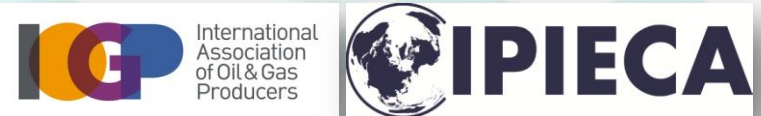




Best Practices in Oil Spill Contingency Planning
Shahreena Shahnavas, Oil Spill Response Limited (OSRL)

Topics for Discussion

- ▶ Why is oil spill contingency planning so critical?
- ▶ Contingency planning process & its components
- ▶ Industry's current views on best practices
 - OSR –JIP 12 Work Program
 - Contingency planning is one of the key strategy documents



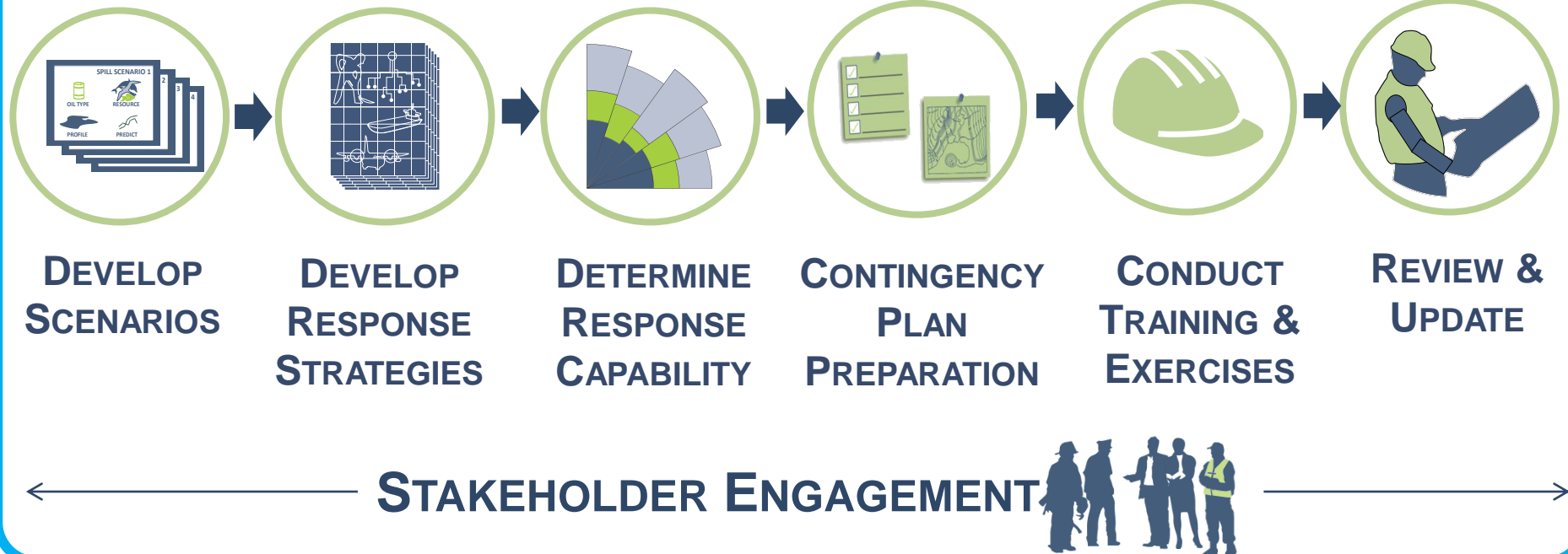
Contingency Planning

- ▶ Process of developing a suitable spill response capability that is in compliance with the regulatory framework and commensurate with the oil spill risks of an organization or facility



The Contingency Planning Process

REGULATORY FRAMEWORK



Source: Adapted from JIP6, JIP12. <http://oilspillresponseproject.org/completed-products>

Tiered Preparedness & Response

WHAT is it?

