



Overview

- ▶ Industry Action – post Macondo
 - Global Industry Response Group
 - Joint Industry Project
- ▶ Good Practice Guides
 - Tiered Preparedness and Response
 - The “wheel” model
- ▶ Building Response Capability



Post Macondo Global Industry Response Group



Governments, regulators, NOIAs, OSROs and industry initiatives



The OSR-JIP Mandate

- ▶ The GIRG OSR project evaluated issues identified post-Montara and Macondo incidents and the implications for all aspects of spill response. The OSR-JIP will deliver on these findings by:
 - Working with regional associations
 - Promoting research that advances understanding of upstream response methodologies and hazard/risk assessment models
 - Improve existing “good practice” guidance



What is the JIP?

- ▶ The OGP / IPIECA Oil Spill Response Joint Industry Project
- ▶ Three – year project (2012 – 2014)
- ▶ Nineteen oil industry members
- ▶ Improving co-ordination between the many groups also working global oil spill response issues, e.g.:
 - ▶ API
 - ▶ OGP-Arctic Technology
 - ▶ national and regional oil industry associations.



Oil Spill Response JIP Phase 1 Overview

Project	Dispersant	Project	Discrete OSR Projects
JIP1	Dispersant Education	JIP 5	In-Situ Burning (→ GPG)
JIP2	Sub Sea Injection lab testing	JIP 6	Upstream Risk Assessment
JIP3	Dispersant Logistics	JIP 7	Effective Exercises (→ GPG)
JIP4	Dispersant monitoring	JIP 9	Tier 2 / Tier 3 Assessment
JIP 14	Airborne Dispersant Platform	JIP 13	Responder Indemnity
		JIP 15	Responder Management
Project	Common Operating Picture	JIP 17	Decanting Procedures
JIP 8, 10, 11, 16	7 work packages under common theme of Surveillance, Modelling & Visualisation	JIP 18	Resp. Health & Safety (→ GPG)
		JIP 19	Oil Characterisation
Project	Good Practice Guides	JIP 20*	<i>Design Global Wildlife System (Ph.2)</i>
JIP 12	(Re-)write OGP / IPIECA Good Practice Guides (24 titles)	JIP 21*	<i>Design Incident Mgmt. System</i>
		JIP 22*	<i>Design Comms / Outreach Strategy</i>

* = New projects outside original scope – precursor for JIP phase 2



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JIP 12 Good Practice Guides



STRATEGY

- Framework document
- Incident Management Strategies
- Net Environmental Benefit Analysis



RESPONSE

- Surveillance
- Dispersants: Sea surface
- Dispersants: Subsurface
- Mechanical Recovery
- In-Situ Controlled Burning
- Shoreline Response Planning and SCAT
- Shoreline Cleanup Techniques
- Inland Responses
- Waste Management
- Oiled Wildlife Management
- Environmental Assessment and Restoration
- Economic Assessment and Compensation
- Responder Health and Safety

PREPAREDNESS

- Contingency Planning
- Sensitivity Mapping
- **Tiered Preparedness & Response**
- Training
- Exercise Planning

IMPACTS

- Impacts on Marine Ecology
- Impacts on Shorelines
- Impacts on Freshwater Ecology

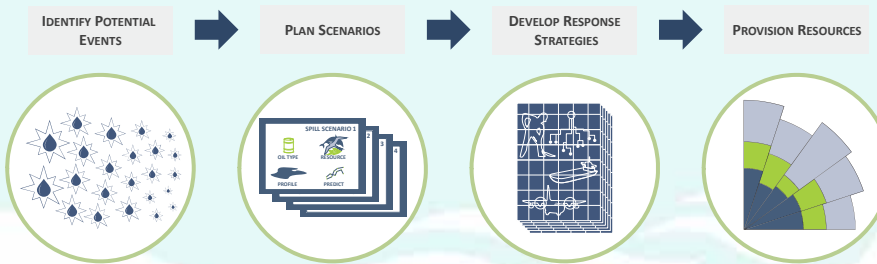


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Preparing for Response

OUR DETAILED CONTINGENCY PLANNING AND PREPAREDNESS PROCESS IS MADE UP OF THE FOLLOWING CORE COMPONENTS:



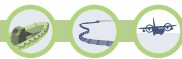
THIS IS A SCALABLE PROCESS THAT CAN APPLY TO ONE FACILITY OR MULTIPLE OPERATIONS ACROSS AN ENTIRE GEOGRAPHIC REGION.



