internal/79th_perf_meeting_shell_amsterdam/

#1: Welcome and Objectives of the meeting by Paul Verbeek (Shell) and Todd Ririe (BP, PERF Chairman)

Todd Ririe, BP gave an overview of the Petroleum Environmental Research Forum and Paul Verbeek made a brief introduction to the topic.

#2: Opening address: Environmental Keynote (Deric Quaile, Shell)

Deric Quaile, Shell gave an overview of the water issues in the world and how they impact the energy sector. He gave some example of the Shell strategy to minimize their impact on water all around the world.

#3: Water footprints – a new methodology (Maite M. Aldaya, Twente University)

Maite M. Aldaya, Twente University presented a new approach to assess the water footprint of a product, of the energy and a business. She also explained the importance of the trade, internal and external consumption of a nation.

#4: Sustainable technology for water and energy (Sybrand Metz, Wetsus)

Sybrand Metz, Wetsus introduced the attendance to Wetsus, centre of excellence for sustainable water technology. He presented some of the projects that currently ongoing within this group who wants to develop cooperation between research institute, university and the industry.

#5: Regulatory overview of where water regulations will be headed in 15-20 years (Leo Henriquez, States Supervision of Mines (SoDM), The Netherlands)

Leo Henriquez, States Supervision of Mines (SoDM), The Netherlands, gave an overview and an update of the OSPAR convention. He showed what has been done so far in the North Sea and what the regulation are heading to?

#6: MPPE performance for water treatment and re-use (Dick Meijer, Veolia)

Dick Meijer, Veolia, presented a technology of extraction: Macro Porous Polymer Extraction Systems, the advantages and the results from a field study at the On-Shore facilities of Kollsnes, Statoil. Total is aware of the technology as it was used at Vermillion Herlingen produces water treatment.

#7: Water in the Business of Oil (Paul Verbeek, Shell)

Paul Verbeek, Shell, presented the role and the technology that are using water in the Upstream Oil industry. He looked at the different new technologies and potentiality of reuse and recycling to meet the new challenge of water consumption.

#8: Water re-use options in desert areas (Joppe Cramwinckel, Shell)

Joppe Cramwinckel, Shell showed a strategic approach of how to treat produced water and reuse it for bio-energy.

#9: Optimization of membrane bioreactor operation: from new membranes to advanced operational control (Heleen De Wever, VITO)

Heleen De Wever, VITO gave an overview of their research on MBR technology. The presentation is divided in three parts: A cost analysis, the new Flat Sheet Membrane technology, and an advanced control system.

#10: EU program - water processing technologies – aqua fit 4use (Raymond Creusen, TNO)

Raymond Creusen, TNO introduced to the assembly the AquaFit4use consortium. This group of Universities, industrials and research institutes aims "to develop technologies, tools and methods for sustainable water supply, use and discharge". He presented their strategy of working and some technologies they are working on.

#11: MBR - developments (Arnold Zilverentant, DHV)

Arnold Zilverentant, DHV presented the MBR technology and all the lessons they learnt during the past ten years regarding design and control of the process.

#12: Water handling for Cooling water systems - Cross Industry Developments (Frank Oesterholt, KWR)

Frank Oesterholt, KWR, presented the history of the company to the attendance. Then he introduced the OPIW joint research program for the industry on water process technologies. In this group, industrial could share their issues on water in process and joint effort in research of new technology. Cooling water process was given by example by Frank Oesterholt.

#13: Novel water processing technologies: ZLD, water re-use (Henry van Straten, Karen Haynes, Shell)

Henry van Straten, Shell gave a presentation of the water treatment strategy for the PEARL project in Qatar, where no discharge to sea of effluent water is allowed. That leads to a scheme of water treatment with a full reuse of effluent water.

#14: Exploring the Business Case for Managing Water Use Across an Integrated Energy Company (Andrew Glickman, Chevron)

Andrew Glickman, Chevron gave an outlook of the water situation in each area of the world and where and how the Oil industry is facing new challenges.

#15: Water Use and Quality Issues in the Development at Syncrude Canada Ltd. Integrated Oilsands Mining Operation (Warren Zubot, Syncrude)

Warren Zubot, Syncrude gave an overview of the water issues in the Oil Sand production in Canada, from water consumption to water quality. He also presented the water treatment of produced water at Syncrude.

#16: ATWARM - Advanced Technologies for Water Resource Management (Wilson McGarel, Questor)

Wilson McGarel, Questor presented the Marie Curie Initial training Network and the ATWARM's scientific and academic goals, as well as the topic of research and the development of the program.

#17: Downstream Water Reuse Applications (Owen Michaelis, ExxonMobil)

Owen Michaelis, ExxonMobil presented the different drivers for Water Reuse in the downstream industry.

#18: Shell-Paques technology for biotechnological H₂S removal from sour gas streams (Albert Janssen, Shell)

Albert Janssen, Shell made a presentation about a new technology for H₂S removal from gaseous streams and its advantages.

UPSTREAM - DOWNSTREAM WATER DISCUSSION GROUPS

The downstream discussion groups were led by Chad Shockley and Roland Borey

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The Board decided to change the form of the discussion. Usually Upstream and Downstream discussions were held at the same time, separating the attendance in two. This time, one session was dedicated for both of them, but the attendance was still separated in two groups to facilitate the discussion. At the end of the two days, some topics rose out as possible project proposal. Sign sheet were passing

through the attendance to set up some conference call. It happens that Upstream and Downstream could be look at together in some area likes water guidelines and Best Practices or Metal treatment in water, especially Hg.

The different presentation and the topic of possible project are summarized in a document downloadable on the PERF website, or ask the PERF webmaster to get it.

The topics are:

- Approaches to determine water quality; *Champion. TNO, Shell*
- Manage water systematically, corporate/company practices, guidelines, internal standards; *Champion. Chevron, BP*
- EPI/Metrics – measure water use, consumption – to integrate w/guidelines/standards; *Champion. Shell*
- Research on treatment technologies for water use and beneficial reuse; *Champion. Shell, Veolia*

This time the discussion groups were made to create water project pre-proposal or to help future discussion on topics that could lead to project proposition. The topics that came out are available on this document.

PROJECT PROPOSALS

There were two new proposals. If you are interested in joining a project, please contact the sponsors.

- 2009-01:
- 2009-02:

CONTACTS

For additional information, please contact Karen Haynes at karen.haynes@shell.com or contact PERF webmaster on the website contact us page.

Thanks to all who contributed to the success of this meeting! We hope you enjoyed it as much as we did!
See you soon.