- ▶ Internationally recognized planning approach used to:
 - Define and structure levels of oil spill response capabilities;
 - Plan for appropriate resources to be rapidly mobilized and cascaded to an incident location;
 - Enable response escalation for an oil spill of any magnitude



Responders



Equipment

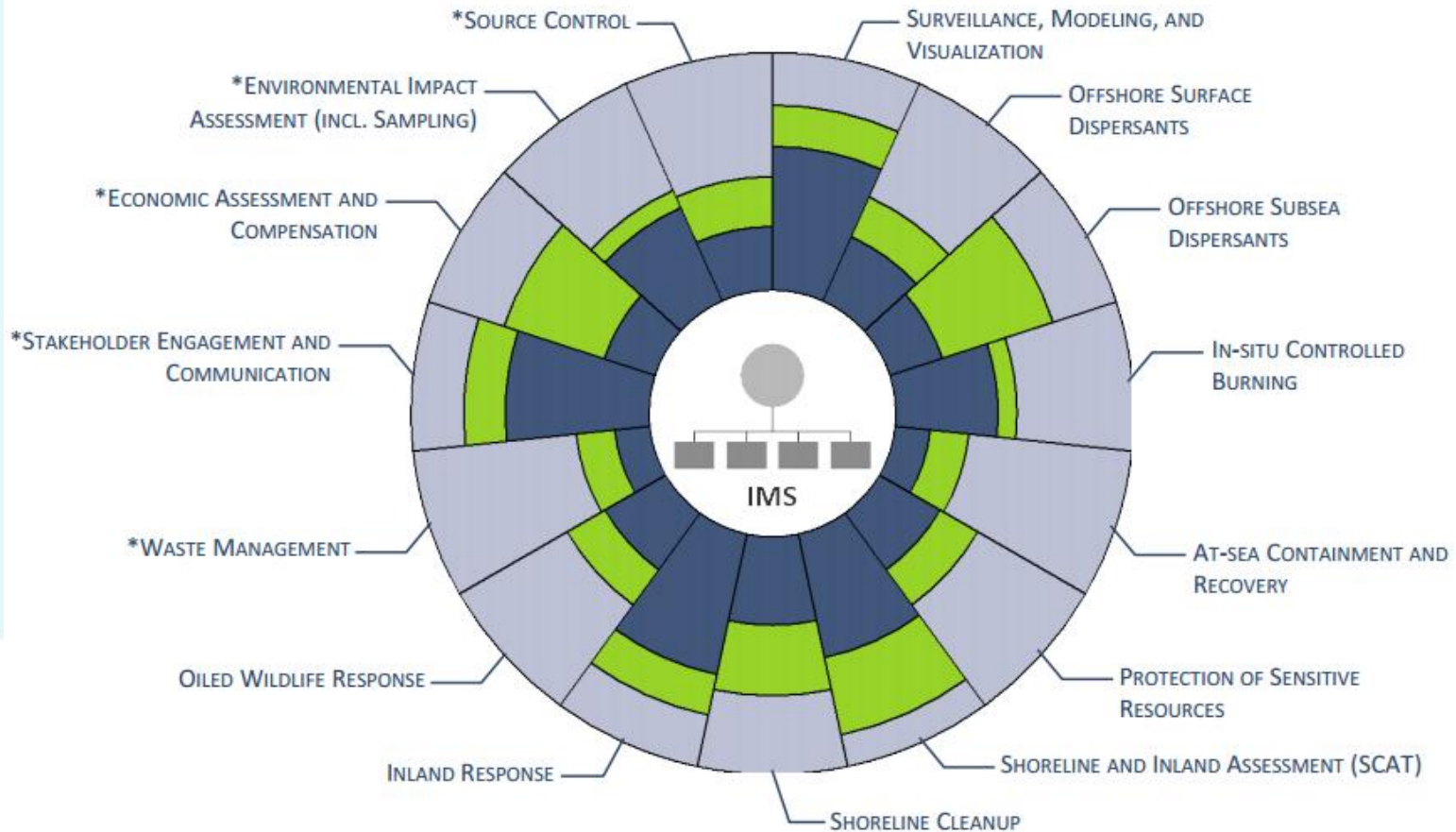
WHY is it used?

- ▶ Integration of local, regional, and global industry capabilities into oil spill response planning;
- ▶ Industry's ability to effectively respond to an oil spill of any magnitude



Additional Resource

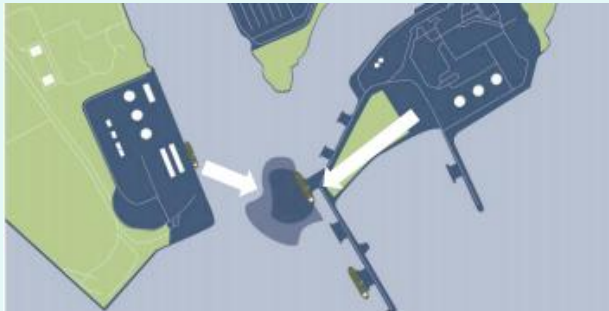
Tiered Preparedness & Response Model



*THESE CAPABILITIES MAY NOT BE PROVIDED BY OIL SPILL RESPONSE ORGANIZATIONS OR MUTUAL AID, BUT MUST BE CONSIDERED BY OPERATORS IN PLANNING. OPERATORS MUST COMBINE INTERNAL AND EXTERNAL RESOURCES TO MEET THE CAPABILITY REQUIRED TO RESPOND TO POTENTIAL INCIDENTS.

