



Spill Prevention and Response Forum

Regulatory Process of approving the use of dispersants in
the event of a spill

January 2021

Agenda

- Background
- What is Net Environmental Benefit Analysis (NEBA) or Spill Impact Mitigation Assessment (SIMA)?
- Why are there approvals for use of a Dispersant as part of a response?
- Tiered Preparedness and Response
- Flowchart of the regulatory process of approval of the use of a Dispersant in a spill
 - Preauthorized approval in an Operator's Operational Approval
 - Activation of the Emergency Response plan
 - Data collected for Situational Awareness NEBA/SIMA
 - Science Table recommendation
 - Decision

Background

- Use of dispersants is one of several established spill response techniques
- The C-NLOPB is the regulator in the approval process of Operators' spill response plans as well as the lead agency in oversight of an Operators' oil spill response.
- The use of dispersants was legislatively approved (2015) under the *Canada Oil and Gas Operations Act* and *Canada Newfoundland and Labrador Atlantic Accord Implementation Act*.
- There are two regulatory approvals points before dispersant can be used in the event of a spill:
 - 1) Pre-authorized approval, and
 - 2) Incident specific approval.
- The C-NLOPB has access to various sources of resources and technical advice such as National Environmental Emergencies Centre (NEEC), Environment Climate Change Canada (ECCC), Department of Fisheries, Canadian Coast Guard, and Transport Canada through its Memorandum of Understandings (MOUs).
 - One of these is the NEEC's Science Table, which can be utilized in providing advice in the use of dispersants.

What is Net Environmental Benefit Analysis (NEBA) or Spill Impact Mitigation Assessment (SIMA)

- **Net Environmental Benefit Analysis (NEBA)** is the process of looking at the best outcome likely after weighing the advantages and disadvantages of all possible response outcomes, including taking no action. It accepts that some cleanup responses will cause damage that may be justifiable because of overriding benefits.
- It has been found that the selection process is guided by more than just environmental considerations. A more comprehensive term that better reflects this process, its overall objectives and the share of values of everyone has been the term SIMA.
- **Spill Impact Mitigation Assessment (SIMA)** is the similar process to the NEBA but also includes ecological, socio-economic and cultural aspects in the process.

How SIMA Process Works

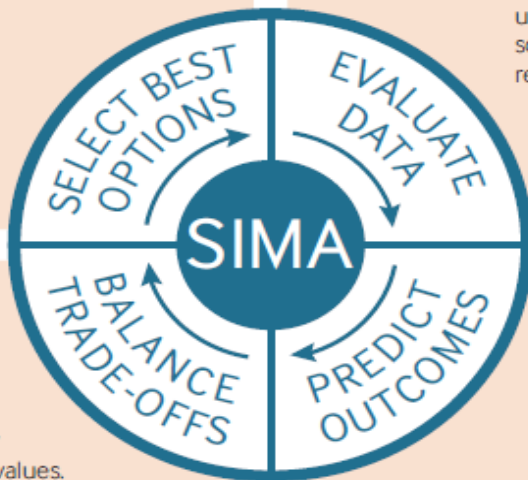
Stage 4: Select best options

The best combination of response options is selected to create an appropriate response strategy. It is recommended that SIMA utilizes the complete response toolkit, including:

- No intervention
- At-sea containment and recovery
- Surface dispersant
- Subsea dispersant
- Controlled in-situ burning
- Shoreline booming

Stage 1: Evaluate data

- A selection of credible potential release scenarios is chosen.
- Oil fate and trajectory modelling is undertaken, and data on ecological, socio-economic and cultural resources evaluated.
- Resources at risk are determined, and the feasible response options identified.



Stage 3: Balance trade-offs

- Dialogue with key stakeholders provides the opportunity to explain potential trade-offs or to obtain new inputs on resource sensitivities and values.
- The total impact mitigation score and ranking for each response option is agreed.

