Identifying and Maintaining an Appropriate Response Capability

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Slide 1:

Tiered preparedness and response is a framework that allows us to identify, mobilize and utilize the right resources for dealing with spills and to get these resources to where they are needed. So, not that anyone here needs reminding, however lets just recap on why we need an integrated, scalable response capability.

Slide 2:

The number of participant members is liable to fluctuate – check with Rachel Bayliss if unsure of the actual figure

Slide3:

Our Mission is to provide Members with resources to prepare for and respond to oil spills efficiently and effectively on a global basis.

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It will be not be new news to you that today we need oil a lot of oil and to achieve this demand we explore for, produce and transport oil by sea, and that spills do happen. But do we always appreciate the risk.

Even though we are in time where oil prices have plummeted in the last year, the amount of oil being produced has remained largely the same, at around 75 million barrels per day.

Sea born oil trade accounts for 10 billion tonne miles per year

Yes, the vast majority of oil produced and transported by sea is done with very minimal amount spilled. And the amount being spilled is reducing over time due to better prevention, through better well engineering and design, better operating procedures, more advance navigation for ships, double hulled tankers or more stringent regulation.

All of this and many more factor contribute to the ongoing long term trend of fewer spills. However we know from history that spills do occur and from basic risk probability calculations that spills will continue to occur, both frequent low consequence and less frequent high consequent spills, they will occur.
And therefore importantly we need to ensure that we are appropriately prepared to protect the vitally important ocean resources that provide to us all in one way or another.

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Slide8:
Talking Points
Our contingency planning and preparedness process allows us to identify and plan for spills of any magnitude. Incorporated within this process are training and exercises, as well as the principles of Tiered Preparedness and Response, which enable the industry to appropriately provision resources to facilities or regions to enable response escalation based on prior planning. Industry believes that a well-prepared and well-practiced response strategy significantly increases the likelihood of an effective response operation.
The preparedness process consists of the following steps:

- **Identify Potential Events:** Identify potential events for a specific facility or region.
- **Plan Scenarios:** Develop planning scenarios based on the previously identified events that encompass the full range of impact and response challenges for a specific facility or region.
- **Develop Response Strategies:** Develop appropriate response strategies based on the planning scenarios.
- **Provision Resources:** Provision resources according to the response strategies using the principles of Tiered Preparedness and Response.

Slide9:
Talking Points

The first step in preparedness is for responders to identity the potential events for a specific facility or region, including worst case events.
Prevention is a basic design and operational goal for industry. Source control is a crucial part of prevention. THROUGH THE IDENTIFICATION OF POTENTIAL EVENTS, RESPONDERS MAY IDENTIFY AND IMPLEMENT FURTHER PREVENTION MEASURES THAT WILL REDUCE THE CHANCE OF SPILLS.

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Talking Points

Operators should have effective and deliverable contingency plans, up to and including the worst credible case discharge.
Responders then select the events that cover the full range of impacts and response challenges for that specific site and develop planning scenarios based on those events. These scenarios are built out to include characteristics such as the predicted behavior of the spill and the potentially impacted resources.
Responders select the events that encompass the full range of impact and response challenges for the specific site in order to develop planning scenarios.

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Talking Points

After building out the planning scenarios, responders develop response strategies to identify how best to respond to the each potential scenario. These strategies are developed using NEBA, among other considerations, to identify the best choices that minimize impacts of spills on people and the environment.
The response strategies are underpinned by NEBA, which is conducted during the preparedness process to identify the best choices that minimize impacts of oil spills on people and the environment. Other considerations of the response strategies include applicable regulations and the effectiveness and feasibility of involved techniques.

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Talking Points

Plans must have detailed, executable components that can be translated into a physical spill response capability. Equipment + people + planning + training + exercising +

review = response capability. Integration with Incident Management Systems (IMS) is the key to success.

After developing response strategies, resource provisioning occurs using the principles of Tiered Preparedness and Response. This process ensures that facilities or regions have access to the appropriate response resources as determined by prior planning. The principles of Tiered Preparedness and Response allow for response escalation and reduce the over-proliferation of response resources through the integration of regional and global response capabilities.

Industry members may enter into mutual aid or cooperative agreements with other local members to bolster their own capabilities through the sharing of industry resources.

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A globally recognized framework.