Cascading Resources

Tier 1:



TIER 1: RESOURCES NECESSARY TO HANDLE A LOCAL SPILL AND/OR PROVIDE AN INITIAL RESPONSE

Tier 2:

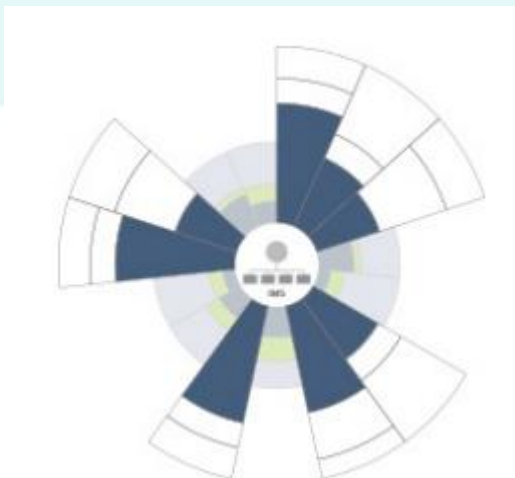


TIER 2: NATIONAL OR REGIONAL RESOURCES NECESSARY TO SUPPLEMENT A TIER 1 RESPONSE

Tier 3:



TIER 3: GLOBAL RESOURCES NECESSARY FOR SPILLS THAT REQUIRE A SUBSTANTIAL ADDITIONAL RESPONSE DUE TO INCIDENT SCALE, COMPLEXITY, AND/OR IMPACT POTENTIAL



Regulatory Framework

- ▶ International legislation implemented in country through national legislation and regulation
- ▶ OSCP's may require consultation with relevant stakeholders
- ▶ OSCP's may require approval at a regional / national level



Stakeholder Engagement

Stakeholder engagement is essential before, during and after a spill to ensure least possible impact to the environment and community resources

- Who are your potential stakeholders?
- Three-way communication
- Understanding of stakeholder priorities
- Transparent decision-making
- May be mandated by regulation
- Industry efforts made on regional and global scales (e.g. Global Initiative)



Scenario Development

1. Establish the oil spill risk assessment context

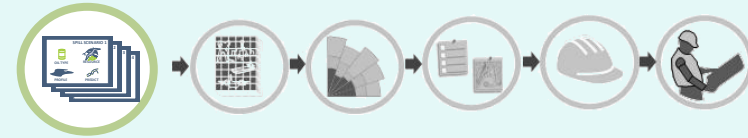
2. Hazardous event identification

3. Hazardous event characterization

4. Identify oil spill scenarios for consequence analysis

5. Consequence Analysis

6. Evaluate risk and select oil spill planning scenarios



➤ Varying risk assessment methodologies

➤ Organizations to adopt a context that is appropriate for the planning scope

Scenario Development

► Identify all operational hazards that could result in a release of oil product

- What can go wrong?

