Using the Readiness Evaluation Tool for Oil Spills (RETOS™) in Process Safety Management (PSM)

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Presentation Outline

• Aspects of EM in E&P as they relate to PSM principles
• The use of RETOS™ and management-specific criteria for assessing different levels of emergency response planning and readiness
• Background on OSR Preparedness Assessment
• Approach Used for the Manual and RETOS™
• Use and features of RETOS™ V 2.0
• Final remarks
PSM

• The key provision of PSM is process hazard analysis (PHA)—a careful review of what could go wrong
PSM Principles

If, despite the best planning, an incident occurs, it is essential that emergency pre-planning and training make employees aware of, and able to execute, proper actions. (OSHA3132-PSM)

- Establish a system to respond to the workplace hazard assessment findings, which shall address prevention, mitigation, and emergency responses.
- Train and educate employees and contractors in emergency response procedures in a manner as comprehensive and effective as that required.
Emergency Management

• Emergency Response Onsite
• Short and Long Term Incident Management
• Crisis Management
• Business Continuity
The ARPEL Oil Spill Response Planning and Readiness Assessment Manual and the Tool (RETOS™) were developed to assist governments and companies in assessing their level of oil spill response planning and readiness management in relation to commonly agreed pre-established criteria considering international Best Management Practices.
National and International Standards

- MARPOL/OPRC
- IMO Guidelines
- Industry guidelines (IPIECA, ARPEL, API)
- ISO 9000 y 14000
- 2008 IOSC Guideline
- Laws and regulations

The guidelines and practices referenced in the ARPEL Manual and RETOS are suggested; NOT mandatory
retos application to oil spill response programs

- government or industry
  - facility – terminal, plant
  - facility/asset operation - pipelines, vessels, fleet

- government
  - port/city/local
  - area - region, province, state
  - national (& multi-national)

- industry
  - country or business line (e.g., production)
  - corporate

- level a
- level b
- level c
RETOS v2 Use Worldwide - Countries

- Bahamas
- Belize
- Brazil
- Colombia
- Costa Rica
- Denmark
- Ecuador
- El Salvador
- Finland
- Gambia
- Germany
- Guatemala
- Guyana
- Honduras
- Kuwait
- Latvia
- Lithuania
- México
- Namibia
- Nigeria
- Norway
- Peru
- Poland
- Russia
- Suriname
- Sweden
- Trinidad & Tobago
- Turkey
- UK
- Caribbean Islands
- USA
- Venezuela
RETOS v2 Use Worldwide - Organizations

- ANCAP
- Caribbean Environment Program (UNEP)
- Clean Caribbean-OSRL
- COCATRAM
- Ecopetrol
- ENI
- EP Petroecuador
- ExxonMobil
- Instituto Brasileiro do Petróleo
- IMO – IPIECA
- Kuwait Petroleum Corp
- Maersk Oil
- OCENSA
- Petroamazonas
- Petrobras
- Petroperu
- RAC/REMPEITC-Caribe
- Recope
- Repsol
- Staatsolie
- Trinidad y Tobago Ministry of Energy
- World Maritime University
- YPF (Argentina-Bolivia)
ARPEL Manual and RETOS™

The **Manual** provides the background for OSR management assessment and explains the terms used, the approach to the assessment process, and the concept for a Global Improvement Program.

The **Tool** (RETOS™) is an Excel™ application intended as a checklist-type approach for a specific program and level of evaluation.
Features in RETOS™

• International government/industry effort
  • Critical criteria for Level A – Ensuring basic management
  • Institution-specific criteria – Flexibility
  • Global Performance Analysis - Sub-scores per assessment category and simple display of results by category
  • Auto-generation of a Global Improvement Program / Implementation Plan - Priorities for improvement / synergies

• Manual includes >150 references (with web links) to external guidance documents
• English and Spanish versions, currently
Oil Spill Response Planning and Readiness Assessment

Readiness Evaluation Tool for Oil Spills (RETOS™)

**NOTE TO NEW USERS**

- Enable the content and macros if Excel asks.
- If this is the first time used for a specific operation, then begin with LEVEL A.
- Add institution-specific criteria (last 10 rows), only as applicable.
- For each criteria listed (row), enter a value in the column for the appropriate indicator: 0 = Missing, 1 = Partial, 2 = Complete (Note: the default is 0 = Missing).
- If a criteria is NOT APPLICABLE: do not enter a value for criteria but do enter N/A and make sure to add a COMMENT.