Tier preparedness and response is not a new philosophy, in fact you can easily trace back over 20 years

These principles are consistent with the **International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC which was adopted in 1990 and came into force in 1995** which provides a framework for the development of regional and national capacities for preparedness and response, and a platform for international co-operation. One of the most powerful principles of tiered preparedness and response is the importance of cooperation and partnership between governments and the oil, ports and shipping industries to develop an integrated response capability. This single principle underpins the concept by allowing local, regional and global resources to be combined in an effective and efficient manner to tackle a spill of any size and complexity.

Tiered preparedness and response was first specifically published in detail in *IPIECA - A Guide To Contingency Planning For Oil Spills On Water first published in 1991 which provided* a basic tree tier system of response and was illustrated by the all familiar 3x3 grid which showed how response can be categorised by three Tiers depending on proximity to operations and size of the spill.

However as time has passed and our knowledge has expanded with experience from responding to incidents, technology has moved forward and available techniques have

developed, there has been a gradual change in risk over time and with these changes the tier preparedness and response model has had to evolve over time to suit our needs. However the key principles of tiered preparedness and response remain firm, in that we must identify appropriate resources to deal with oil spill incidents and develop plans for how those resources will be accessed, mobilized and effectively utilized in a time of need.

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Before we look at a graphic of the new model lets just look at the three main vital components e look at when building a response capability.

So what is tiered preparedness and response.

Quite simply it is a planning approach that helps us define an appropriate response capability, that importantly is not categorized by size or scope of spill to ensure that all available resources are for any size of spill.

It allows us to appropriately plan for the resources to be mobilized and cascaded to the incident location, and important it allows us to escalate a response through the tiers for a spill of an size or magnitude.

There are 3 many vital components we need to deal with spills and for Tiered Preparedness and Response they are categorized for planning purposes into;

- Responders
- Equipment
- And Additional support

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As mentioned previously the historical 3x3 grid used to illustrate how a response can be categorised by three Tiers depending on proximity to operations and size of the spill. The grid shown here on the left is actually 2nd edition released mid 2000s which was adapted from the original version to allow for the many factors that may influence the actual response capability needed and where the boundaries between tiers are set

The model on the right is the latest evolution of Tiered preparedness and response. As mentioned previously the key principles remain unchanged its that we just have a more sophisticated way of undertaking the process. The old system was a more homogenous approach, where all resources where bundled into an appropriate tiers and escalation through the tiers happened at distinctive steps from tier 1, to tier 2 and 3.

However in reality that's not how it works in practice. In responding to a spill you need a range of different resources that will help you achieve your operational objectives;

whether it be resources for dispersant spraying or resources for shoreline protection. However, for example just because you need to bring in international tier 3 resources to help you achieve your dispersant spraying needs you may have sufficient local tier 1 capacity to deal with your shoreline cleaning requirements.
And that is why in using this newly evolved model we look at each capability individually. With a total of 15 discrete capabilities. Incident management is illustrated firmly in the middle as the scalable management structure will be required at all tiers to ensure you can effectively manage the incent and deliver the required capabilities.
Tiered Preparedness and Response is a globally accepted, tried and tested philosophy, used to plan for and respond to oil spills with appropriate and proportionate capability

Slide18:
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.
The IMS symbol is at the center of the model to indicate that the incident management is a central consideration when planning for potential incidents using the tiered preparedness and response approach.

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This slide is provided just as a visual indicator of how the framework may be used to identify a required capability for a given scenario. This is just an example lifted directly from the IOGP-IPIECA Good Practice Guide. Noting that in reality much more written detail would be used to support the identified capability and this exercise would be undertaken for each of the chosen planning scenarios.
The Graphical Illustration Of The New Model Seen Hear On The Right, Shows Each Response Capability Separately In The Individual Wedges, Through All Three Tiers. The New Model Facilitates Response Planning By Depicting Which Response Capabilities Are Needed And In What Timeframe. Tier 1 Capability Being Those That Are Needed Immediately.
So with this example we firstly notice that out of the 15 different potential capabilities required (illustrated by the wedges of the wheel), only 8 are considered appropriate for this given scenario.
We can see that a different level of resource is available for each of the identified capabilities at a tier 1 level 3 and greater of less reliance will be required through tier 2 and tier 3 support depending on the capability. Which is a nice illustrative way of

showing what of resource is required, from where and how that will escalate through the tiers.
The tiered approach still remains the cornerstone of the way we prepare and plan to respond to spills, which allows us to cascade resources proportionate to the severity and complexity of the incident. Tiered preparedness and response provides a structured approach to establishing the required response effort. The three levels, or 'tiers', provide a simple structure from which oil spill response capabilities can be identified to mitigate any potential oil spill scenario.
Allows preparedness frameworks to be built based on influencing factors Enables resources to be cascaded in a proportionate and targeted fashion