► Analysis

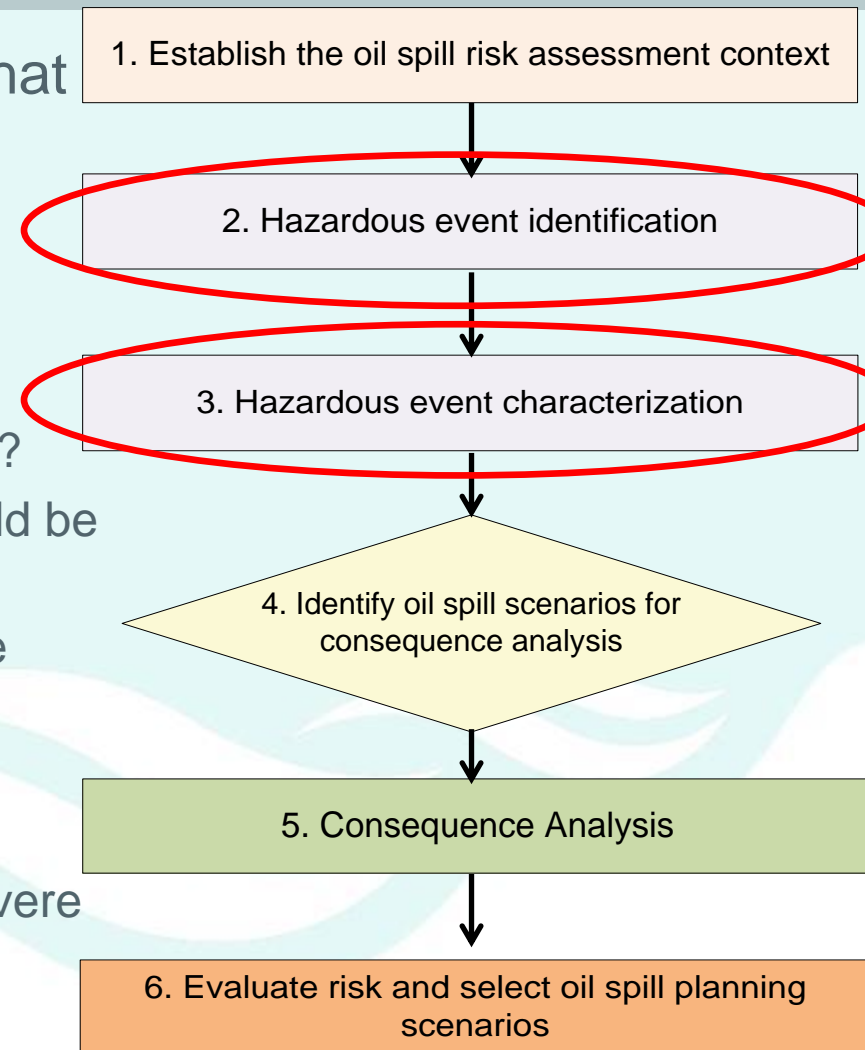
- What is the chance that it could happen?

- What type of oil and how much of it could be released?

- Where could it happen and what are the local conditions?

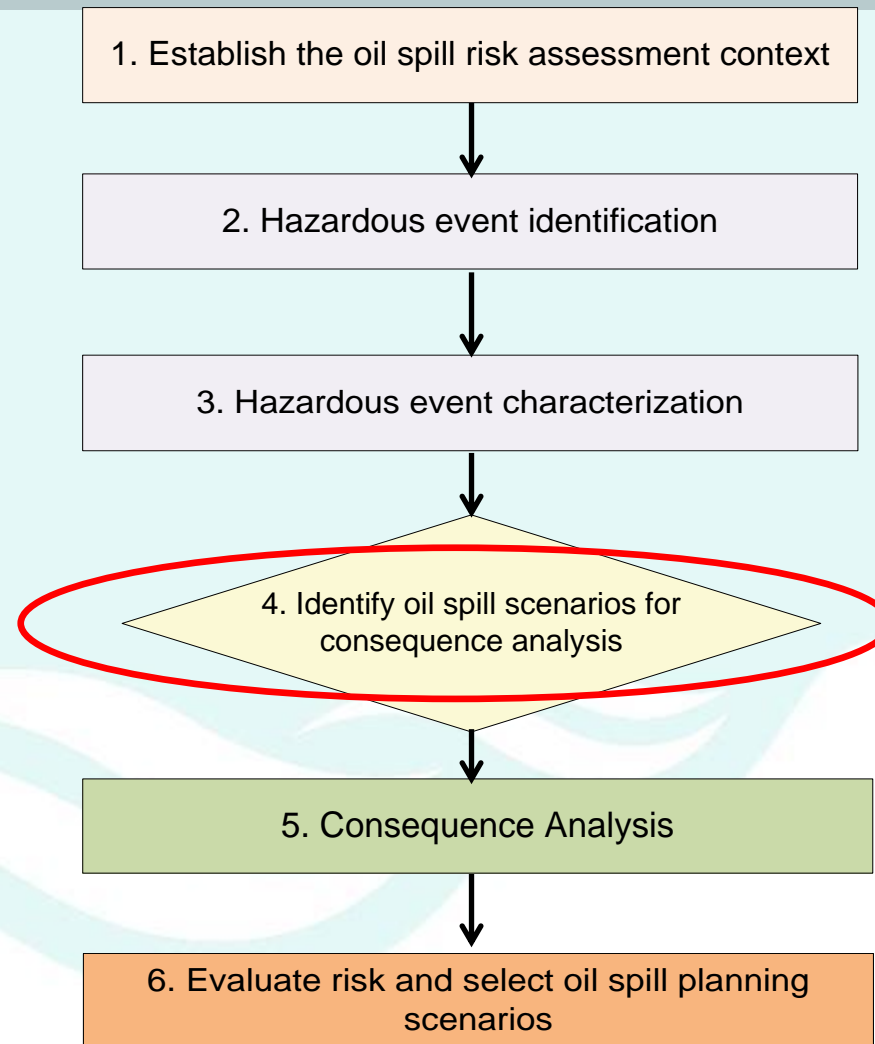
- Where could the spilled oil go and how might it behave in the environment?

