Reports 592 & 594
Preparing for SSC Response & Optimising Timelines

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Wells Expert Committee (WEC) & Subsea Well Response and Source Control Subcommittee (SWRSC)

- Established in June 2011, WEC has become the global voice of Operators and a relevant and effective technical authority on the prevention and mitigation of high consequence well control events.

- The SWRSC was formed in 2017 and aims to:
  - Be a centralised source of industry knowledge and shared experience in subsea well response and source control
  - Support IOGP member organisations and the broader E&P industry engaged in subsea activity
  - Provide a forum for industry to identify technical areas where further development may be warranted
WEC Framework

Improve well operators’ effectiveness in the prevention and mitigation of high consequence well control incidents throughout the well life cycle, but particularly during well construction and well work.

**WELL CONTROL INCIDENT PREVENTION**

- Human performance
- Well control equipment and systems
- Well standards and processes
- Well design & PPG
- Well integrity and process safety
- Production operations
- Drilling, completions & interventions
- Well control & contingency
- Plugging & abandonment
- Specification & selection
- Maintenance, reliability and performance
- Shearability assessment
- Tree maintenance
- Well site human factors
- WCI training and alerts
- Automation risk & competency assurance
- Well design
- COVID-19 impacts on training

**WELL CONTROL INCIDENT MANAGEMENT**

- Divert flow
- Prevent ignition
- Harm to people
- Close BOP
- Relief well
- Source control
- Harm to environment
- New country entry advocacy
- Response capability assurance
- Licence to operate

Engagement with government agencies, industry/service providers and operators

Well control incident causal and trend analysis
IOGP SWRSC

SWRSC Key Activities:
1. Creation of resources and best practices for industry.
2. Education and knowledge sharing
3. Stakeholder engagement
4. Technical projects and continuous improvement
IOGP Report 594

Purpose

• Fills an industry knowledge gap where a vast amount of information has been accrued but not concisely disseminated to the wider industry.

• Intended to inform technical and non-technical stakeholders what is meant by subsea source control and present a holistic picture of what is involved.

• Provides an overview of technical activities that should be considered when designing wells and preparing a source control emergency response plan (SCERP).

• Establishes a common workflow and guidelines for industry participants.
• Foreword
  – Introduces the report and describes the difference between Capping and Containment.

• Part 1: Overview of Source Control Emergency Response
  – Describes response organisational structures and key task groups.

• Part 2: Engineering Activities to Support Response Planning
  – Goes into engineering, design and preparation activities that should be considered before drilling commences.

• Part 3: Capping Stack Planning and Installation
  – Discusses how to choose and deploy the right capping stack solution.

• Part 4: Logistics Planning
  – Considers mobilisation and logistic requirements.

• Appendix:
  – Overview of Containment.
  – Response task group detailed descriptions.
  – Capping stack resources available to industry.
  – An overview of the capping stack installation process.
  – Example drawings.
  – Response Plan checklists.
• International environmental regulators working together to foster good practice.

• IOPER’s Oil Spill Working Group recognised the need to further improve preparedness for timely source control response.

• NOPSEMA/(IOPER) with APPEA hosted the ‘Source Control Workshop’ at 2019 Spillcon in Australia to foster collaboration and consistency in source control planning.

• Industry’s global subsea well response expertise supported the event to focus on subsea response planning to minimize response time – (IOGP presented Report 594).

• One objective was to use the workshop outputs to create a source control response-time-model project planning tool.
Report 592

• Developed in partnership with IOPER via NOPSEMA.
  • Steps taken to avoid regulatory capture such as no timelines entered, dynamic tool to be improved by users over time, etc.

• The report consists of subsea well response project files (multiple formats).
• Contains information on:
  1. User guide for how to use the model.
  2. Guidance on appropriate level of detail to be observed.
  3. Explanation of model logic with predecessor and successor activities.

Does not:
1. Pre-populate response times.
2. Provide guidance on what times should be populated.
3. Consider Containment operations.
Response Time Model & Report 592

• Report 594 describes the elements that form a SCERP.
• Response time models form part of the response plan, but have not been presented consistently to the same level of detail.
• IOGP next step: develop an RTM and use it as a tool to understand overall response time and critical path activities.
• Once the RTM is developed, it along with the SCERP can be validated with tabletop exercises.

The Project

• Recognising IOGP-IOPER synergies for source control response planning improvements, NOPSEMA and IOGP collaborated to produce the Response-Time-Model and Report 592.
• The RTM is a tool to improve our industry:
  • Consistency in plans which can make mutual aid easier to optimize – industry plug and play.
  • Allows Regulators to have a standard template to review and understand the status of best practice and whether Operators are appropriately reducing risk to ALARP (identifying and improving critical path items).
  • Makes overall planning more efficient through consistency.
Level 1 shows the headline activities and is intended to present the overall summary.
Level 2 contains the intermediate details. It is anticipated that most level 2 activities can be populated when developing the response time forecast and used during tabletop exercises.
Response Time Model, Report 592

Level 3 contains the granular details. Too detailed for supporting planning. Is intended to support an actual response.

