

OGP Coating Standards Workshop
Held at the OGP offices, London
on Tuesday 10th and Wednesday 11th June 2008
Chaired By: Muayad A. Ajjawi, Qatar Petroleum

Present

| | | |
|---------------------|------------------|-------|
| Muayad Ajjawi | Qatar Petroleum, | _____ |
| | Chairman | |
| Mike Surkein | ExxonMobil | _____ |
| Barouky F. Fikry | Saudi Aramco | _____ |
| Jan van Bokhorst | Shell | _____ |
| Per G. Lunde | StatoilHydro | _____ |
| Denis Melot | Total | _____ |
| Alf Reidar Johansen | OGP, Secretary | _____ |

Apologies

| | | |
|-------------------------------|----------------|-------|
| Colin Murdoch | BP | _____ |
| Brent W. Griffin | Chevron | _____ |
| Mike Swidzinski | ConocoPhillips | _____ |
| Massimo Cornago | ENI | _____ |
| Milton Quintanilha Dos Santos | Petrobras | _____ |
| Pedro Paulo Barbosa Leite | Petrobras | _____ |
| Qimin Lu | PetroChina | _____ |
| Farid Divsalar | RepsolYPF | _____ |

Agenda Item 1: Welcome, Safety and Introductions

ACTION:

- 1.1 Alf Reidar Johansen, OGP Standards Manager, welcomed everyone to the workshop after the safety moment and brief introductions by attendees.
- 1.2 He highlighted the apologies received. See list above. Several had to cancel last minute due to pressing company business.
- 1.3 List of all interested parties to this workshop is found in Enclosure 1.

Agenda Item 2: Workshop Objectives and Goals

ACTION:

- 2.1 Alf Reidar Johansen reviewed the workshop objectives, the objectives accepted by all
By all attendees, with slight modifications as follows:
 - To arrange for global networking of the coating technology specialists of OGP members.
 - Share Company and/or personal coating experience.
 - Review and discuss the available coating standards, ongoing work and existing company specifications related to this discipline.
 - Evaluate the needs for improvements of available industry, national or regional standards or company specifications and harmonization (neutralization) with international standards in this area.
 - To evaluate the need for new coating standards work in the upstream oil & gas industry.
 - Discuss continued OGP networking efforts.
- 2.2 Following the objectives, a discussion was held on the scope of the workshop, which was agreed to be: coatings for corrosion control of equipment, piping, pipelines and structures for the oil and gas industry.
- 2.3 The workshop agenda items were reviewed and approved.

Agenda Item 3: Select Chair of Workshop

ACTION:

- 3.1 Alf Reidar Johansen proposed the selection of Dr. Muayad Ajjawi as Chairman of the workshop. The proposal was welcomed and agreed by all attendees. The chairman thanked the attendees for their support and continued the meeting.

Agenda Item 4: Introduction to OGP & Standards Committee Presentation

ACTION:

- 4.1 Alf Reidar Johansen made a presentation on OGP vision, mission and objectives. He also explained the objectives, scope, function and programs of the OGP Standards committee and finally the OGP Position on development and use of international standards (OGP Report 381, April 2007).

Agenda Item 5: Selected Operating Companies Presentation

ACTION:

5.1 The Chairman started the session of participating companies' presentations on their coating specifications and experiences. This session took most of the workshop time. The presentations made by companies are as follows:

- Denis Melot, Total (including ISO TC35/SC14 and ISO/TC67/SC2 work)
- Muayyad Ajjawi, Qatar Petroleum (including GSO work)
- Jan van Bokhorst, Shell
- Barouky F. Fikry, Saudi Aramco
- Per G. Lunde. Statoil Hydro (including NORSOK work)
- Mike Surkein, ExxonMobil

The presentations discussed mainly the coating company specifications, experiences and companies involvement in international and regional standardization.

Denis Melot missed a qualifications process for paint systems and suggested operators (users) need to be more actively involved in the standards work.

Muayyad Ajjawi mentioned their active participation in GSO/SC7 with a new WG5 on coating and their work in pipeline internal coating and riser pipe coating. He floated a proposal for new coating standards and a new work group in ISO/TC67 for protective coating.

Jan van Bokhorst said Shell was minimizing project specifications by making use of their global DEPs. He also mentioned that Shell maintained a list of qualified vendors for the various types of coating, with a three year requalification process. JvB will return to proposals for further action.