- What impacts could it have and how severe could the consequences be?



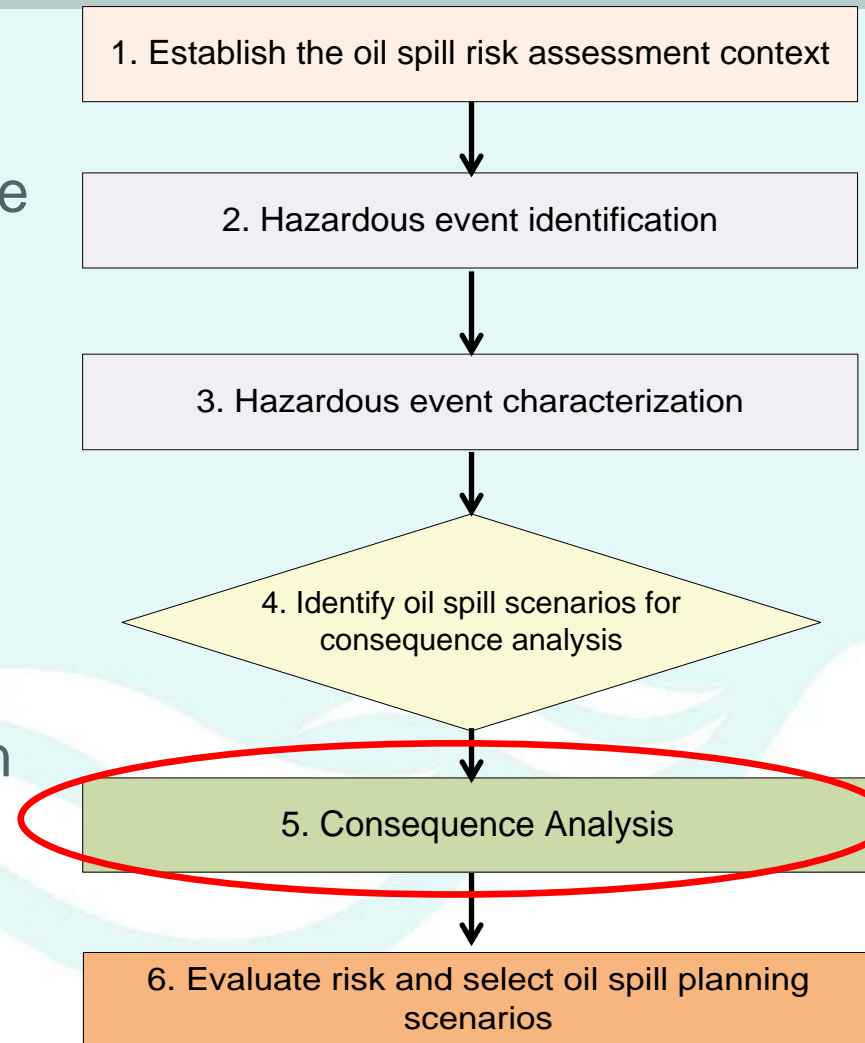
Scenario Development

- ▶ Practical number of chosen scenarios, representative of the tiered response approach
- ▶ May be defined by regulatory requirements



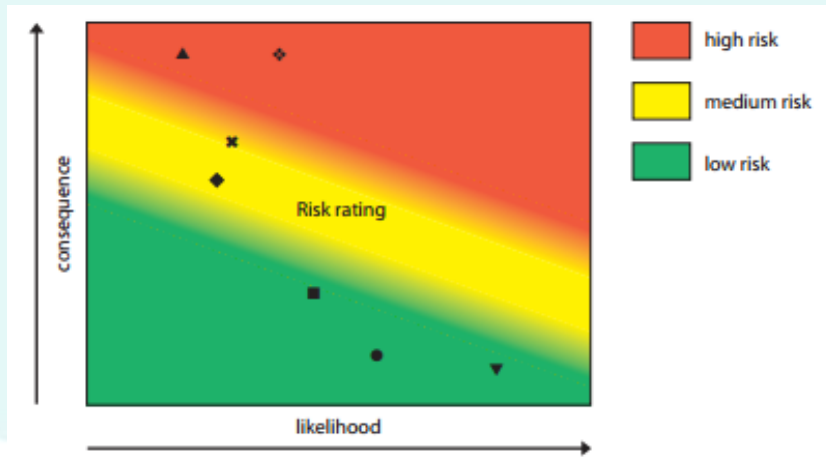
Scenario Development

- ▶ Oil spill modelling
 - Forecast of oil trajectory and fate
- ▶ Sensitivity mapping
 - Evaluate potential sensitive resources at risk of impact from oiling
 - Vital for setting response objectives & supporting decision making



