Massachusetts/ Rhode Island
DISPERSANT PRE-AUTHORIZATION POLICY

August 1995

August 14, 1995

DISPERSANT PRE-AUTHORIZATION POLICY

PURPOSE

Sec. 1, This policy addresses the pre-authorization of the use of chemical dispersants for the purpose of responding to oil spills in the coastal waters of the Commonwealth of Massachusetts, the State of Rhode Island, and the United States, as a means of reducing the overall impact of such spills on coastal habitats and marine fauna.

SCOPE

Sec. 2, This policy covers the marine waters off the coasts of the Commonwealth of Massachusetts and the State of Rhode Island, extending seaward of the high water line to the outermost extent of the Exclusive Economic Zone.

ZONES

Sec. 3, The waters addressed in this policy, as defined above, will be delineated into two zones.

Conditional Approval Zone

(a) The use of any chemical agent in response to an oil spill in the coastal waters of the Commonwealth of Massachusetts and the State of Rhode Island within two nautical miles of the mainland or of designated islands (designation is addressed in Sec. 3, Special

Consideration Areas) or has a mean low water depth of less than forty (40) feet will require approval under the methods and restrictions set forth in the latest National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300, Subpart J), unless otherwise pre-authorized.

Pre-Authorized Zone

(b) The use of chemical dispersants as listed in the most recent version of the National Oil and Hazardous Substances Pollution Contingency Plan Product Schedule in response to an oil spill in the coastal waters of the Commonwealth of Massachusetts, and/or the State of Rhode Island, and/or the waters subject to the authority of the U.S. Coast Guard Captains of the Port, Boston, Massachusetts and Providence, Rhode Island, which are seaward of two nautical miles of the mainland or of designated islands and have a mean low water depth of greater than forty (40) feet is pre-authorized under the supervision of the Pre-designated Federal On-Scene Coordinator with restrictions set forth below.

Special Consideration Areas

(1) Special Consideration Areas (SCA's) may be designated and described in writing by the Natural Resources Trustee (or his/her designated representative) for the Commonwealth of Massachusetts, the State of Rhode Island, the National Oceanic and Atmospheric Administration, or the Department of the

Interior; or the manager of the Stellwagen Bank National Marine Sanctuary.

(2) Special Consideration Areas will consist of restrictions imposed on the use of chemical dispersants for a specific geographic area to be described in this policy (Annex A). These restrictions may range from outright prohibition to a requirement for consultation prior to deployment of the chemicals. They may be spatial, seasonal or species-specific in nature. Each Special Consideration Area submitted by the above mentioned individuals shall describe the specific restrictions to be applied on the use of chemical dispersants, including, as applicable, primary and alternate point-of-contact telephone numbers.

(3) Changes to any aspect of the Special Consideration Areas will be submitted, in writing, to the Chairperson of the appropriate Area Committee and will take effect thirty (30) days following receipt by the Chairperson. Upon receipt, the Chairperson shall forward copies of these changes, as soon as practical, to the membership of that Area Committee and to the Co-Chairpersons of the Region One Regional Response Team.

POLICY REVIEW

Sec. 4, This plan, along with the Special Consideration Areas in Annex A will be reviewed by the affected Area Committees annually at the first meeting of the full Area Committee following January 1.

DETERMINATION OF EEFECTIVENESS

Sec. 5 (a) The Pre-Designated Federal On-Scene Coordinator (FOSQ with authority over the oil spill in question will determine the effectiveness of the dispersant during the time of application. This effectiveness test will be conducted visually and qualitatively by the use of qualified and trained oil spill observers. Qualified observers will be individuals with oil observation experience from the FOSC's staff, the USCG National Strike Force, the NOAA Scientific Support Team or those identified by the FOSC at the time of the response. These individuals will conduct overflights to determine if the oil is being effectively dispersed. If it is determined by the FOSC, based on the report of the observers mentioned above, that the chemical dispersant is having minimal effect, application of that chemical dispersant will cease.

(b) If an authorized chemical dispersant application has been halted and conditions change which contribute positively to the effectiveness of re-application (for example, if a new release event occurs or weather conditions change), the FOSC, following consultation with his or her scientific support team, may attempt a

new application of the chemical dispersant. This new application will be subject to the same effectiveness monitoring as described above.