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WHAT IS TIERED PREPAREDNESS AND RESPONSE?



TIERED PREPAREDNESS AND RESPONSE IS AN INTERNATIONALLY RECOGNIZED PLANNING APPROACH USED TO:

- DEFINE AND STRUCTURE LEVELS OF OIL SPILL RESPONSE CAPABILITIES; THIS APPROACH IS NOT USED TO CATEGORIZE THE SIZE OR SCOPE OF A SPILL
- PLAN FOR APPROPRIATE RESOURCES TO BE RAPIDLY MOBILIZED AND CASCADED TO AN INCIDENT LOCATION
- ENABLE RESPONSE ESCALATION FOR AN OIL SPILL OF ANY MAGNITUDE

THE FOLLOWING RESOURCES ARE CONSIDERED WHEN USING TIERED PREPAREDNESS AND RESPONSE:



RESPONDERS



EQUIPMENT



ADDITIONAL SUPPORT

WHY IS TIERED PREPAREDNESS AND RESPONSE USED?



TIERED PREPAREDNESS AND RESPONSE ENABLES:

- INTEGRATION OF LOCAL, REGIONAL, AND GLOBAL INDUSTRY CAPABILITIES INTO OIL SPILL RESPONSE PLANNING
- INDUSTRY'S ABILITY TO EFFICIENTLY RESPOND TO AN OIL SPILL OF ANY MAGNITUDE WITHOUT MAINTAINING THE ENTIRE RANGE OF RESPONSE RESOURCES AT EACH OPERATING FACILITY OR WITHIN EACH COUNTRY

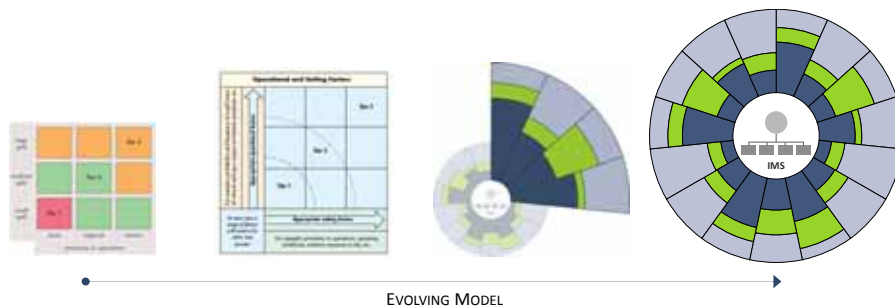


HOW HAS TIERED PREPAREDNESS AND RESPONSE EVOLVED?



AS RESPONSE EQUIPMENT AND SERVICES HAVE EVOLVED TO BECOME MORE SPECIALIZED, SO TOO MUST THE TIERED PREPAREDNESS AND RESPONSE MODEL.

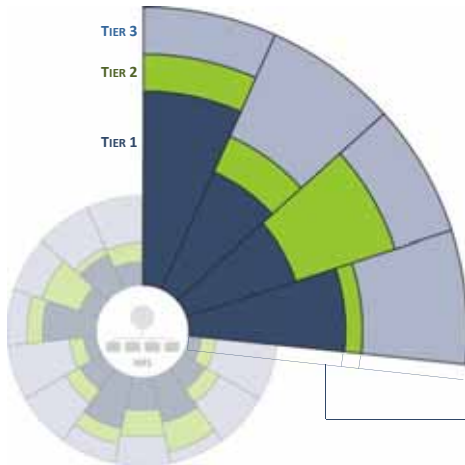
- MODERN TECHNOLOGY, ADVANCED LOGISTICS CAPABILITIES, AND NEW COMMUNICATION TOOLS HAVE IMPROVED INDUSTRY'S ABILITY TO CASCADE RESOURCES TO AN INCIDENT LOCATION.
- THE BENEFITS OF TODAY'S SPECIALIZATION AND EXPERTISE ARE DIMINISHED IF THEY MUST BE REPLICATED AT EACH OPERATING SITE OR WITHIN EACH COUNTRY.
- THE MODEL FACILITATES A TIERED RESPONSE BY DEPICTING WHICH RESPONSE CAPABILITIES ARE NEEDED AND IN WHAT TIMEFRAME.



DEFINING THE TIERS



THE TIERS REPRESENT THE VARIOUS LEVELS OF RESOURCE CAPACITY REQUIRED TO RESPOND TO A SPECIFIC FACILITY OR REGION, AND DO NOT REPRESENT QUANTITATIVE MEASUREMENTS OF CAPACITY.