Scenario Development

► Risk Assessment Matrix (RAM)



Assess the risks: likelihood x consequence = risk rating

- = Loss of containment during fuel transfer quayside; 10 tonnes; diesel fuel
- ▼ = Small maintenance leak; 10 litres; hydraulic fluid
- × = Pipeline rupture near shore; 1,000 tonnes; light crude
- = Offloading at sea; 400 tonnes; diesel fuel
- ◆ = Subsea leak; 1,500 tonnes; crude
- ▲ = Subsea well blowout; 1,500 tonnes/day for 30 days; crude oil
- ◇ = Vessel grounding—loaded ultra-large crude carrier

1. Establish the oil spill risk assessment context

2. Hazardous event identification

3. Hazardous event characterization

4. Identify oil spill scenarios for consequence analysis

5. Consequence Analysis

6. Evaluate risk and select oil spill planning scenarios

Response Strategy Development

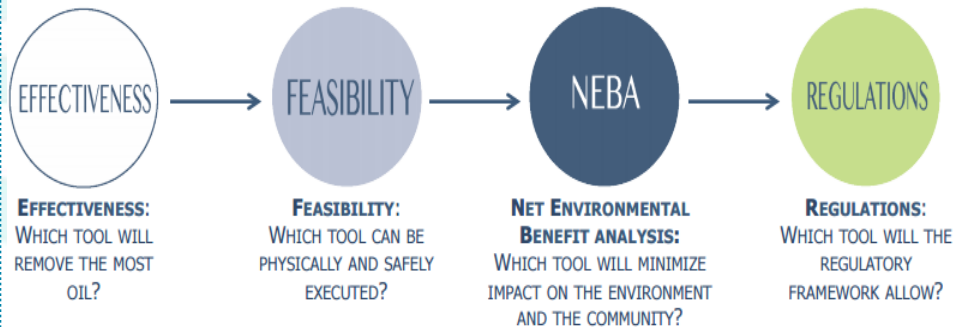
Establish Response Objectives

- ✓ Safeguard **P**eople
- ✓ Protect the **E**nvironment
- ✓ Protect company's **A**ssets
- ✓ Protect company's **R**eputation



Response Strategy Selection

- ▶ A response strategy can consist of a single or a combination of techniques
- ▶ Factors to consider:



NEBA

- ▶ Process used by the response community for making the best choices to minimize impacts of oil spills on people and the environment
- ▶ Natural recovery used as a benchmark
- ▶ Priorities & balancing tradeoffs
- ▶ Stakeholder and community considerations

DIFFERENCES IN RISK PERCEPTION: HOW CLEAN IS *CLEAN*?

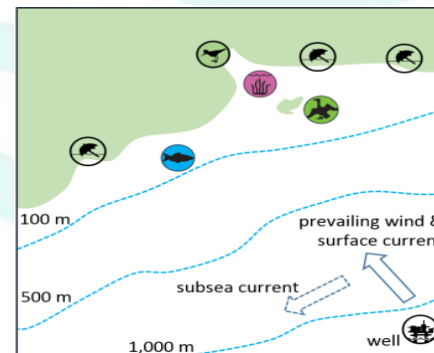


An Issue Paper Prepared for the
1997 International Oil Spill Conference

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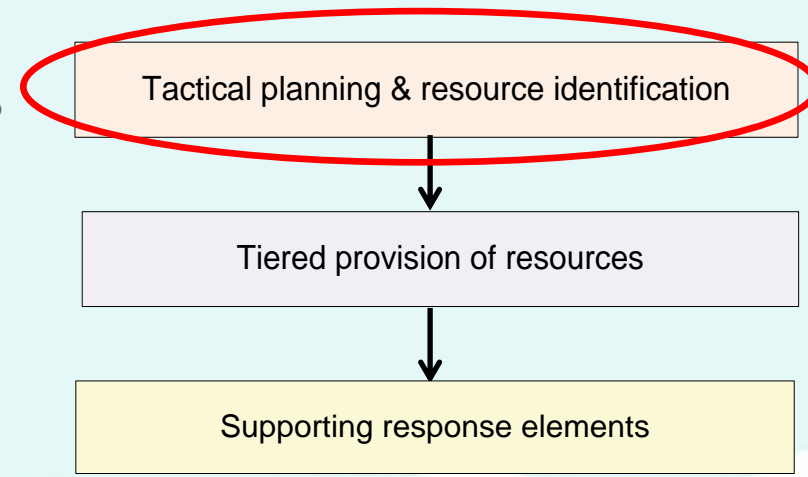
 American
Petroleum
Institute