DISPERSANT MONITORING PROTOCOL

Sec. 6 (a), As agreed upon by the Region One Regional Response Team, the FOSC will follow the Dispersant Monitoring Protocol, as outlined in Annex B. An inability to implement this plan in a timely manner will not revoke the FOSC's pre-authorization to apply chemical dispersants. However, the FOSC should make every attempt to implement this plan as soon as practical.

(b) As soon as practical, a post-application biological monitoring plan will be developed as a section of Annex B and will be implemented routinely following the use of dispersants. An inability to implement this plan in a timely manner will not revoke the FOSC pre-authorization to apply chemical dispersants. However, the FOSC should make every attempt to implement this plan as soon as practical.

NOTIFICATION

Sec. 7 (a) If a decision has been made by the FOSC to use chemical dispersants under the provisions of this policy, the FOSC, as soon as practical, will notify the Region One Concurrence Network, as set forth in the most recent version of the Federal Region One Oil & Hazardous Substances Pollution Emergency Contingency Plan, of that decision.

(b) If chemical dispersants are used as described in this policy or for the protection of human life, the FOSC will hold a post incident debriefing within forty-five (45) days after dispersant application to gather information concerning the effectiveness of the chemical agent used and to determine whether any changes to this agreement are necessary. This debriefing should include, but is not limited to, the Region One Concurrence Network, the Scientific Support Coordinator, and the State On-Scene Coordinator (SOSC), or their representatives. The results of the debrief will be included in the FOSC report.

Special Consideration Areas
For MA/RI Dispersant Pre-authorization Policy

Summary: (see original letters for details)

Area/Situation:	Additional Condition:	Submitted by:
Dispersant types other than Corexit 9527 or 9500	Not pre-authorized (Other stockpiled dispersants must receive specific Section 7 approval from USF&WS and NMFS before they may be pre-authorized).	NMFS Section 7 conducted on 9527 and 9500, F&WS Section 7 conducted only on "Corexit formulations"
All pre-approval areas	Implementation of the 6-point Dispersant Monitoring Protocol, USF&WS Region 5 Bioassay protocol, and physiochemical data collection (temp, salinity, conductivity, pH) at each sampling location. (AST with EPA ERT may be able to provide such monitoring)	USF&WS Service Section 7 (see 8/22/96 memo) was conducted on an internal F&WS pre-approval policy (see 5/18/96 memo) that requires the mentioned conditions.
Areas where **baleen whales are present and feeding**	Suspend dispersant application	NMFS (See 8/2/96 Section 7 letter)
Jeffreys Ledge between 5/1—9/30	Consultation with NMFS	NMFS (See 8/2/96 Section 7 letter)
Stellwagen Bank between 5/1—11/15	Consultation with NMFS and SBNMS Manager	NMFS. (See 8/2/96 Section 7 letter)
Great South Channel between 5/1—6/30 and 10/1—11/15	Consultation with NMFS	NMFS (See 8/2/96 Section 7 letter)
Cape Cod Bay between 2/ 1—5/15	Consultation with NMFS	NMFS (See 8/2/96 Section 7 letter)