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

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

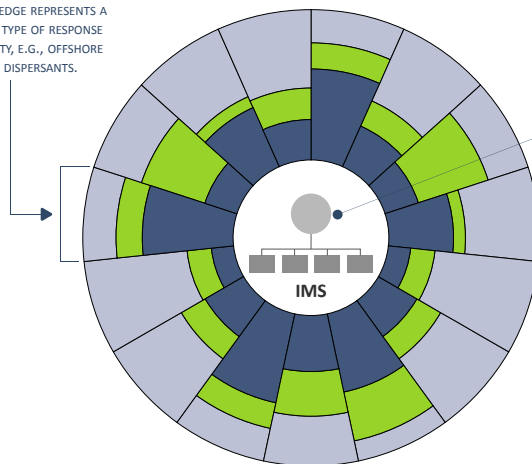
TIER 3: GLOBAL RESOURCES NECESSARY FOR SPILLS THAT REQUIRE A SUBSTANTIAL ADDITIONAL RESPONSE DUE TO INCIDENT SCALE, COMPLEXITY, AND/OR IMPACT POTENTIAL

EACH WEDGE REPRESENTS A DIFFERENT RESPONSE CAPABILITY AND IS SUBDIVIDED TO ILLUSTRATE THAT THE AVAILABLE/REQUIRED RESOURCES FOR EACH TIER WILL GENERALLY DIFFER BETWEEN CAPABILITIES BUT CAN BE COMBINED TO PROVIDE THE NEEDED CAPACITY FOR EACH RESPONSE CAPABILITY.

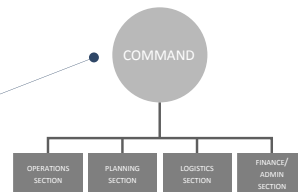
TIERED PREPAREDNESS AND RESPONSE MODEL



EACH WEDGE REPRESENTS A SPECIFIC TYPE OF RESPONSE CAPABILITY, E.G., OFFSHORE SURFACE DISPERSANTS.



INCIDENT MANAGEMENT SYSTEM



THE INCIDENT MANAGEMENT SYSTEM (IMS) SYMBOL IS AT THE CENTER OF THE MODEL TO INDICATE THAT INCIDENT MANAGEMENT IS A CENTRAL CONSIDERATION WHEN PLANNING FOR POTENTIAL INCIDENTS USING THE TIERED PREPAREDNESS AND RESPONSE APPROACH.





NOTE: THE MODEL SHOWS EXAMPLE LEVELS OF TIERED CAPACITY FOR EACH RESPONSE CAPABILITY – ACTUAL LEVELS ARE DETERMINED ON A CASE-BY-CASE BASIS FOR EACH FACILITY OR REGION.

EXAMPLES OF APPROPRIATE RESOURCE CAPACITY

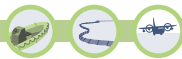


AT EACH LOCATION, FACTORS MAY EXIST WHICH INFLUENCE THE ABILITY TO CASCADE RESOURCES AND, THEREFORE, REQUIRE TAILORED CAPACITIES FOR EACH RESPONSE CAPABILITY.

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

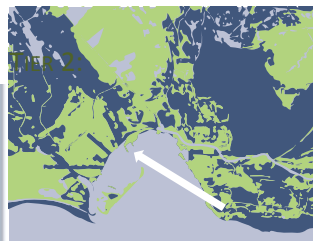
EXAMPLES OF CASCADING RESOURCES



TIER 1:



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

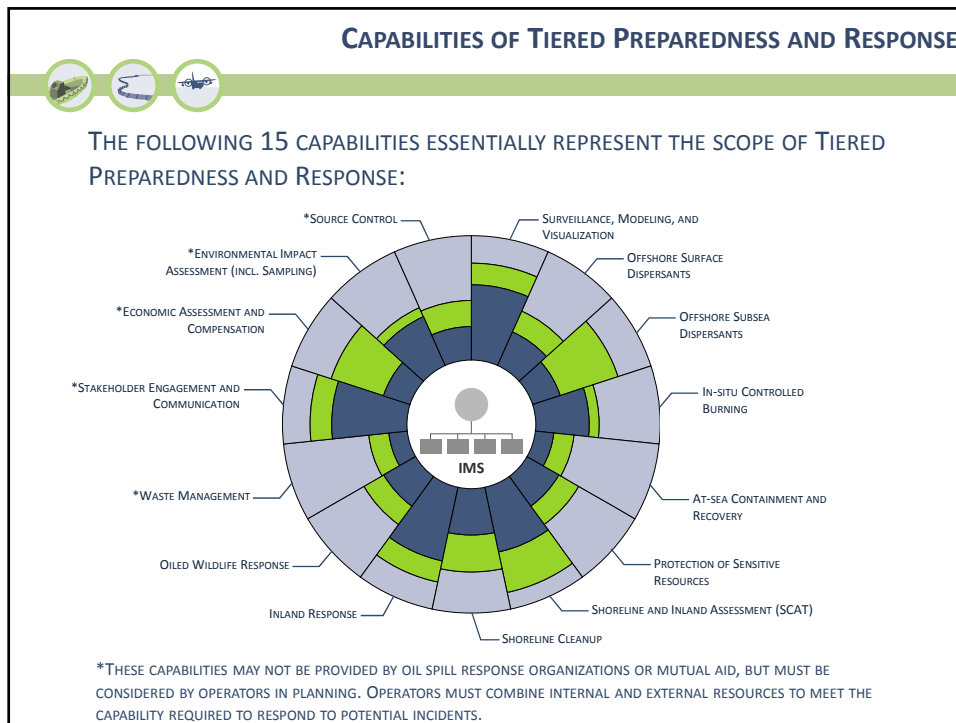


NATIONAL OR REGIONAL RESOURCES NECESSARY TO SUPPLEMENT A TIER 1 RESPONSE



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





TIER 1 DESCRIPTION

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

- WHILE MOST RESOURCES ARE LOCALLY AVAILABLE, THE SIZE OF THE INCIDENT SHOULD NOT CONSTRAIN THE USE OF ADDITIONAL SUPPORT (TYPICALLY TIER 2 OR TIER 3 ORGANIZATIONS) WHERE BENEFICIAL

RESPONDERS

- TRAINED RESPONSE STAFF ON-SITE AND AVAILABLE FOR EMERGENCIES IN ADDITION TO THEIR NORMAL DUTIES
- LOCAL CONTRACTORS TRAINED IN OIL SPILL RESPONSE

ADDITIONAL SUPPORT

- SOME ELEMENTS OF TIER 1 CAPABILITY MAY NOT BE KEPT PERMANENTLY ON-SITE, BUT ARE READILY AVAILABLE AT THE TIME OF NEED, SUCH AS:
 - NON-SPECIALIZED EQUIPMENT, E.G., WASTE SKIPS, STORAGE TRUCKS, PERSONNEL TRANSPORT, ETC.
 - SUPPORT/INFRASTRUCTURE ELEMENTS, E.G., ADDITIONAL SECURITY, ACCOMMODATIONS, ETC.
 - TECHNICAL ADVICE AND/OR SPECIALIZED RESOURCES

EQUIPMENT

- ON-SITE OR LOCALLY AVAILABLE WITH ARRANGEMENTS IN PLACE FOR RAPID AND EFFECTIVE MOBILIZATION
- AMOUNT AND TYPE IS COMMENSURATE WITH RISK, INCLUDING LOCATION FACTORS (E.G., WEATHER, SEASONALITY, OR LOGISTICAL CONSTRAINTS DUE TO REMOTE GEOGRAPHIES)
- DEPLOYMENT TIMES AND METHODOLOGIES ARE OFTEN PREDETERMINED
- SUPPORTING LOGISTICS PROVIDED

EXAMPLE SCENARIOS

AN OIL SPILL THAT REQUIRES TIER 1 CAPABILITIES FOR RESPONSE IS ONE RELATED TO OPERATIONAL ACTIVITIES AT A FIXED LOCATION, SUCH AS:

- THE OVERFILLING OF A TANK
- A LEAKING VALVE
- A TRANSFER HOSE OR PIPELINE RUPTURE

TIER 2 DESCRIPTION





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

 **RESPONDERS**

- DEDICATED RESPONSE STAFF AND ADDITIONAL RESPONDERS PROVIDED BY MUTUAL AID AGREEMENTS
- LOCALLY SOURCED WORKFORCE MAY BE SUPERVISED BY THE TIER 2 PROVIDER

 **ADDITIONAL SUPPORT**

- DESIGNATED OIL SPILL RESPONSE COOPERATIVES
- SPECIALIZED TIER 3 SERVICES
- COOPERATION AT THE LOCAL/REGIONAL GOVERNMENT LEVEL
- NETWORK OF ADDITIONAL RESPONDERS

