

APPENDIX XI

OIL SPILL CLEANUP AGENTS (OSCAS) PROCESS: Requirements for the Use of Oil Spill Cleanup Agents

BACKGROUND

An OSCA is defined as any chemical, or any other substance, used for removing, dispersing, or otherwise cleaning up oil or any residual products of petroleum in, or on, any of the waters of the state or shorelines thereof. This category of substances would include surface washing agents and shoreline cleaners, dispersants, gelling agents, herding agents, emulsifiers-demulsifiers, chemical booms, sorbents (other than polypropylene or other inert products) and bioremediants.

The purpose of this subsection is to clearly outline the process for use of any OSCA during an oil spill response. The use of OSCAs are regulated at both the State and Federal levels. The following guidelines consolidate existing Federal and State policies and streamlines the approval process without jeopardizing proper environmental consideration of the use of an OSCA.

REGIONAL PHILOSOPHY

OSCAs are used to further enhance the ability for oil to be removed from the marine environment. While the use of chemical cleaning agents may be appropriate under proper circumstances, certain limitations must be recognized. The potential for toxic responses in indigenous fauna or flora to the cleaning agent must be considered.

AUTHORITY

State of California Licensing Procedures

Government Code Section 8670.13.1 authorizes the OSPR to license OSCAs. The intent of the licensing process is to give the OSPR the opportunity to review product information, including toxicity, efficacy & degradation characteristics in a non-emergency situation, to determine if use of such a product would be beneficial. This provides the UC with as much flexibility as possible at the time of a spill without necessitating a thorough review of product literature. Although it is possible to use an unlicensed product during a spill incident, this can only be done on an experimental use basis, with approval by the State. Additionally, the use of an unlicensed product should only be considered if such use provides a result that can not be obtained any other way, including the use of a licensed product.

Federal NCP Product Schedule Listing Process

The federal EPA has primary responsibility for the listing of products on the NCP Product Schedule. Under federal regulations, an OSCA must occur on the Subchapter J Product Schedule of the NCP before it may be utilized at a spill.

Regional Response Team (RRT) Approval for Use

At the time of an oil spill incident, the UC can request the use of an OSCA. This is done through a formal request of the RRT. All Alternative Cleanup and Chemical Countermeasures must be approved in

advance of use by the RRT. This includes dispersants, in-situ burning and chemical OSCAs. Once the RRT grants approval, a product can be used.

GUIDELINES

If a product is licensed by the State and listed on the NCP, it can be used in spill response. The ART Section of the UC will provide specific information regarding the proposed use of the product needs to be submitted for review. The proposal for use of the product must be reviewed and approved by the UC (the Administrator of the OSPR and the FOSC). Once approved by the UC, a formal request must be made to the RRT. Once the RRT grants approval, a product can be used.

PROPOSAL FOR ALTERNATIVE RESPONSE TECHNOLOGY PRODUCT USE

Date of Request: _____

Person Submitting Request _____

Issue Statement: Please describe the issue being addressed by the proposal and the recommended solution for addressing this issue.

Problem Statement: Please describe the specific problem being addressed by this proposal.

Background Information: Please provide sufficient background information to provide a context for this proposal. This should include any site-specific, spill-specific or resource-specific information as well as any product information that is pertinent.

Possible Alternatives for Addressing the Problem: Please identify the possible alternatives for addressing the problem. This may include a "do nothing" alternative. Please provide the pros and cons for each alternative.

Recommendation: Please specify the recommended alternative. Include any additional information you feel is necessary to make your case.

Procedures and Methodologies for Implementation: Please outline the specific experimental design & methodologies as well as the procedures for implementation of the recommended alternative.

BIOREMEDIATION

BACKGROUND

Bioremediation is a treatment technology that enhances existing biological processes to accelerate the decomposition of petroleum hydrocarbons and some hazardous wastes. Bioremediation has been used extensively in waste water treatment of spilled oil. The most extensive field research efforts have been the shoreline treatment studies in Alaska following the Valdez incident. This research suggested that shoreline treatment by nutrient enhancement significantly increased degradation rates of oil when compared to untreated shoreline areas. The benefits of bioremediation, however, have not been adequately demonstrated through field applications. Consequently, this technology should be considered more experimental than an accepted standard for clean up of oil spills. The promise of bioremediation providing increased rates of oil degradation with minimal input of human effort to cleanup the spilled oil is attractive. However, the technology is time consuming, unproved in open water environments, and probably best suited to the treatment of specific types of shorelines and marsh habitats. At present, bioremediation should be viewed as a polishing agent for the final stages of cleanup rather than as a primary response tool - especially considering the slow rates of reaction to degrade the oil.