Massachusetts/Rhode Island Dispersant Pre-Authorization Policy

Special Consideration Areas for Dispersant Approval

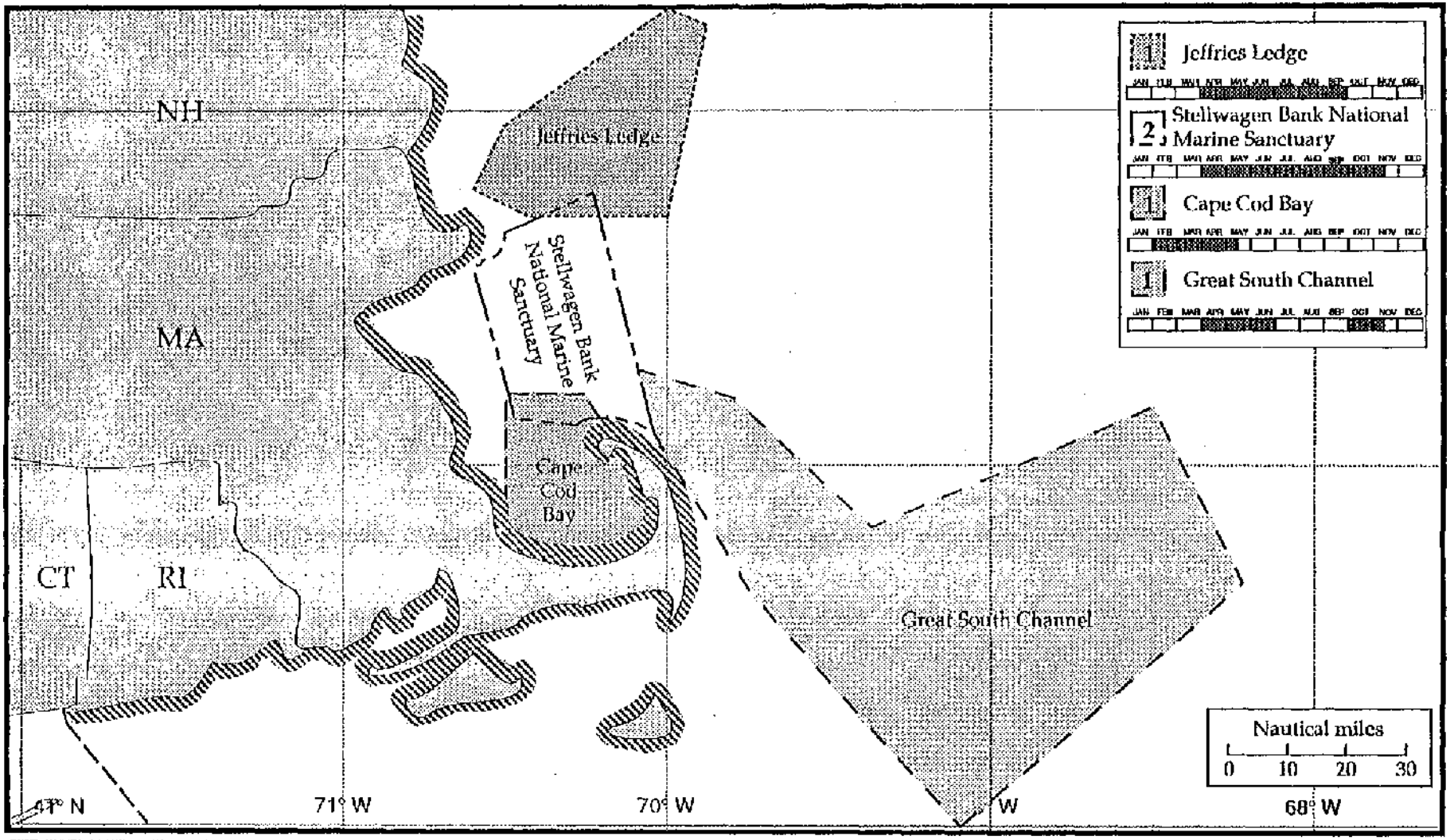
prepared by NOAA/Hazardous Materials Response & Assessment Division
Scientific Support Coordination Branch

USE ONLY AS A GENERAL REFERENCE

2 Mile Boundary: Requires Concurrence Network

Special Consideration Area Restrictions

1. Concurrence with NOAA Trustee & NMFS
2. Concurrence with Stellwagen Bank NMS



RAH

Annex B

Dispersant Monitoring Protocol

* To Be Developed *

(Interim protocol attached)

DISPERSANT MONITORING PROTOCOL
REGIONAL RESPONSE TEAM III
(This protocol accepted by RRT I on 12/8/1993 as
the minimal interim dispersant monitoring protocol)

OBJECTIVES:

The Regional Response Team (RRT) has developed this protocol to monitor the deployment of chemical dispersant during oil spill response actions in marine and estuarine waters. The monitoring protocol is designed to assess movement of dispersed oil from the water surface into the water column and bottom sediments, and to provide data for analysis of potential biological effects.

Adoption of this protocol does not constitute a decision to use dispersant. Such decisions are the result of separate RRT agreements (pre-approval) or incident specific discussions.

This protocol eliminates the need to develop incident specific monitoring requirements during an ongoing spill and in addition to satisfying the stated objectives, is intended to expedite chemical dispersant response actions.

