The International Association of Oil & Gas Producers
Representing the upstream industry around the world since 1974

Progress of collaborative efforts to prevent and respond to major incidents

International Regulators’ Offshore Safety Conference, Perth, 22nd October 2013
Some 80 members around the world

Base region of Members

North America

- Anadarko
- Apache
- Baker Hughes
- CAPP
- Chesapeake
- Chevron
- CNR International
- ConocoPhillips
- Devon Energy
- ExxonMobil
- Hess Corporation
- Husky Energy
- 24 members active in region

South America

- ARPEL
- Cepsa
- CCIS
- Mobil
- 26 members active in region

Europe

- Addax
- Afren plc
- Assermerzia
- BG Group
- BP Billiton
- BP
- Cairn Energy
- DONG Energy
- E.ON Ruhrgas AS Energy Institute
- Eni
- Fairfield Energy
- GDF Suez
- Gaz de France
- Iberdrola
- INEOS
- IPICA
- Marsk Oil
- MOL plc
- NOGGE
- Norwegian Oil & Gas
- OMV
- PetroChina
- Premier Oil
- Repsol
- RWE Dea AG
- Shell
- Statoil
- TAGA
- Total
- Tullow Oil
- WEG
- Wintershall
- 26 members active in region

Russia & Caspian region

- NCC
- 20 members active in region

Asia & Australasia

- APPEA
- Cairn India
- CNOC
- INPEX
- 27 members active in region

Middle East

- ADNOC
- Dolphin Energy
- Dragon Oil
- Kuwait Oil
- Qatar Petroleum
- RosGas
- Saudi Aramco
- Saudi Oil
- Yemen LNG
- 34 members active in region

Associate Members
• To work on behalf of the world’s oil and gas exploration and production (E&P) companies to promote safe, responsible and sustainable operations.
## Publications

### Most downloaded publications over 3 months

(May 1 – Aug 1, 2013)

<table>
<thead>
<tr>
<th>Report No.</th>
<th>Report name</th>
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<tbody>
<tr>
<td>2012s</td>
<td>Safety &amp; Health performance indicators - 2012 data</td>
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<tr>
<td>459</td>
<td>Life-Saving Rules</td>
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<td>456</td>
<td>Process safety - recommended practice on key performance indicators</td>
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<tr>
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<tr>
<td>449</td>
<td>Environmental management in Arctic oil &amp; gas operations - good practice guide</td>
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<tr>
<td>415</td>
<td>Asset integrity - the key to managing major incident risks</td>
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<td>2011e</td>
<td>Environmental performance indicators - 2011 data</td>
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<tr>
<td>n/a</td>
<td>Factsheet: Oil &amp; natural gas: the basics</td>
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<tr>
<td>459_4</td>
<td>Life-Saving Rules - A1 poster of all 18 Rules</td>
</tr>
<tr>
<td>485</td>
<td>Standards and guidelines for drilling, well constructions and well operations</td>
</tr>
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</table>
OGP represents the upstream industry before a number of organisations

- The organisations include:
  - Barcelona Convention
  - Commission for Sustainable Development
  - EU
  - Helsinki Commission
  - IMO
  - International Regulators’ Forum
  - International Whaling Commission
  - ISO
  - OSPAR
  - World Bank
Global Industry Response Group
Prevention of and response to major offshore well incidents

**Prevention**
Better capabilities and practice in well engineering design and well operations management

**Intervention**
Improved capping response in the event of an incident and to study further the need for – and feasibility of – global containment solutions

**Response**
Effective and fit-for-purpose oil spill response preparedness and capability

Governments, regulators, NOIAs, OSROs and industry initiatives
Framework

- EU/US sanctions continue to block major ISO/TC67 work for API and OGP members
- OGP and API have established a Joint Task Force to identify potential solutions for preserving a single set of international standards
- Meanwhile, OGP is hosting a number of sanctions compliant international standards development groups
- Draft International Standards (DIS/FDIS) are sent to ISO for balloting/issuing
- API standards work continues unrestricted, but is not available for the OGP hosted international standards development pending clarification from US regulators (i.e. OFAC)
Accomplishments by OGP hosted group (well safety related only)

- 5 draft standards delivered to ISO
- 4 standards in drafting with 15-20 experts working on each

Next steps

- Work and complete safety critical international standards that are independent of API input
- Resolve restriction on API input, based on US regulator response, to mitigate risk of a dual set of standards emerging for international applications
Phase 1

• Define & recommend enhancements for existing global Well Control Training, Examination & Certification, OGP Report #476 issued Oct 2012

• Recommendations are embraced by IADC WellCAP and IWCF; primary objective of single Well Control Standard is being achieved
Phase 2

- Syllabus delivered by Aberdeen University:
  - OGP Well Operations Crew Resource Management (WOCRM) Training Syllabus
  - Work programme for development of a training standard from the syllabus

Phase 3

- Define & recommend competence assessment & assurance tools: Draft international standard at ballot stage by ISO
Well incident prevention
BOP technology – fault tree reliability analysis

Fault tree – top part
Well incident prevention
BOP technology – fault tree reliability analysis

The Safetec study has assessed the relative contribution to risk of a blow-out from equipment.

- For the BOP system as defined in ISO 14224, i.e. including the connector to the Wellhead, the indicated reliability is of the order of SIL 2.