JvB

Barouky Fikry mentioned their close technical cooperation with ExxonMobil. He also focused on the problem of coating handling damages and cost of corrosion. He agreed to share a SA report with the participants.

BF

Per G. Lunde reviewed the success in Norway on the agreement of the NORSOK coating standards which functions as a complete coating specification, resulting in a minimal need for company specifications. He asked: How to deal with track records?

Mike Surkein reviewed ExxonMobil's coating strategy and specifications and their practice of asking the suppliers to review and comment on their specifications and asking for issues for bidding. He requested input on coating breakdown factors and agreed to collate info from the attendees.

See the presentations attached to the minutes (at the OGP web) for further details covered.

5.2 The presentations were followed by Q & A and interesting discussions on the efforts to be done to improve the coating international by involving company, national and regional standards experiences. The discussions also included participants'

views on the strategies for work with coating standards and in-house coating company specifications. Several stated that it was a challenge to maintain the in-house specifications.

- 5.3 During the presentations the proposals for future standards work, harmonization, revision etc. were noted by the workshop scribe Mike Surkein, for further discussion in workshop day 2. This is to establish a list of agreed proposals for actions to be done after the work shop.
- 5.4 It was agreed that all the presentations could be made available on the OGP website after the workshop. **ARJ**
- 5.5 Workshop Day 1 closed 17:30 hrs.

Agenda Item 6: Brief Summary on Day 1

ACTION:

- 6.1 The workshop chairman made a brief summary on the main issues discussed in the first day including the presentations and the main work proposals made for discussions.

Agenda Item 7: Workshop Session

ACTION:

- 7.1 *Presentation and Discussion on the Draft Report of Coating Standards*

Alf Reidar Johansen presented the draft report of available coating standards and organizations involved in coating standards development. During the presentation, the discussion was opened for any corrections, modifications and amendments to the report for improvement. Participants expressed support for the report as a useful reference paper. Some minor modifications/suggestions were made on the report with actions on some members. These are as follows:

- To study the creation of a group on non metallic materials in OGP. **ARJ**
- To identify ASTM coating relevant standards and update on GSO TC 7 Coating WG 5 **MA**
- To add any other coating standard organization (not covered by the report). **ALL**
- To make any other amendments to the report to cover the coating standards commonly used in the oil and gas industry and the coating standards currently used and not mentioned in the report. **ALL**

It was agreed that all participants review the report and provide feedback, corrections, suggestions for improvement etc on the report within one month of this meeting, say 15th, July 2008. **ALL**

- 7.2 *Establish a Focus List of Main Standards to monitor*

It was agreed to establish a separate Focus list of main standards

currently used by the companies in order to share the development or revision work in the group and to keep the group informed on any actions on these standards. Participants are requested to provide input to this focus list of standards.

ALL

7.3 *Summarise & Priorities of the List of Proposals and Agreed Actions for future standards work and follow up*

Coating workshop proposals for future standards work, harmonization, revision, new work etc. were reviewed and discussed in details and actions assigned. As a result of this discussion a new list of amended proposals and agreed actions were developed. See attachment 2.

ALL

7.4 *Share Coating Company Specifications in OGP (closed) Environment*

QP, Saudi Aramco, StatoilHydro and Total agreed to share their company specifications in closed (participating members only) environment, while ExxonMobil and Shell will come back to this question.

MS, JVB

Companies coating specifications will be sent to OGP (ARJ), within one month, to make available for participating members on OGP website.

MA, FB, PGL,
DM

A protected website page will be established for this purpose.

ARJ

Agenda Item 8: Future Coating Workshop Session/Next Meeting to Achieve & Enhance networking

ACTION:

8.1 Possible future workshop/meeting to continue achieve and enhance networking was discussed. Participants agreed to continue the networking effort and organise a future meeting/workshop, subject to the approval of the TF by OGP Standards committee. There is a need to define specific items and case histories for discussion at next meeting. Members to submit proposed agenda items. ARJ to raise a proposal in the Standards Committee meeting 30 June for this to become a task force in OGP. Need to define Terms of Reference, elect a chair etc.

ARJ

8.2 The plan for next meeting/workshop to be in the 1st Q of 2009. Venue to be advised later, proposed to be in Europe or Doha as possibilities (could be in conjunction with a conference/other meeting). Other coating specialists may be invited to the next workshop.