BACKGROUND:

The RRT has developed the following monitoring protocol to enable rapid response to oil spills. Eliminating the need to develop incident specific monitoring requirements and providing the On Scene Coordinators (OSC's) with the information necessary to plan for dispersant use should expedite responses.

OSC's must always be prepared to respond to an oil spill with all available equipment, personnel and technology to reduce the impact from accidents. The Oil Pollution Act of 1990 provides for the formation of Area Committees that shall, under the direction of the federal On Scene Coordinator, enhance State and local oil contingency planning by developing appropriate procedures ' for use of dispersants. Dispersant technology ha been recognized as a potential method of reducing the impact to the shoreline environment from accidental oil spills. In order to effectively utilize this technology, a protocol must be in place before a spill to identify the requirements for monitoring the dispersant application.

This dispersant monitoring protocol will:

1. Provide scientific background information regarding the spill, dispersant utilization and effects. This will provide natural resource trustees with information crucial to their impact trade-off decisions. The data gained will assist with subsequent damage assessment responsibilities.

2. Provide the OSC with the requirements of a monitoring program so that advance planning and coordination may occur. The

data will also assist officials with support regarding post incident challenges-

3. Establish an education program for future learning regarding dispersant application. This will assist in reviewing dispersants as a permanent response tool.

The RRT established the requirement to monitor all dispersant applications. The requirement is not to delay the effective application of the product but will enhance the scientific and educational values for the future. This protocol is presently established to gain knowledge in dispersant usage and will require review and updating as better information and data are gathered. As most oils must be dispersed within an approximate 48 hour period, rapid response is a necessity. Rapid response can not be insured unless a monitoring protocol is in place which accurately assesses movement of dispersed oil and potential biological effects. This monitoring protocol does not establish limits by which dispersant are applied or not applied, but identifies samples to be collected for laboratory scientific analysis.

The monitoring protocol established here will be impacted by incident specific variables. Spill size, spill dimensions, weather, direction of trajectory and depth of water all provide variables to the planned monitoring. Incident specific directions will be required from the OSC, in consultation with state and federal agencies, regarding monitoring. The plan should be initiated promptly whenever the OSC authorizes the use of dispersants on an oil spill. Implementation of the plan shall not interfere with the spill cleanup. Should unforeseen circumstances make it not possible to implement this monitoring plan in whole or in part during or subsequent to authorized dispersant application, the OSC shall advise the incident specific RRT as soon as possible.

Equipment required for monitoring:

The following equipment will be necessary to conduct the monitoring protocol. The equipment listed will only provide one monitoring platform. In the instance of larger spills where extensive monitoring is required, the OSC may need to consider additional platforms. It is not envisioned in this program that each and every dispersant application pass is individually monitored. For planning purposes, it takes 1.5 hours to perform the six point sampling protocol. Collection of sediment grab samples and benthic invertebrate samples will take additional time but are not time sensitive.

a. Aircraft for air surveillance of the dispersant application and for initial guidance and direction of vessels conducting the monitoring program. There are no specifics on the type of aircraft. Rotary or fixed wing aircraft are suitable for the job. The aircraft used must be able to communicate with

vessels in the area. Portable radios are often sufficient to meet this requirement.

b. A boat large enough to conduct required sampling. Large vessels with on board scientific equipment may be employed however are not required. Immediate analysis of the water samples is not a requirement. Boats approximately 23' in length, radar and electronic navigation system equipped, provide sufficient capacity. Any work from boats should take into account the existing and predicted weather conditions and location when determining a suitable platform. Often times offshore spills have several large vessels attending much smaller vessels conducting actual work. Vessels are likely to require aircraft to lead them to the dispersant application site.

c. A flourometer with the appropriate filter and capability to take samples at 1, 3 and 10 meters depth. The supply line should be fitted with a valve at the unit so that immediate water samples can be drawn with positive fluorescent readings.

d. Water sample bottles, one liter, teflon lined screw caps and amber in color. A minimum Of 120 bottles should be readily available.

e. Ice chest with ice for keeping samples cool during transit to laboratory.

f. 35mm camera with film

g. Video camera with one cassette

h. Radios for various monitoring platforms. One radio per platform should be sufficient.