REGIONAL PHILOSOPHY

The primary objective of oil spill abatement and cleanup is to reduce the effect of spilled oil on the environment. Physical removal is the preferred method. However, mechanical recovery may be limited by equipment capability, weather and sea conditions, and spill magnitude. In addition, efforts and equipment used for mechanical recovery may prove to be more destructive to the environment than the original contamination with oil. Based on the results of current research, and a general understanding of the principles of bioremediation, this technology should be used strictly as a shoreline remediation tool with a preference for nutrient enhancement without the introduction of indigenous and/or non-indigenous microbes.

GUIDELINES

Section 300.910 of NCP authorizes the use of biological additives for the dispersion/abatement of oil spills. The product must be listed on the NCP Product Schedule and on the list of products licensed by the SWRCB for use in the State of California to be considered for use along the California coastline. The following guidelines consolidate existing Federal and State regulations and streamline the approval process.

(A) Decision Process

The OSC shall adhere to the following:

- (1) Inland and shoreline areas: The OSC will obtain approval from the EPA and the California Department of Fish and Game (CDF&G) representing the State of California. The EPA and State representative to the RRT shall consult with the DOI and DOC natural resource trustee(s).

Note: In California, bioremediation products considered for use must be on California's list of approved products, or be incident specific approved by the State representative to the RRT.

- (2) Documentation/Technical Assistance: EPA, affected states(s), DOI, and DOC will each have a representative available to coordinate data collection and interpretation and to consult with the OSC.
- (3) Monitoring: The application process and results must be recorded visually. This can be accomplished using film or video footage made from the shore or from the air. Visual observations can also be made by a trained observer. Filming should be done without causing delay to the bioremediation application activity.

(B) Documentation

The Bioremediation Checklist (Figure 4000.E) will be used by the OSC and staff to permanently record the decision to use or not to use bioremediation for a specific incident. Each agency resource trustee representative will be the point of contact for their constituency; the SSC will be the point of contact for all not represented.

BIOREMEDIATION CHECKLIST

SPILL DATA/INCIDENT INFORMATION

CAUSE (SPECIFIC): _____

DATE/TIME: _____

LOCATION: _____

VOLUME AND TYPE OF RELEASE (Cont., Intermittent): _____

POTENTIAL VOLUME TO BE RELEASED: _____

CONFIDENCE IN DATA (high, medium, low): _____

CHARACTERISTICS OF SPILLED OIL

OIL TYPE/NAME: _____
SPECIFIC GRAVITY: _____ FLASH POINT: _____
POUR POINT: _____ VISCOSITY: _____
% AROMATICS: _____ % SATURATES: _____
% ASPHALTENES: _____

WEATHER AND WATER CONDITIONS/FORECAST (48HR)

WATER TEMP: _____ AIR TEMP: _____
CURRENT INFO: _____ WIND SPEED: _____
SALINITY: _____ WIND DIRECTION: _____
WATER DEPTH: _____ SEA STATE: _____
TIDE INFO: _____

COMMENT: _____

BIOREMEDIATION CHECKLIST, PAGE 2.

HABITAT TYPE/AREA OF IMPACT:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

BIOREMEDIATION CHARACTERISTICS

	PRODUCT 1	PRODUCT 2	PRODUCT 3
NAME:	_____	_____	_____
MANUFACTURER:	_____	_____	_____
EPA LISTED:	_____	_____	_____
STATE LICENSED:	_____	_____	_____
STOCKPILE LOCATION:	_____	_____	_____
POINT OF CONTACT	_____	_____	_____
WHEN AVAILABLE:	_____	_____	_____
AMOUNT AVAILABLE	_____	_____	_____
AMOUNT NEEDED	_____	_____	_____
AMOUNT ON HAND	_____	_____	_____
TOXICITY:	_____	_____	_____
TYPE (CONCENTRATE/MIX)	_____	_____	_____
PHYSICAL REACTIVITY:	_____	_____	_____
APPLICABILITY ON OIL	_____	_____	_____
EFFICIENCY(% PROJECTED)	_____	_____	_____
APPLICATION MEANS:	_____	_____	_____
POSITIVE DOSAGE CONTROL	_____	_____	_____
DOSAGE RATE SETTINGS	_____	_____	_____
DOSAGE CHARTS	_____	_____	_____
AVAILABLE			