Stage 2: Predict outcomes

- The potential relative impact of the spill on each resource at risk is assessed for the 'no-intervention' option.
- A preliminary prediction is made of how each feasible response option will modify the impact when compared with no intervention.

Why are there Approvals for use of Dispersant as part of a Response?

NEBA/SIMA approval is required (1) before a spill and (2) during a spill so as to aid in the decision making selection and optimization of oil spill response options.

No two spills are the same.

1. In the pre-authorize approval stage Operational Authorization (OA);
 - The NEBA/SIMA can identify potential spill scenarios that could arise offshore, the selection of response options will vary depending on where and when an oil spill occurs.
 - During the contingency planning phase, NEBA/SIMA is used to identify and agree on response strategies for each selected scenario.
 - This allows for the Operator's preparation to have all of the resources, personnel, contracts arrangements, strategies, logistics and training established.
2. In the Incident Specific approval portion (during a spill) it:
 - looks at the current spill and operation conditions, whether they will be effective or need to be adjusted.
 - allows for unforeseen circumstances to be reviewed.

Tiered Preparedness and Response

- Operators utilize local companies East Coast Response Corp (ECRC) as well as regional / international Oil Spill Response Limited (OSRL) to access resources.

Tier 1 Capability	Tier 2 Capability	Tier 3 Capability
Local	Regional	National or International
<p>In-situ equipment and resources offshore on the installation/support vessels including containment booms, sorbents, skimmers, tracking devices, sampling kits and PPE</p> <p>Mutual Emergency Assistance Agreement</p>	<p>Equipment and resources onshore that can be mobilized to support the offshore response</p> <p>Offshore Preparedness Program</p> <p>ECRC Service Agreement and equipment</p>	<p>ECRC Service Agreement and equipment</p> <p>ECRC Mutual Aid Agreements with three Canadian ROs (ALERT, PTMS, WCRMC)</p> <p>Agreements with OSRL.</p> <p>Access to Global Response Network through RO agreements</p>

Tier 1 – Small batch spills that can be handled by facility immediately (hours/days)

Tier 2 – Larger batch spills that require local area onshore support (days/weeks)

Tier 3 – Significant batch or continuous spills that require national or international support due to scale, complexity or impact(weeks/months)

Flowchart of Sequential Actions for the Decision Making Process for an Operator's Review of the Use of Dispersants during an Oil Spill Incident

1. Operational Approval issued by C-NLOPB Which includes Pre-Approval

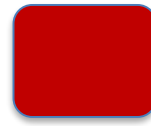
2. Activation Of Emergency Response Plans by Operator And C-NLOPB

3. Submission of Operator's NEBA/SIBA for use of dispersants to C-NLOPB for approval

4. Recommendation from the Science Table to C-NLOPB

5. Decision for approval for the use of dispersants


Oil Spill Event Occurs




Compile and evaluate data for a NEBA/SIBA submission

Request for meeting with Science Table



Flowchart of Sequential Actions for the Decision Making Process for an Operator's Review of the Use of Dispersants during an Oil Spill Incident

1.  Operational Approval (OA) issued by C-NLOPB which includes pre-approval of the use of dispersants in contingency plans.
 - Oil spill contingency plans are based on risk assessment which include:
 - information on oil fate and effects,
 - sensitivity identification and location,
 - resource availability, and
 - environmental conditions.
 - Contingency plans include Oil Spill Response Plan, Wildlife Response Plan, Waste Management Plan, Vessel Decontamination, Well Intervention and/or Source Control, Environmental Compliance Monitoring, Mutual Emergency Assistance Agreement(s) - note the use of dispersants would be part of the oil spill response plan.
 - Can vary depending on OA (exploration drilling vs production development).
 - Updated with OA renewals due to changing risk assessment, new technologies, and changing conditions.
 - Stakeholder and Indigenous groups engagement throughout entire process.
 - EA process and Regional Assessment, to One Ocean protocol, to emergency response engagement (Fishers Communications Plan).