i,. Drift buoy for estimating the dispersed oil plume movement. This buoy should be equipped to allow tracking by the monitoring vessel ,with a radar reflector. The six point monitoring protocol requires sampling in relative positions to the deployed buoy. Should long term sampling of the same plume be desired a radio beacon buoy will be required.

j. Supply of Hydrochloric acid (HCL) for sample preservation.

k. Safety equipment should be carefully reviewed. Initial oil spills will possibly contain levels of benzene, however by the time the dispersant program and this monitoring program are in place exposure should not be a problem. Consultation with appropriate safety personnel should solve this problem. All sampling should be done wearing PFD work vests, neoprene or latex gloves, steel toed shoes and eye protection. Monitors using aircraft and vessels should conform to established safety procedures of the craft. Due to the cooler climates and cold water in the northeast corridor, mustang suits or dry suits may be appropriate. In the case of products which contain higher amounts of Benzene, initial air monitoring may be required.

1. A 20 liter sample container for the collection of clean sea water at location number 1.

This monitoring program is designed to require a minimum of scientific personnel offshore and to conduct the analysis in a shoreside laboratory. Personnel going offshore should be able to navigate accurately, utilize the flourometer correctly and take proper water and sediment samples. Scientific personnel will be

required Nearshore and Inland Zones when conducting benthic invertebrate sampling. Other sampling may be desired for scientific purposes, but are not part of the required monitoring program.

ESTABLISHMENT OF DISPERSANT MONITORING ZONES:

The monitoring program is divided into three geographic zones including Offshore, Nearshore and Inland. The Offshore Zone is considered all waters 3 nautical miles and greater from the shoreline. This is essentially all waters beyond the state water dividing line. The Nearshore Zone is considered all waters from three miles to the shoreline essentially the same as is presently considered state waters. The Inland Zone is all waters within the headlands including bays, estuaries, rivers and harbors.

DISPERSANT MONITORING TECHNIQUES

Visual observation (either aerial or by vessel) of the dispersant application shall be conducted during dispersant use. This observation will determine if the application is on target, whether initial dispersing is occurring and identify any shortfalls. The visual observation should be immediately after application. Most often the use of aircraft is the most practical due to height of eye. Vessels used for this purpose would have to provide a considerable height to allow appropriate observation. Timing of the aircraft is important to insure sufficient airtime is available for both the observation and direction of boats for the monitoring program. Use of both still and video cameras is necessary to document the application and its results. Video film should be immediately taken back to the OSC and other officials for review. The OSC may use the film as a basis for further decisions regarding dispersant application. The OSC shall assign one of his staff and a federal representative in offshore areas and a state representative in nearshore and inland areas at a minimum for observation. Each individual ' should be trained or posses experience in aeria observation of spilled oil. Very limited space will be available in aircraft and documentation using the video will allow others in the command center to observe the application.

Field expedient tube testing may supplement or augment the immediate visual observation to determine the dispersibility of the oil. Using the test protocol established in enclosure (1), OSC's may approve use. The tube test will use a sample of the spilled oil and the dispersant to be applied.

This procedure establishes a 6 point sample collection protocol. The 6 point program will be utilized right after dispersant application and continue as deemed necessary by the OSC. Enclosure (2) shows the layout to be used in collecting samples using the 6 point collection pattern. At each monitor point data will be gathered at 1 meter, 3 meter and at 10 meter

depths. Additionally, a 20 liter clean water sample will be taken at position number 1 for analysis purposes. Information to be gathered includes a position, fluorometer reading and water samples at maximum meter deflection. Water samples are collected for further scientific analysis. Flourometers must be properly calibrated using the manufacturers instructions. Water samples should be collected in the one liter bottles and kept cool using the ice chest until analysis is completed. Flexibility in implementing this protocol will be required due to the restricted ability and safety of on scene personnel. In certain areas freezing of the water may occur and protection of the sample jars may be necessary.

Flourometers will be utilized to observe and measure emulsified and dissolved oil in the water column. It will provide a baseline using surrounding water as the normal background. Flourometers and ancillary equipment should be designed and calibrated for working with oils.