TECHNICAL REPORT IOSC-006



Determine Response Capability

- For each response technique, determine:
 - **What** resources are needed?
 - **How much** of those resources are required?
 - **How quickly** those resources are needed?
 - **How long** do you need those resources for?
- Maximize use of local resources
 - reduces cost & decreases mobilization times



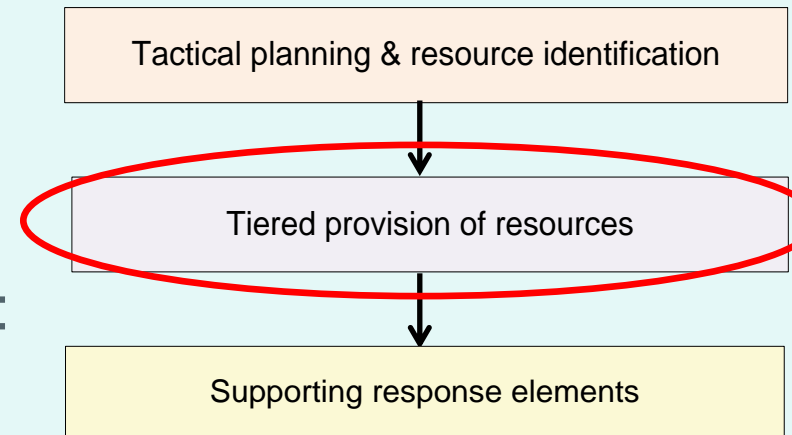
Determine Response Capability

► Escalation process & resource integration procedure for mobilization of Tier 2 and 3 resources

► Access to Tier 2/3 resources via:

- Contracted providers
- Mutual aid agreements
- Industry cooperatives

► At each location, factors may exist which influence ability to cascade resources



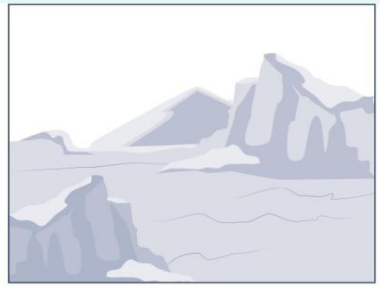
Tailored Tiered Response

Example: Offshore Surface Dispersants

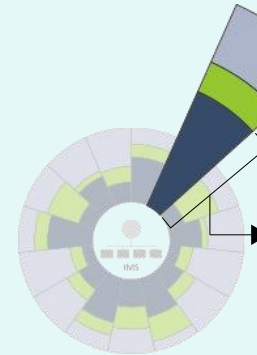
Location

Factors

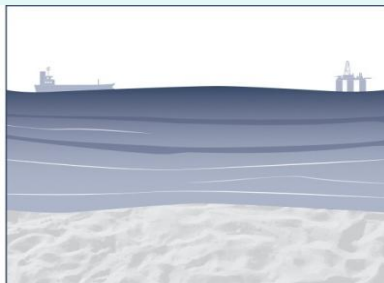
Dispersant Response



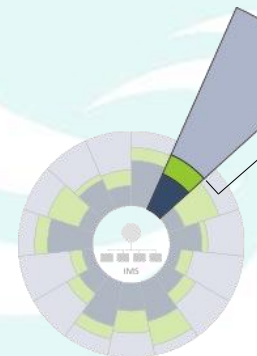
A remote location in a country with access challenges and/or severe weather



Greater local capacity due to limitations of external resources entering the country



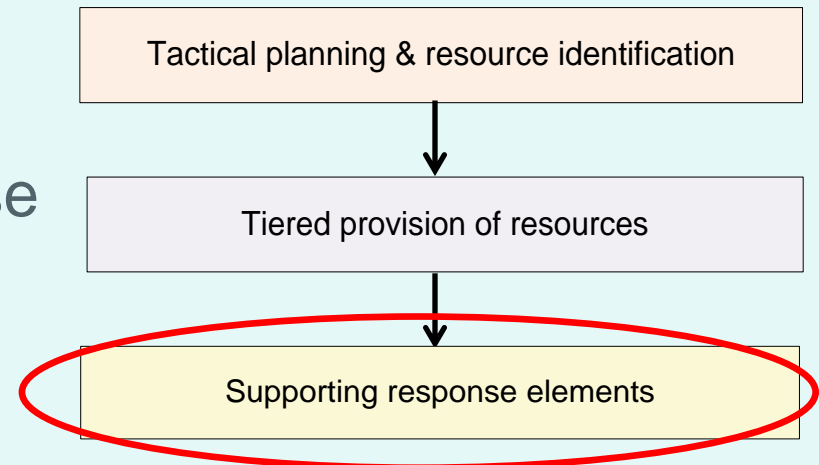
A coastal location adjacent to a Tier 3 response center