<table>
<thead>
<tr>
<th>NAME OF FACILITY:</th>
<th>Facility X</th>
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</thead>
<tbody>
<tr>
<td>LEVEL ASSESSED:</td>
<td>LEVEL A</td>
</tr>
<tr>
<td>PERSON(S) CONDUCTING ASSESSMENT:</td>
<td>E. Taylor</td>
</tr>
<tr>
<td>DATE OF ASSESSMENT:</td>
<td>Friday, February 13, 2015</td>
</tr>
</tbody>
</table>

Start Evaluation  Generate Reports
A telephone list of agencies and/or people to be contacted at the time of a spill should be easy to find and telephone numbers should be accurate (see B7).
## Institution Specific Criteria

**80. INSTITUTION SPECIFIC CRITERIA**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Comments - Recommendations</th>
</tr>
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</table>
| There is an emergency management system in place with clear roles and responsibilities, including a chain of command that defines who is responsible to:  
- Gain control over the incident scene and the resources involved in at-the-scene tactical response operations,  
- Ensure onsite safety of responders  
- Identify, organize, and manage the work onsite  
- Shut down the affected facility or operation to isolate the source  
- Manage mustering and shelter-in-place operations  
- Remain in communication with the IMT-Operations Section. | ● |
| Worst case scenarios, based on Risk Analysis, have been considered in the emergency response planning process. | ● |
| The GCEM system is implemented and includes Preparedness, Response, and Recovery has been implemented | ● |
| The preparedness M3 cycle includes an eight steps process for developing EM plans: Identify E&P entity status in this process. | ○ New requirements to be added to Contingency Plans |

### OVERALL GLOBAL ASSESSMENT - Government - Industry - Facility - Level A

78% Level 1 in Development
Global Performance Analysis Results

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
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<tbody>
<tr>
<td>Legislation, Regulations, Agreements</td>
<td>90%</td>
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<tr>
<td>Oil Spill Contingency Planning</td>
<td>85%</td>
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<tr>
<td>Response Coordination</td>
<td>95%</td>
</tr>
<tr>
<td>Health, Safety &amp; Security</td>
<td>100%</td>
</tr>
<tr>
<td>Operational Response</td>
<td>86%</td>
</tr>
<tr>
<td>Tracking, Assessment &amp; Information Management</td>
<td>100%</td>
</tr>
<tr>
<td>Logistics</td>
<td>100%</td>
</tr>
<tr>
<td>Financial &amp; Administrative Considerations</td>
<td>100%</td>
</tr>
<tr>
<td>Training &amp; Exercises</td>
<td>100%</td>
</tr>
<tr>
<td>Sustainability &amp; Improvements</td>
<td>83%</td>
</tr>
<tr>
<td>Total</td>
<td>92%</td>
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<tr>
<td>Institution Specific Criteria</td>
<td>75%</td>
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</tbody>
</table>

Level A Results with No Weighting

- Legislation, Regulations, Agreements: 100%
- Oil Spill Contingency Planning: 80%
- Response Coordination: 60%
- Training & Exercises: 40%
- Financial & Administrative Considerations: 20%
- Health, Safety & Security: 0%
- Operational Response: 80%
- Tracking, Assessment & Information Management: 100%
- Logistics: 100%

#Completed / Number of questions: 58/ 66

Level A Overall Assessment: 92% (In Development)

Assessment Completed By: E. Taylor
RETOS Reports

Global Performance Analysis

Level B Results with No Weighting

- Legislation, Regulations, Agreements
- Sustainability & Improvements
- Oil Spill Contingency Planning
- Response Coordination
- Health, Safety & Security
- Training & Exercises
- Financial & Administrative Considerations
- Logistics
- Operational Response
- Tracking, Assessment & Information...
Final Remarks

• As of today, RETOS is being, or has been, used in 30+ countries for 50+ OSR programs, including REMPEITC-Caribbean and COCATRAM (Central America)

• Gaps assessments typically have shown on average that 60-70% of Level A criteria were complete for programs assessed

• Expectations of use by IMO/IPIECA Global Initiative programs in WACAF, Black and Caspian Seas, and South East Asia
Final Remarks

• ARPEL member companies have agreed to use RETOS™ as a benchmarking tool in pipelines systems (1st) and the approximately 100 maritime terminals (2nd) in Latin American countries.

• Key elements from RETOS can be used to create similar tools and assess the level of emergency management readiness in relation to PSM pre-established criteria and international Best Management Practices.
Further information about how to use RETOS™ in PSM and about POLARIS:

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Muchas Gracias