Sediment grab samples, when required, will be taken and placed in 1 liter clean sample jars. The samples will be kept cool until analysis can take place. Enclosure 3 outlines the procedures for sediment sampling.

Benthic invertebrate sampling, when required, will be conducted with personnel suitably qualified and using sample containers that are clean and oil free. All means necessary to eliminate contamination by other than spilled oil must be taken. Enclosure 4 outlines the procedures for benthic sampling.

NOTE: Caution should be utilized in gathering sediment and benthic invertebrate samples to avoid cross contamination with oil in the water. Sediment or benthic invertebrate samples will normally be taken after floating and dispersed oil passes the collection points Oil from the spill impacting sediments and invertebrates will remain for extended periods and rapid collection is not necessary. It is expected that this sampling will be conducted within weeks of the actual dispersant application.

REQUIRED MONITORING

OFFSHORE:

(1) Visual monitoring initially and after every load of dispersant taken offshore.

(2) Video tape of the initial results of application

(3) Flourometer readings and water sampling using the 6 point protocol. Continued monitoring or the extent of monitoring will be determined by the spill size and the amount of dispersant to be applied.

Quantitative monitoring offshore is less than nearshore or inland due to the greater water depth, larger mixing zone and generally fewer sensitive resources in the area of impact.

NEARSHORE:

(1) Visual monitoring initially and after every application.

(2) Video tape and stills for the initial results of application.

(3) Flourometer readings and water sampling using the 6 point protocol. Continued monitoring or the extent of monitoring will be determined by the spill size, amount of dispersant to be applied, location of the spill and trajectory of the spill. The OSC should develop these in consultation with federal and state representatives. Continued monitoring at 6 hour intervals would allow sufficient information gathering to perform the required analysis. Due to the possibility of encountering shallow water impacting the 3 and 10 meter water samples, the program should continue by taking water column samples at maximum water depth.

(4) Sediment grab samples should be taken in non oiled and oiled or potentially oiled water areas for comparative analysis. The only samples required are those to give a representative indication of sediment impact from the dispersed oil. Beach sampling of oiled beaches is not part of this program. When flourometer readings are high in near bottom waters, sediment sampling is not necessary due to known impact.

(5) Benthic invertebrate sampling should occur in non oiled and oiled or potentially oiled water areas for comparative analysis. The only samples required are those to give a representative indication of benthic invertebrate contamination from the dispersed oil.

INLAND:

(1) Visual monitoring continually during application and until the expected trajectory reaches the shoreline.

(2) Video tape and stills of the oil being dispersed and results of the initial dispersal.

(3) Flourometer readings and water sampling using the 6 point protocol. Continued monitoring or the extent of monitoring will be determined by the spill size, amount of dispersant to be applied, resources at risk, location of the spill and trajectory of the spill. The OSC should develop these in consultation with federal, state and local representatives specifically for the area to be governed. Continued monitoring at 4 hour intervals or until the dispersed oil trajectory reaches the shore would allow sufficient information gathering to perform the required analysis. Due to the possibility of encountering shallow water impacting the 3 and 10 meter water samples, the program should continue by taking samples at maximum water depth.

(4) Sediment grab samples should be taken in non oiled and oiled or potentially oiled water areas for comparative analysis. The only samples required are those to give a representative indication of sediment impact from the dispersed oil. Beach sampling of oiled beaches is not part of this program.

(5) Benthic invertebrate sampling should occur in non oiled and oiled or potentially oiled water areas for comparative

analysis. The only samples required are those to give a representative indication of benthic invertebrate contamination from the dispersed oil.

SAMPLE CUSTODY

All samples collected will be handled in accordance with U. S. Coast Guard, Marine Safety Laboratories, Oil Spill Sample Handling and Transmittal Guide, second edition, dated 15 Nov 1988, enclosure 5. This will allow for proper handling, storage, chain of custody and marking of sample containers.

LABORATORY ANALYSIS

Laboratory analysis procedures for water samples should follow EPA Method 418.1 (Spectrophotometric, Infared), PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE, Storet No. 45501, enclosure 6. Laboratory analysis procedures for sediment and benthic invertebrate samples should follow EPA Method 9071, OIL AND GREASE EXTRACTION METHOD FOR SLUDGE SAMPLES, enclosure 7. These procedures should be utilized unless otherwise stipulated or requested by the OSC.