Agenda Item 9: Workshop Evaluation

ACTION:

9.1 A session on workshop/meeting evaluation showed a large support for organizing this workshop. Participants expressed their pro/delta views on the workshop like:

| Pro | Delta |
|--|---|
| <ul style="list-style-type: none"> • Fantastic free and open discussions (2x) • Good presentations (2x) • Good exchange of experiences • Good way of networking and info sharing (2x) • Knowledge of coating expets in other companies • Very good start • Good technical facilities and support • Keep informal and relaxed environment | <ul style="list-style-type: none"> • Get bigger attendance next time • Next time more case histories • Time keeping • Not ask too much work |

Agenda Item 10: Workshop Closing/End

ACTION:

- 10.1 The workshop chair closed the meeting by summarizing the main outcomes of the workshop thanking all participants for their excellent presentations and effective participation in the discussion. He also thanked OGP & Alf Reidar Johansen for the excellent, first class job of supporting and hosting this workshop.

Close of Meeting on Day 2: 14:00 Hrs.

MA/ARJ

Interested parties OGP Coating workshop – preliminary list of 2008-05-28

Attachment 1

| Name | Company | Address | Email | Telephone |
|--------------------------------|----------------------|---|--|---|
| Ajjawi, Muayyad | Qatar Petroleum | Qatar Petroleum, P.O. Box 47, Doha - Qatar | ajjawi@qp.com.qa | Tel. : + 974 4138133 Mobile: + 974 5560568 |
| Bakr S. Hammad | Saudi Aramco | Saudi Arabia | bakr.hammad@aramco.com | +966 3 873-7897 |
| Bokhorst, Jan van | Shell | Amsterdam, The Netherlands | jan.vanbokhorst@shell.com | +31 20 630 3554 +31 6 52096127 (mobile) |
| Chaturvedi, Vishnu | Engineers India Ltd. | 1, Bhikaiji Cama Place, New Delhi 110066, India | v.chaturvedi@eil.co.in | 26164874 (D) 26102121, 26101419 ext 2913 |
| Cornago, Massimo | Eni E&P | 20097 San Donato Milanese (MI) - ITALIA | massimo.cornago@eni.it | Office +39 02 520 63405, Mobile +39 3480778037 |
| Divsalar, Farid | RepsolYPF | PO Box 120095, Al Qatayiat Road, Dubai, UAE | fdivsalar@repsolypf.com | Tel: +971 (0) 4306 8254 Mobile: +971 (0) 50 654 8534 |
| Dos Santos, Milton Quintanilha | Petrobras | Brazil | quintanilha@petrobras.com.br | +55 21 32293073 |
| Fikry F. Barouky | Saudi Aramco | Saudi Arabia | fikry.barouky@aramco.com | +966 3 874-6129 |
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| Loon, Peter van | Shell | Amsterdam, The Netherlands | peter.vanloon@shell.com | +31 20 630 2627 +31 6 52521847 (mobile) |
| Lu, Qimin | PetroChina | No. 3 Zhixin West Road, Beijing 100083, China | lqimin@petrochina.com.cn | 8610-823-83083 |
| Lunde, Per G. | StatoilHydro | Oslo, Norway | pglu@statoilhydro.com | +47 41544891 |
| Maher S. Khashram | Saudi Aramco | Saudi Arabia | maher.khashram@aramco.com | |
| Melot, Denis | TOTAL | Tour Coupole, Paris La Défense 6 | denis.melot@total.com | +33 1 4744 3953 |
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| Murdoch, Colin | BP | UK | colin.murdoch@bp.com | Office +44 1932 764477 Mobile +44 7990 928262 |
| Surkein, Mike | ExxonMobil | 12450 Greenspoint Dr, Houston, TX 77060 | michael.surkein@exxonmobil.com | Tel (281) 654-4821 Blackberry (281) 323-9431 |
| Swidzinski, Mike | ConocoPhillips | Aberdeen, Scotland, UK | mike.a.swidzinski@conocophillips.com | Tel: +441224 205935 Cell: +447785 234181 |
| Zhang, Qibin | CNPC | 40 Jintang Road, Tianjin 300451, China | qbzhang@cnpcc.com.cn | 8622-66313180 |
| Johansen, Alf Reidar | OGP | 209-215 Blackfriars Rd, London SE1 8NL, UK | arj@ogp.org.uk | Office +47 66 84 84 04 Mobile +47 95 029 09 |
| Hidden, Lucy | OGP | 209-215 Blackfriars Rd, London SE1 8NL, UK | lh@ogp.org.uk | |