Flowchart of Sequential Actions for the Decision Making Process for an Operator's Review of the Use of Dispersants during an Oil Spill Incident

2.  Activation Of Emergency Response Plans by Operator and C-NLOPB.
 - When a spill occurs, activation of the Operators' Spill Response plans is initiated. Incident Command System (ICS) are utilized, which establishes an organization structure and planning process to coordinate/facilitate incidents.
 - C-NLOPB's role is to ensure oversight of the Operator's response and be the lead agency for governments.
 - C-NLOPB has MOU's with government agencies (NEEC, ECCC, CCG, DFO ,TC) that can provide assistance (resources, information or advice).
 - i.e. NEEC's Science Table activation, Canadian Coast Guard personnel on overflights, NEEC spill trajectory modelling.
 - Communication with Stakeholders and Indigenous groups.

Flowchart of Sequential Actions for the Decision Making Process for an Operator's Review of the Use of Dispersants during an Oil Spill Incident

3.  Submission of Operator's NEBA/SIMA for use of dispersants to C-NLOPB for approval (Incident Specific).
 - Surveillance and modelling of oil location and movement, oil behavior and wildlife monitoring is critical when setting response priorities and strategies in terms of spill response.
 -  Types of spill data collection
 - Drifter buoy deployment and tracking
 - Surveillance of spill (satellite, aerial, vessel data) to understand fate of oil and movement
 - Collection of surface (oil and water), air and soil samples
 - Collection of effective dispersant test with the incident oil spill
 - Environmental monitoring and forecasting
 - Wildlife monitoring and surveillance
 - Stakeholder activity
 - Early communication among Stakeholders and Indigenous groups is essential in order to ensure all issues are identified and considered.
 - All of this becomes part of the submission of Operator's NEBA/SIMA for use of dispersants.

Flowchart of Sequential Actions for the Decision Making Process for an Operator's Review of the Use of Dispersants during an Oil Spill Incident

4. Recommendation from the Science Table to C-NLOPB.

Effectiveness of the use of dispersants depends heavily on local factors/conditions, including:

- Oil properties – type of oil that would be spilled (viscosity, weathered, emulsions)
- Spill conditions – time of year, wave conditions (Is it safe to respond? wave energy)
- Water depths – shallow water vs deep water
- Weather – water temperatures, winds and visibility
- Seasonality and distribution of Valued Components (VCs)
 - Commercial fisheries, marine birds, marine mammals, sea turtles, finfish and shellfish

Within the context of each spill scenario the recommendation would consider:

- Feasibility of operations (is it safe, logistical capabilities, how will it be applied),
- Time window for dispersant operations (dispersant effectiveness), and
- Net environmental benefit analysis and/or spill impact mitigation assessment (Looking at using scenarios that compare with dispersants and without dispersants).

Ensuring that Science Table considers all of the information for a recommendation to the C-NLOPB

Flowchart of Sequential Actions for the Decision Making Process for an Operator's Review of the Use of Dispersants during an Oil Spill Incident

5. Decision for approval for the use of dispersants.

Regulatory approval process is designed so that the decision will be one that has considered the possible scenarios in its contingency plans, consider the species at risk and the possible outcomes.

Information needs to be processed in a time fashion to be effective.

This information includes:

- Operators' application, pre- approved contingency plan and incident specific NEBA/SIMA application.
- Science Table recommendation which would include representation from technical groups, Stakeholders, Indigenous groups and others if required .

Summary

The primary focus is to ensure that oil spills do not happen, but if they do, that a process is in place to ensure the most effective response is taken.

Regulatory approval process is two fold where:

- **Pre-approval** of the use of dispersants can be done to ensure the most effective oil spill response is achieved in terms of Operator planning, logistics, resources and training.
- **Incident specific approval** so that the use of dispersants can be considered with all of the relevant and real time data/information.

There is a process in place to ensure that there is communication with industry, regulators, government agencies, researchers, Stakeholders and Indigenous groups.

Questions