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As mentioned at the begging, this is not a presentation to teach how to apply TPR, but to provide a high-level understanding or what TPR is, how it works and importantly some insight into common challenges and pitfalls that we observe.
One common pitfall that we see over and over again is the underestimation of the magnitude of the problem, where in some cases the volume of oil spilt is under reported or the scale of the response effort required is misjudged. You can well imagine what happens in these scenarios, the response effort applied is not sufficient to deal with the incident and by the time the error has been correct, additional damage could have been caused and the response effort now required is likely to be even grater.
Therefore, something the oil and gas industry have leant to do quite well in recent years is what has been coined 'Prudent over-response' meaning gear-up quickly assuming the worst and then scaled back as and when factual information informs you that you can.
For whatever reason, we also see issues at individual personnell level where the responsibly party does not want to ask for help and try and utilize it own insufficient resources.
We need the right culture in organizations where reporting of incidents is encouraged to ensure the right response is applied.
Industry need to work together, industry need to be able to trust government and vice

versa and governments need to actively both seek and offer assistance, removing national pride which may restrict them to deal with issues on their own insufficiently and to seek cooperation and assistance to deal with issues collaborative and more effectively.

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Another challenge;

There are only a limited number of options we have to deal with a spill of oil and we want to make sure all of the options are considered. A common mistake is to exclude an option before making the assessments. Or for regulators to exclude some of these response options in the first place.

The right approach to evaluate which options are appropriate is Net Environmental Benefit Analysis or NEBA as it is commonly referred. We must not forget that the benchmark for assessing each response option against is the natural degradation of the oil, in other words unless the response option we are assessing provides a net benefit to the environment over doing nothing then that response option should not be used.

is whether applying that response option will provide a net benefit to the environment over natural recovery

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Moreover, Often those expected to perform a role within a response are insufficiently training, have lack of exposure and experience leading to a lack of competence and therefore underperform when required.

It is vital that all of those with key functions in a response undergo appropriate training and can prove competence prior to undertaking the task.

Regular exercises are a great way of expose people to the challenges they are likely to face, given that spills generally happen infrequently and therefore most people cant gain experience in their day to day business. Exercises are therefore important aspects of maintaining experience familiarization and help identify development needs and potential response challenges. These development areas and potential challenges should be captured and actioned so that capability continues to improve and the same mistakes are not made time and time again

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There are cases where immigration and customs, for what ever reason and take longer than necessary to provide visas/ work permits and clear equipment into country,

however we must also recognize that custom and immigration have an important role to perform and there will always be time required into to obtain visas and pass equipment through customers. Therefore we need to plan for, and allow for these timings in our response planning.
However there may well be legitimate ways in which we can expedite these processes; such as;
Consult with customs and immigration in peace time and understand the right process, what documentation will be required and time it will take.
We can also determine if there are means by which the declaration of an 'emergency situation' can expedite these process as in many countries a process exist to speed up customs and immigration if an emergency is declared. However even if these process exist we must understand and what constitutes an emergency situation and who will make that decision.
Since immigration and customs are such a vital part in the process of tier 3 response, then they we need make sure these stakeholders are consulted in planning and included in some exercises and even occasionally test these process in a tier 3 national exercise.

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So in summary;

- Prudent over-response – act quickly, decisively and prudently over react to the incident, then when facts become clear and you know you have enough resources you can scale back as required
- Encourage cooperation – between companies, between industry, industry and government and between government. A problem shared is a problem halved.
- Required resources should be identified and access to them full understood – In planning ensure that sufficient ad appropriate resources are identified and access to them full understood
- Ensure all key personnel are appropriately trained and competent to perform their function and maintain that competence with refresher training and exercises
- Involve all relevant stakeholders – Ensure that relevant stakeholders are identified and engaged
- Employ NEBA to select the most appropriate options – Look at all options and ensure that NEBA is applied to guide response decisions and ensure that only those response strategies that will provide a benefit over natural recovery are

applied.

- Test all parts of the capability regularly by way of exercises and drills and ensure that all relevant parties are included in your exercises.

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