Greater external support due to ease of access and proximity to Tier 3 response center

Determine Response Capability

- Waste management
- Response communications
- Wildlife protection and response
- Sampling and monitoring
- External communications
- Funding and compensation



Contingency Plan Preparation

► Key components in an OSCP:

- Introduction
- Initial actions
- Notifications & reporting
- Risk assessment
- Response strategies
- Response resources
- Response management
- Sensitive areas
- Waste management
- Termination
- Appendices or supporting documents



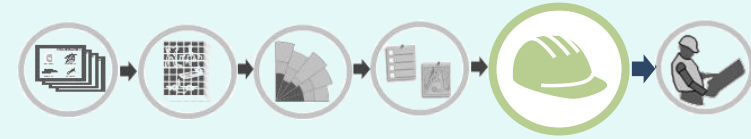
A Good Plan?

- ▶ A plan should:
 - Be based on oil spill risk
 - Be concise and user friendly
 - Be adaptable and practical
 - Be able to interact with other plans
 - Include key content
 - Be agreed by all stakeholders
 - Be updated



Training & Exercises

Successful implementation of a response is not only a function of appropriate response capability and capacity, but is also contingent upon competence of individuals involved



► Training

- Industry best practice
- Theory and practical based
- Legal requirement
- Familiarisation with relevant contingency plans and procedures

► Exercise

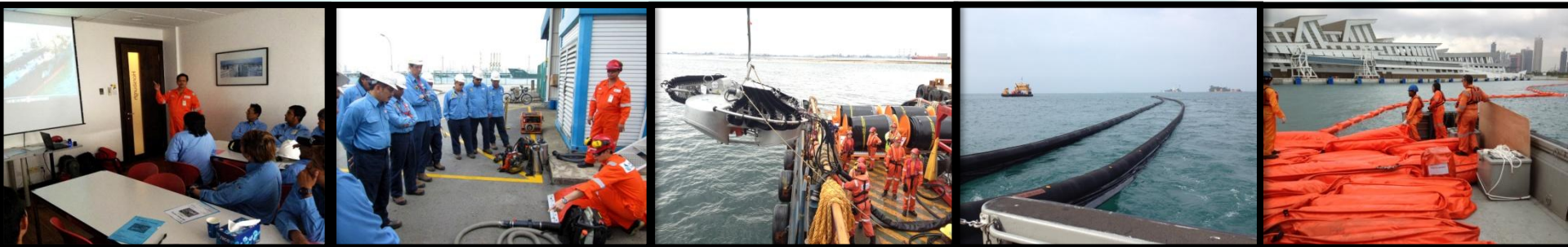
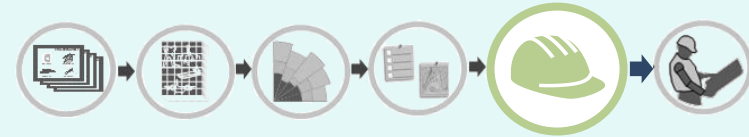
- Table top
- Practical deployment
- Notification & Communication tests
- Joint exercise



Training & Exercises

► Benefits

- Practice in pre-assigned emergency roles
- Test & verify contingency plans, tactical arrangements etc.
- Manage expectations of various parties
- Foster relationships with external organizations, government entities & contractors
- Feedback for improvement of plan



Review and Update

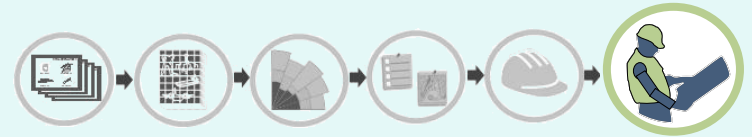
➤ Maintain validity

➤ Plan update should occur:

- Operations and the risk change
- In line with advancements and improvements in equipment and techniques
- Feedback from exercises/actual response

➤ Regulated

➤ Communicate any updates to relevant personnel



Summary

- ▶ The purpose of oil spill contingency planning
- ▶ Contingency planning process & its key components, based on industry's current best practices

Questions...