Notwithstanding, Level 3 is worth reviewing as some activities can potentially have a significant impact on response time.
Green’s – Planning and pre-response activities, Level 1 and 2 roll ups and activities.

White on Red – Incident time datum.

Blue’s – Response activities, Level 1 and 2 roll ups and activities.

Black & Grey – Level 3 roll ups and activities.

Yellow shading – Logistical movement activity.

Peach & Orange shading – Linked to governmental approvals or processes.
Example of RTM use

Populate the RTM with estimated durations, complete with ‘Justifications for Time Estimates’
Identify the critical path items

‘Predecessors’ and ‘Successors’ will identify the tasks that are critical e.g. task 426 requires dispersant conveyance system installed on injection vessel and needs to occur before task 428, which needs to occur before dispersant deployment task 469.
Could time increase due to not prepared with downline dispersant conveyance system?

Delays the subsea dispersant injection, which delays tasks 608 and 870, which are successors to the Capping Stack deployment.
Improved outcomes to support preparedness

- Response planning is highly detailed and complex.
- The RTM is a tool to help delineate the critical path and therefore priorities.
- The principle of ALARP is to undertake all reasonable preparedness actions to enable the project to be completed in the shortest reasonable timeframe.

As per the case example,
- A downline solution for subsea dispersant conveyance would improve the overall project timeline.
- Is the timeline improvement significant to the end outcome (note: some tasks can occur concurrently).
- Are the improvement actions reasonable (cost verses benefit)?
- Does it represent ALARP?
- Document reasoning (the ‘Justification for Time Estimates’ provides stakeholder information).
Report 592 Conclusions

1. Having a robust understanding of response times and critical path activities is a key part of the Regulator’s environmental assessment process.

2. The RTM was developed to be available to all and promote consistency in response planning.

3. The tool can be used in preparedness activities to help identify critical path tasks or establish priorities.

4. The tool can be used to support the organisation and coordination of response.
Australian Application
The RTM in use (case example):

- The APPEA Drilling Industry Steering Committee (DISC)

**Source Control Response Industry Working Group – Terms of Reference:**

**Purpose:**
The Source Control Response Industry (SCRI) working group is to share and collaborate on Australian Offshore Titleholders’ (“Titleholders”) existing source control response plans. The Working Group will explore and act on opportunities to align and strengthen the Titleholders’ source control emergency response capability through “mutual aid” initiatives and drive continuous improvement by implementing fit-for-purpose and effective source control emergency response strategies.

- Work Streams

**Direct Intervention**
- SC/SCRI Template for SFRT / Capping Stack deployment
- Shared Capping Stack Pkg (SFRT model)
- Assessment of alternate installation methods
- Shared vessel tracking service
- Generic response time models for the different direct intervention methods
- Organise a workshop (or other as required) with the regulator on above topic for alignment

**Indirect Intervention**
- MoU “re-fresh” as it pertains to rig sharing
- Alignment on relief well planning and blowout scenarios
- Shared relief well equipment
- Generic response time model (indirect int.)
- Alignment on high rate kill methodologies

**Personnel**
- Source control “Core Group” concept
- Access to people - mutual aid agreement
- Joint training / exercise opportunities and planning
• Produced an **Australian Offshore Titleholders Source Control Guideline** that includes, partnerships, agreements and plans for the selected initiatives. This Plan can be expanded by the relevant Titleholder to cover any project specific requirements.

• Gathered and applied information from all relevant sources:

  1. **Australian Offshore Titleholders Source Control Guideline**
  2. **SPE Technical Report**
  3. **Source Control Emergency Response Planning Guide for Subsea Wells**
  4. **Guidelines on Relief Well Planning for Offshore Wells**

Including this recently developed NOPSEMA Information Paper
The RTM in use (case example):

- Information Paper: Source Control Planning and Procedures
  - NOPSEMA’s expectations with regards to source control planning content of:
    - Environmental Plan (EP)
    - Well Operating Management Plan (WOMP)
    - Source Control Emergency Response Plan (SCERP)
  - Reflects the content of IOGP Report 594 and the RTM
The RTM in use (case example):

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Australia Offshore Titleholders, Source Control Guidelines

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Recommend use of globally accepted Project Planning tools e.g. the RTM
Reports 592, 594 & 595 are available free at the IOGP Bookstore:  www.iogp.org/bookstore
Thank You & Questions