 **EQUIPMENT**


- TIER 1 RESOURCES USED TO MOUNT AN INITIAL RESPONSE, AND INDUSTRY'S RESPONSE TOOLBOX, INCLUDING:
 - DISPERSANT CAPABILITIES
 - AT-SEA CONTAINMENT AND RECOVERY EQUIPMENT
 - PROTECTION BOOMS
 - SHORELINE AND INLAND CLEANUP EQUIPMENT
 - RECOVERED OIL STORAGE CAPABILITIES
- AMOUNT AND TYPE APPROPRIATE FOR POTENTIAL SCENARIOS


EXAMPLE SCENARIOS

AN OIL SPILL THAT REQUIRES TIER 2 CAPABILITIES FOR RESPONSE IS ONE THAT HAS GROWN IN SEVERITY OR EXTENDED BEYOND TIER 1 CAPABILITIES, SUCH AS:


- A RUPTURED PIPELINE IN DIFFICULT TERRAIN
- A SPILL THAT CROSSES REGIONAL BOUNDARIES AND REQUIRES THE INVOLVEMENT OF ADDITIONAL PARTIES

TIER 3 DESCRIPTION







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

 **RESPONDERS**

- DEDICATED RESPONSE STAFF EQUIPPED WITH SPECIALIZED SKILLS
- TIER 3 RESPONDERS INTEGRATE WITH LOCAL AND TIER 2 RESPONDERS AT ALL LEVELS, INCLUDING THE RESPONSE MANAGEMENT STRUCTURE

 **ADDITIONAL SUPPORT**

- DEDICATED INDUSTRY TIER 3 RESPONSE CENTERS
- GOVERNMENTAL OR COOPERATIVE TIER 3 CAPABILITIES
- NETWORK OF ADDITIONAL EXPERT RESPONDERS

 **EQUIPMENT**


- TIER 1 AND TIER 2 RESOURCES USED TO MOUNT AN INITIAL RESPONSE, AND INDUSTRY'S GLOBAL RESPONSE TOOLBOX, INCLUDING:
 - HIGH-VOLUME AERIAL AND SUBSEA DISPERSANT CAPABILITIES
 - LARGE-SCALE CONTAINMENT AND RECOVERY EQUIPMENT
 - PROTECTION BOOMS
 - IN-SITU BURNING CAPABILITIES
 - SPECIALIZED SHORELINE AND INLAND CLEANUP EQUIPMENT
 - OILED WILDLIFE RESPONSE CAPABILITIES
 - LOGISTICS CAPABILITIES
- AMOUNT AND TYPE APPROPRIATE FOR POTENTIAL SCENARIOS

EXAMPLE SCENARIOS

AN OIL SPILL THAT REQUIRES TIER 3 CAPABILITIES FOR RESPONSE IS ONE THAT NECESSITATES A WIDE RANGE OF AVAILABLE RESOURCES, SUCH AS:

- A TANKER SUFFERING DAMAGE TO ITS CARGO TANKS AND RELEASING OIL THAT COULD AFFECT A LARGE EXPANSE OF COASTLINE
- AN ACCIDENTAL DISCHARGE OF A RELATIVELY MODEST VOLUME OF OIL IN AN ECOLOGICALLY SENSITIVE LOCATION

SUMMARY



THE PRINCIPLES OF TIERED PREPAREDNESS AND RESPONSE INCORPORATE GLOBAL RESOURCES FOR RESPONSE ESCALATION IN ORDER TO RESPOND EFFECTIVELY TO A SPILL OF ANY MAGNITUDE AND PROTECT OUR SHARED VALUES.

SENSITIVE ECOSYSTEMS LOCAL BUSINESSES HEALTH AND SAFETY TOURISM/RECREATION COMMUNITY INDUSTRIES

Building Response Capability

- Preparedness measures need to be commensurate and balanced with the risk
- A real incident is unlikely to follow the planning scenario exactly, but the tiered response approach, strategic options and resource escalation processes can be applied to any incident
- NEBA principle should be applied and all viable options considered within the legislative/stakeholder context
- Equipment, personnel and logistics need to be considered
- Tactical plans detail how the strategies will be implemented
- Use of potential spill volume as the sole means of defining scale of response capability is not recommended

Accessing JIP Outputs

- » Scan / Glance material (video and ppt.)

<http://oilspillresponseproject.org/completed-products>