Proposals & actions

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| No | Proposal | Agreed actions |
|----|---|---|
| 1 | Cost of corrosion within each Company. | FB presents an abstract of Saudi Aramco's "Cost of corrosion/protective coating report" for discussion of learnings at next meeting. |
| 2 | Publicity of workshop activities | Make article in OGP Highlights and circulate mom to members of OGP Standards committee. Be available as a resource for others in OGP. Make OGP website. Short presentation, article at NACE, EUROCORR, etc. |
| 3 | Qualification process of paint systems properties other than corrosion performance i.e. impact, abrasion, cold temperatures | DM will lead discussion at next meeting. All members to prepare for discussion. |
| 4 | Need more user involvement in ISO coating standards development. | Members are encouraged to become more active in the standards work. Details can be exchanged before standards meetings. |
| 5 | Consider use of more than one criteria or requirement in a standard to balance user versus supplier wants. | For info. |
| 6 | New standard for above ground storage tanks internal coating/lining. | Support that GSO handles this to a ready document for ISO standardization at a later stage. |
| 7 | Within ISO/TC67 should there be a new WG on corrosion protection coatings for oil and gas plant equipment? | Defer for discussion at a later stage. |
| 8 | Should pipeline standards also spell out or address handling procedures? | Recommend ISO/TC67/SC2/WG14 to make a standard for this subject – integral or separate part. FB will draft an email. Partly handled by ISO 21809. |
| 9 | How to deal with track records as information to confirm and approve the use of specific coating systems. | The OGP Coating network can be used to check use of new coating systems, etc. |
| 10 | Develop a focus list of key coating standards we like to follow progress of. | Prepare focus list and include also where we are actively involved in the standards related committees, WG etc. All members send info to ARJ within one month. |
| 11 | Can international standards replace company standards? | We can come close. More elements from specifications can be included in international standards, but not fully replace company specifications. |
| 12 | Should NORSOK M-501 be implemented into or be the basis for development of an ISO standard? | Partly dealt with in ISO 12944, but not sufficiently well. Can be new part in 12944 or 20340, specifically for oil and gas industry as an application standard for C5M and Im2. PGL prepare a draft proposal. |

| | | |
|----|---|---|
| 13 | Can ISO 12944 be used (with possible modifications) as a project specification? | See above. |
| 14 | Should ISO 12944-6 be made such that it covers tests for C5M type environments or just leave this in ISO 20340? | To be handled later. |
| 15 | How do we get coating breakdown factors (CBF) more accurately covered to feed into CP standards? | All members find out what we are using ourselves and then work to influence the CBF. MS agrees to be focal point and aggregate data for discussion. |
| 16 | Possible harmonizing between NACE SP0108 and ISO 20340? | ISO/TC35/SC14/WG9 agreed to discuss this with NACE when ISO 20340 revision is published, expected to be end 2008. |
| 17 | Benchmark or gap analysis between various company coating specifications/standards | Members are encouraged to conduct a gap analysis for sharing at next meeting. |
| 18 | Analysis of coating degradation via EIS (electrochemical impedance scanning) | FB to share info with network and present utilization at next meeting. |
| 19 | Possible future Coating workshop to continue achieve and enhance networking, i.e. case histories | Agreed. Define specific items and case histories for discussion at next meeting. Members to submit proposed agenda items. ARJ raise a proposal in the Standards committee meeting 30 June for this to become task force in OGP. Need to define Terms of References, elect a chair etc. Aim for next meeting 1Q09. Venue tba with Doha or Europe as possibilities. May invite outside specialist(s). |
| 20 | Share company specifications in OGP (closed) network environment? | Agreed to share company specifications, with some to investigate possibilities. Establish protected OGP website for this purpose for those who share only. All send specifications to ARJ for uploading. Report status to group within one month. |
| 21 | Create OGP group for non-metallic materials | Propose for Standards committee. |
| 22 | Coating standards report | All to review and comment within one month: say 15 July. Make sure all coating standards used by the companies are included in the report. |
| | | |