- The connector is a sub-unit to the BOP system that has no role in shutting-in the well. For the BOP system without the connector the indicated reliability is of the order of SIL 3.
Conclusion

• Challenge
  • Maintaining the specified SIL level during the operating life of the BOP

• Main indicated areas for improvement
  • The control system, which is the BOP subunit which fails most often when tested;
  • The wellhead connector, which is the most important subunit in term of ‘component importance’.

• Required
  • Better Collection of data related to failures of subunits and of their component/maintainable items or their Parts (taxonomy levels 6, 7, and 8 of ISO 14224)

• Critical areas not covered by the analysis
  • Reliability of critical subunits, including shear rams’ ability to seal under adverse conditions
Well incident prevention
Well control incident database

Accomplishments

• Well Control Incidents Database was launched July 31st 2012
• “OGP Well Control Incident Web Site” went live in April 2013
• 15 incidents in database, issued as alerts to OGP members

Next steps

• For trending, collection of WCI on an annual basis with the structured process in place for collection of occupational and process safety performance indicators

The Challenge

• Promoting the reporting
• Sharing and learning from events
Well intervention
Capping

Key objectives on capping achieved

- Design a capping toolbox with a range of equipment to allow wells to be shut in
- Design additional hardware for the subsea injection of dispersant
- Assess and implement deployment option

**4 x capping toolboxes constructed**

**2 x subsea injection, BOP manual intervention, and debris clearance**
Well intervention Containment

Standard Industry Hardware

Containment Toolbox

1. Flow spool with subsea test tree latch
2. Coiled tubing termination head (CTTH)
3. Flowline end termination (FLET)
4. Innovative side-entry flow spool

Mutual aid in large-scale offshore incidents – a framework for the offshore oil and gas industry

Well planning

Offshore installation

Technical specifications

System operations

Functional specifications

Emergency disconnect

System mobilisation

Decommissioning
Well intervention
Offset Installation System (OIS)
Oil spill response
Oil Spill Response JIP

- Effective and fit-for-purpose oil spill response preparedness and capability
- 18 work items
- Planned project end ultimo year 2014
- Results captured in the form of good practice guidelines divided into four areas:
  - Strategy (3 docs);
  - Preparedness (5 docs);
  - Response (12 docs);
  - Impacts (3 docs)
## Oil Spill Response

### JIP 12: 23 Good Practice guides

<table>
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<tr>
<th>Stage</th>
<th>Task</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Strategy</td>
<td>Framework document&lt;br&gt;Incident Management Strategies&lt;br&gt;Net Environmental Benefit Analysis</td>
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<tr>
<td>2</td>
<td>Preparedness</td>
<td>Contingency Planning&lt;br&gt;Sensitivity Mapping&lt;br&gt;Tiered Preparedness &amp; Response&lt;br&gt;Training&lt;br&gt;Exercise Planning</td>
</tr>
<tr>
<td>3</td>
<td>Response</td>
<td>Surveillance&lt;br&gt;Dispersants: Sea surface&lt;br&gt;Dispersants: Subsurface&lt;br&gt;Mechanical Recovery&lt;br&gt;In-Situ Controlled Burning&lt;br&gt;Shoreline Response Planning and SCAT&lt;br&gt;Shoreline Cleanup Techniques&lt;br&gt;Inland Responses&lt;br&gt;Waste Management&lt;br&gt;Oiled Wildlife Management&lt;br&gt;Environmental Assessment and Restoration&lt;br&gt;Economic Assessment and Compensation&lt;br&gt;Responder Health and Safety</td>
</tr>
<tr>
<td>4</td>
<td>Impacts</td>
<td>Impacts on Marine Ecology&lt;br&gt;Impacts on Shorelines</td>
</tr>
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</table>
OGP/IPIECA Seminars

IPIECA-OGP Oil Spill Response Joint Industry Project (OSR-JIP) Seminar: JIP Program Update and Upstream Risk Assessment and Response Resource Planning (JIP 6)

Date - Thursday 24 October 2013
Venue - QV1 Theatrette
Time - 12:30 pm (light luncheon provided) for a 1.30 pm start - 4:00pm (followed by afternoon tea)
Cost - No Cost, however numbers are limited, so please register early.

Registration should be undertaken directly via an email request (providing name, organisational and contact details and any special dietary requirements) to the following address with the Subject Line: “JIP Seminar Registration - QV1”:
dhills@appea.com.au

Offshore petroleum technical seminar:
Acoustic impacts and marine life

Date - Thursday 24 October 2013
Venue - QV1 Theatrette. Level 2, 250 St Georges Terrace, Perth
Time - 08:30 - 12:00
Cost - $250.00
Mutual Aid in Large-Scale Offshore Incidents

Mutual Aid guidelines

- A framework for the offshore oil and gas industry
- defines some terms related to mutual aid
- lays out some guiding principles
- outlines a common process
- highlights some of the issues likely to be encountered
- offers some practical measures to enhance and sustain mutual aid arrangements
- is targeted for use by operators and local industry associations in consultation with regulators
A conceptual process

- Systematic risk assessment and resource identification
- Information sharing to identify mutual aid opportunities
- Cooperative dialogue to define appropriate mutual aid arrangement
- Engagement with regulators and other stakeholders to identify and address issues
- Cooperative practices to sustain and demonstrate preparedness
Mutual Aid in Large-Scale Offshore Incidents

Next steps

• Presentation to IADC and IMCA members
• Communicate framework to regional and local operators associations – via OGP website
• Roll out at selected industry conferences