BIOREMEDIATION APPLICATION INFORMATION/EVALUATION:

PROPOSED BIOREMEDIATION APPLICATION PLAN: _____

BIOREMEDIATION APPLICATION INFORMATION (CONTINUED)

EQUIPMENT PROPOSED FOR USE: _____

RESPONDERS ADEQUATELY TRAINED: _____

LOCATION OF AREA TO BE TREATED: _____

SCHEDULE OF BIOREMEDIATION OPERATIONS: _____

WHAT WILL THE WEATHER CONDITIONS BE AT THE TIME THE BIOREMEDIATION IS APPLIED: _____

IS THE VEHICLE FOR APPLICATION EFFICIENT AND PROPER GIVEN THE
CONDITIONS STATED ABOVE: _____

ARE MONITORING SCHEMES IN PLACE OR READILY AVAILABLE: _____

WITNESSES TO THE APPLICATION

NAMES	DATE/TIME
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

PLATFORM USED: _____

OBSERVATION: _____

VIDEO/PHOTO DOCUMENTATION RECORD

IN CHARGE: _____
CASSETTE(S)NUMBER: _____
ROLL(S) NUMBER: _____

IN CUSTODY OF: _____
VIDEO EQUIPMENT TYPE: _____
CAMERA TYPE: _____

SHORELINE CLEANING AGENTS

BACKGROUND

Chemical agents applied to shorelines generally are designed either to prevent adherence (stranding) of oil or to release already stranded oil. The efficiency of mechanical cleanup operations may be enhanced by the use of shoreline cleaning agents by assisting with the refloating of oil or preventing its subsequent stranding. While the use of chemical cleaning agents may be appropriate under proper circumstances, certain limitations must be recognized. The potential for toxic responses in indigenous fauna or flora to the cleaning agent must be considered. As compared to dispersants, in which the chemical agents are immediately diluted upon addition to the water surface, shoreline cleaning agents often remain undiluted for prolonged periods of time and consequently can have a greater impact upon the indigenous biological and geological resources.

REGIONAL PHILOSOPHY

The primary objective of oil spill abatement and cleanup is to reduce the effect of spilled oil on the environment. Mechanical recovery and cleaning techniques are preferred over the use of chemical cleaning agents. However, mechanical recovery may be limited by equipment capability, weather and spill magnitude.

GUIDELINES

The NCP, Section 300.910, authorizes the use of chemical agents to respond to discharges of oil. The following guidelines consolidate existing Federal and State policies and streamline the approval process without jeopardizing proper environmental consideration of the use of shoreline cleaning agents.

(A) Decision Process:

The OSC shall adhere to the following:

(1) Zone 1:

By definition, shoreline cleaning agents would be considered for use on oil stranded on shorelines. The OSC shall obtain approval from the EPA and State representatives to the RRT and the Natural Resource Trustee(s).

(2) Documentation/Technical Assistance:

EPA, State of California, DOI, and DOC will each have a representative available to coordinate data collection and interpretation and to consult with the OSC.

(3) Authorized Chemical Agents:

Only chemicals listed on the NCP Product Schedule and approved for use in compliance with Article Three (sections 2332 through 2336) of California Code of Regulation, Title 23, may be considered for use. Shoreline cleaning agents must be clearly labeled and licensed for this specific use. OSCAs categorized as dispersing agents cannot be applied to the shoreline [Article Three (Section 2332) of the California Code of Regulations, Title 23], and therefore cannot be used as shoreline cleaning agents.

(4) Monitoring:

The application process and results must be recorded visually. This can be accomplished using film or video footage made from the shore or from the air. Visual observations can also be made by a trained observer. Filming should be done without causing delay to the shoreline cleaning agent application.

RESOURCES AT RISK (WORKPAPER)

ENDANGERED/THREATENED SPECIES _____

MARINE MAMMALS

AVIAN SPECIES

SHELLFISH

FINFISH

SOCIOECONOMIC

HUMAN HEALTH EFFECTS

OTHER RESOURCES

SPECIFIC COMMENTS: _____

DETERMINATION OF RRT

SSC RECOMMENDATION TO THE RRT/OSC: _____

DECISION OF THE RRT

DO NOT USE ALTERNATIVE CLEANUP TECHNOLOGY: _____

INITIATE TEST APPLICATION: _____

USE IN LIMITED OR SELECTED AREAS: _____

USE TO THE MAXIMUM EXTENT POSSIBLE: _____

OTHER: _____

DECISION MAKERS:

NAMES

DATE/TIME

ATTACHMENTS:

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