FUNDING

Funding dispersant application and monitoring should remain with the responsible party. This monitoring program is provided to OSC's and Area Committees for their use in reviewing the adequacy of facility or vessel response plans and for potentially responsible parties in determining the needs should dispersant application be determined feasible. These plans should indicate funding source for application and monitoring. In the absence of a responsible party, the OSC needs to be prepared to take action necessary and may plan on using this protocol.

REPORTS

Reports are required during the dispersant application and monitoring program. The OSC's command center should be the focal point for reporting. Close coordination is necessary to insure all activities and constituents are kept abreast of activities and the decisions required. The OSC's representative on scene at the application site should provide immediate verbal feedback regarding the application and results. The observer "should maintain a logbook and document each action taken by the dispersant contractor and the monitoring platform. The OSC observer aboard the monitoring platform should provide operations normal reports hourly and provide updates regarding monitoring status. The OSC Command Center should maintain all reports regarding the monitoring program and its results. A copy of all data should be forwarded to the OSC, with copies to other agencies, within 24 hours. Problems or difficulties should be immediately reported to the command center. Long term monitoring programs should develop a reporting procedure suitable for the specific incident.

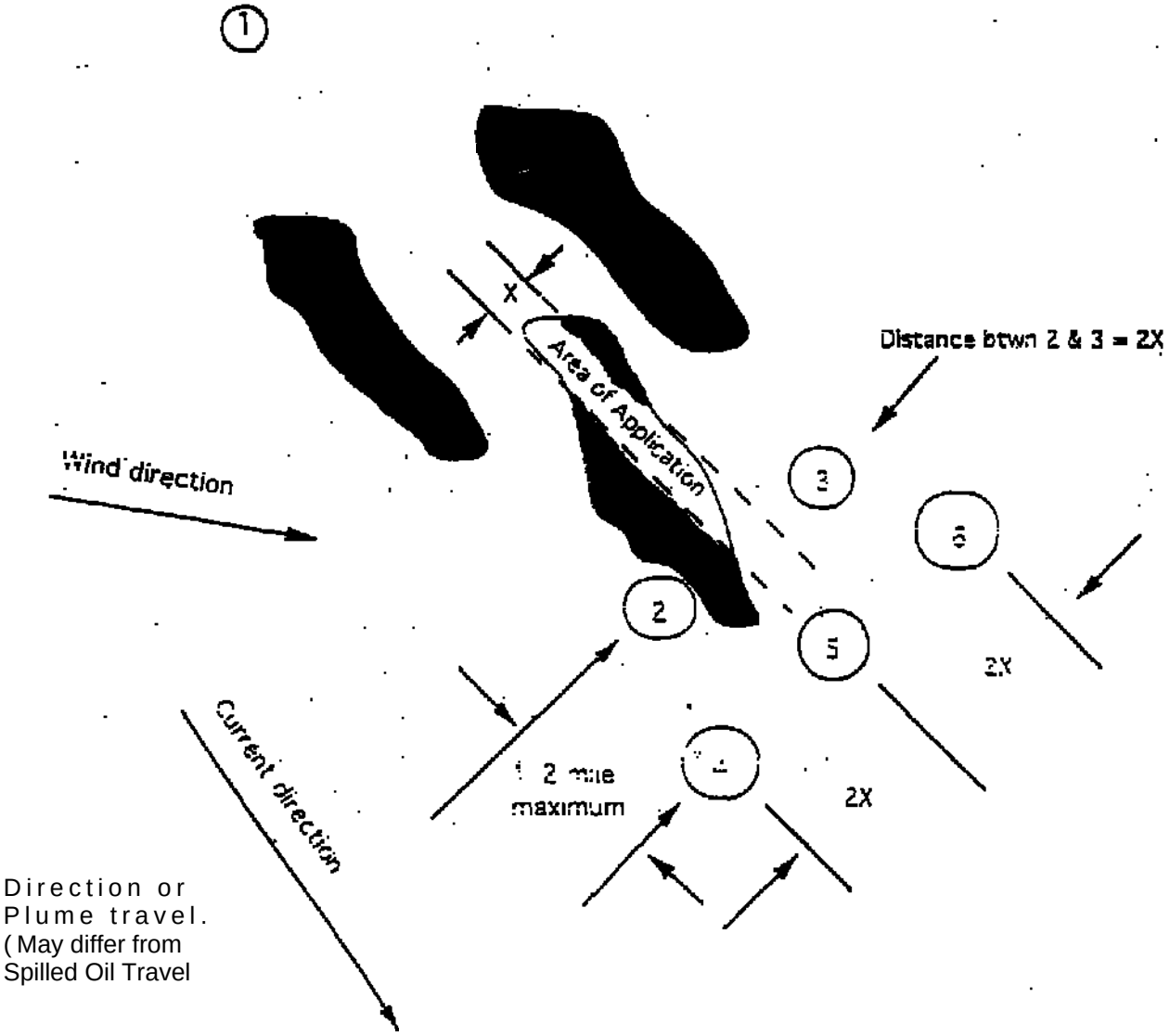
A written report is required regarding dispersant application within 45 days of the application. Copies of the draft report should be provided to the OSC prior to issuance of the final report. Using all the information gathered during the program, the report should review the information and develop specifics regarding dispersant application, it's impact and a cost benefit analysis. Responsible parties should be prepared to compile the report for submission to the OSC, with copies to other agencies and the National Response Team. All technical data and analysis information should be included with the report.

