



BP Alaska Inc. • US Coast Guard • Alyeska Pipeline Service Company • AK Department of Environmental Conservation

Unified Command: PWS Tanker Drill - Alaskan Maiden

Fact Sheet - Oil Spill Dispersants

One tool used occasionally in oil spill response as a secondary and alternative method is the application of chemical dispersants. Under governmental approvals and a narrow set of conditions, dispersants can be sprayed aerially or from a vessel onto oil spilled in Alaskan marine waters. Chemical dispersants break a slick into smaller droplets, promoting mixture of oil into the water column, and accelerating dilution and degradation.

Federal and state approval for dispersant application in Alaska is considered only when mechanical response is not feasible or not totally adequate in containing or controlling the spill. Even then, approval is given only when the impact of dispersants or dispersed oil is judged to be less harmful than that of non-dispersed oil. Cook Inlet and Prince William Sound are the only areas in Alaska waters where pre-approval guidelines exist for the use of dispersants.

The primary oil spill response method in Alaska is mechanical containment and recovery, which involves the use of containment booms, skimmers and other related equipment. The many limiting factors to spill response and recovery, however, create a definite need and a clear advantage to having many “tools in the toolbox” – historically, no more than 10 percent of the oil has been recovered from large marine spills. Current mechanical technology is not effective in waves greater than about 6 feet, winds greater than 20 knots, or currents greater than 1.0 knot. Colder air and water temperatures, and emulsification of the oil also limit recovery.

Conditions of use

- Dispersants are best used to protect the shoreline when the damage to the shore and nearby marine life would be worse than “dissolving” the oil into offshore waters.
- They’re best used on the leading edge of slicks that may get out of control and head ashore.
- Their use is avoided in near-shore areas especially near sensitive habitats.
- Dispersants must be applied soon after the oil is spilled and before the oil weathers or slicks are broken up. This means usually within a matter of several days.

- Conditions are best when the water is deep and when there is lots of “mixing” action from waves, wind or currents.



Dispersant application equipment is tested during a drill in Prince William Sound.

- There must also be the right quantity of dispersants on hand to provide the proper oil-to-dispersant ratio, and they must be applied in the right place.
- Dispersants are used primarily on crude oil, but have been used on bunker oils as well.

How they work

Dispersants help prevent formation of water-oil emulsions, or mousse, and they speed up biological breakdown of oil by “dissolving” the oil into the offshore waters and increasing surface area for degradation by natural marine organisms. They also reduce the adhesion of oil to sediments and other organisms in the water.

Rules for use

State law requires all companies which handle and ship large amounts of oil to write an oil discharge prevention and contingency plan. In order for dispersants to be

considered an option in spill response, those companies must make many preparations through their contingency plan, including the following:

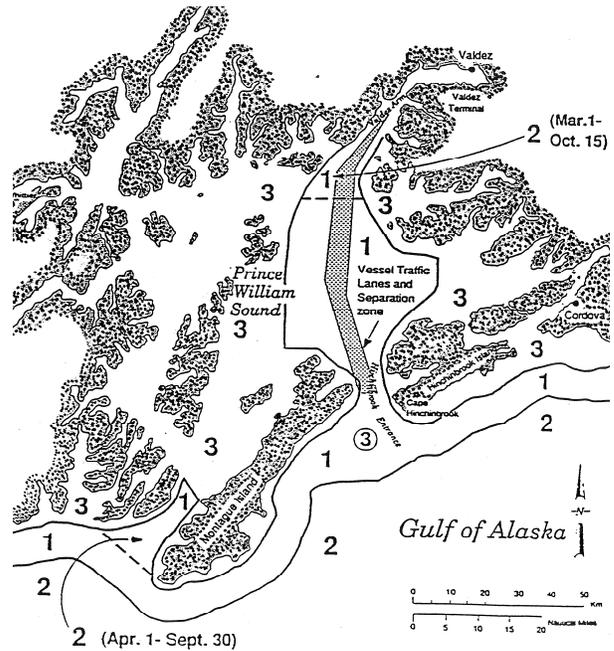
- 1) mechanisms to assess environmental consequences and provide continuous monitoring of its environmental effects;
- 2) an inventory of dispersant equipment and supplies, including type and toxicity;
- 3) identification of all permits, approvals, or authorizations and the timeline for obtaining them; and,
- 4) a plan for protecting environmentally sensitive areas, areas of public concern, and the public from any adverse effects of dispersant use.

Approvals required

Under federal regulations, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) lists the government agencies authorized to approve the use of dispersants:

- The Federal On-Scene Coordinator, represented by the U.S. Coast Guard,
- with the concurrence of the U.S. Environmental Protection Agency (EPA) representative to the Alaska Regional Response Team (ARRT)
- and as appropriate, the concurrence of the ARRT representative from the State of Alaska (i.e., the DEC State On-Scene Coordinator),
- AND in consultation with the Department of Commerce (DOC) and Department of the Interior (DOI), when practicable.

In order to expedite the approval process for the use of dispersants, the Alaska Regional Response Team has developed guidelines, specific only to Prince William Sound and Cook Inlet. The criteria classify coastal waters into three dispersant zones, which are defined by physical and biological parameters such as sensitive habitats or fish and wildlife concentration areas; nearshore human use activities; and time required to respond.



Dispersant Zone	Description	Authorization for Use
Zone 1	the area adjacent to and including the crude oil tanker lanes plus areas in deep offshore waters	Approval required from the Federal On-Scene Coordinator (FOOSC)
Zone 2	outside the tanker lanes in the Gulf of Alaska and during the summer, along the tanker lanes north of Bligh Island	Approval from the FOOSC with concurrence from US EPA and ADEC and after consulting with the ARRT representatives from DOC and DOI
Zone 3	nearshore waters of Prince William Sound	Approval from the FOOSC with concurrence from US EPA and ADEC and after consulting with the ARRT representatives from DOC and DOI

For further details on this specific tactic, refer to the *Spill Tactics for Alaska Responders (STAR) Manual* at the following website: <http://www.dec.state.ak.us/spar/perp/star/23dispersants.pdf>