PROGRAM REVIEW

This plan should be reviewed based on exercises and actual field applications of dispersants. Suggested revisions should be prepared by or submitted to the Regional Response Team Three, Chemical Countermeasures Subcommittee for future incorporation into the plan.

Enclosures (1) FIELD DISPERSANT EFFECTIVENESS TEST
(2) SIX POINT DISPERSANT WATER MONITORING PROTOCOL
(3) EPA SEDIMENT SAMPLING PROCEDURE NUMBER 2016
(4) EPA BENTHIC SAMPLING PROCEDURE NUMBER 2032
(5) OIL SPILL HANDLING AND TRANSMITTAL GUIDE, USCG
(6) PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE, Method 418.1 (Spectrophotometric, Infared)
(7) OIL AND GREASE EXTRACTION METHOD FOR SLUDGE SAMPLES, Method 9071, dated September 1988

SIX POINT DISPERSANT MONITORING



PROTOCOL

Sample 1 is uncontaminated control
Sample 2-6 are representative samples of oil in the water column

On scene sea and weather conditions may require the use of drogue to follow plume direction of travel.

REGIONAL RESPONSE TEAM III
Z4 FEBRUARY, 1994

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
100 Cambridge Street, Boston, 02202

WILLIAM F. WELD
GOVERNOR
ARGO PAUL CEUUCCI
LIEUTENANT GOVERNOR
TRUDY COXE
SECRETARY

December 8, 1995

Commander (m)
First Coast Guard District
408 Atlantic Ave.
Boston, MA 02110-3350

Dear Captain Williams:

This letter constitutes my approval of the Dispersant Pre-Authorization Policy dated August 14, 1995 presented by the Regional Response Team for acceptance by the Commonwealth of Massachusetts. At my direction, Massachusetts Coastal Zone Management reviewed the policy to ascertain its consistency with state policies. That review has been completed with a favorable finding.

Your staff, the members of the Area Committee and the Regional Response Team who worked long and hard to develop the policy are to be commended. It represents a major step forward in the region's emergency response capability. The policy makes a valuable tool available to responders while setting acceptable limits to insure its responsible use. I truly hope we never have to use it!

I look forward to our staffs working cooperatively to develop a meaningful Monitoring Protocol as quickly as possible to complement the Dispersant Pre-authorization Policy in the unfortunate event it becomes necessary to resort to its use.

Cordially,

Trudy Coxe

cc Capt. D. McGuire, USCG, FOSC, MSO Boston
Capt. B. Turlo, USCG, FOSC, MSO Providence
Peg Brady, Director, MCZM
Mr. Robert Donovan, MA DEP
Mr. David Struhs, Commissioner, DEP
Mr. Edward Conley, EPA Co-Chair, RRT
Dr. Ken Finkelstein, NOAA Trustee, RRT
Mr. Andrew Raddant, DOI Trustee, RRT