



REGIONAL RESPONSE TEAM III (RRT3)

Chemical & Biological Countermeasures Use Protocol

Dispersants, Surface Washing, Bioremediation, Solidifiers, & Hearing Agents

Appendix 5-A

March 2026.1

RECORD OF CHANGES

The Regional Response Team III (RRT3) Executive Committee approved the RRT3 Chemical and Biological Countermeasures Use Protocol on March 12, 2026. Maintenance of this plan is the responsibility of the RRT3 Spill Countermeasures Workgroup. Minor changes may be made periodically, and an update and review will be conducted at least once per year, at a minimum. The most current version of the plan will be posted on the RRT3 Website under the Regional Contingency Plan (RCP) Appendix 5-A and the U.S. Coast Guard (USCG) East District Response Advisory Team (East DRAT) SharePoint site.

March 2026 EDITION

Change Number	Date of Change/Review	Person & Agency Making Change	Description of Change/Update
2026.1	08 May 2026	Elisha Cook, CGD-E	Added links to NRT updated SMART Guidance.
2026.2			
2026.3			
2026.4			
2026.5			
2026.6			
2026.7			
2026.8			
2026.9			
2026.10			
2026.11			
2026.12			
2026.13			
2026.14			
2026.15			

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USE OF CHEMICAL & BIOLOGICAL COUNTERMEASURES

This document complies with Section 311(j)(4) of the [Clean Water Act](#) (CWA), which states in part that the Area Contingency Plan shall describe the procedures to be followed for obtaining an expedited decision regarding the use of dispersants in responding to oil discharges¹. This document also provides procedures for obtaining an expedited decision regarding the use of surface washing agents, bioremediation agents, solidifiers, and herding agents as identified and discussed in [40 CFR § 300 Subpart J](#) of the National Contingency Plan (NCP). Dispersants, surface washing agents, bioremediation agents, solidifiers, and herding agents are defined in [40 CFR § 300.5](#), and will be generally referred to as "chemical and biological countermeasures" for the purposes of this protocol.

Background and Purpose

This document provides protocols for the use of chemical and biological countermeasures that must be followed by the Federal On-Scene Coordinator (FOSC). These protocols apply in the Regional Response Team III (RRT3) portions of designated zones in the EPA Region 3 and USCG Sector Delaware Bay, Maryland-National Capitol Region, and Virginia geographic areas of responsibility. Use of chemical and biological countermeasures is subject to the conditions specified in this document, which include: the general conditions set forth in the protocols for concurrence, the zone-specific considerations, and emergency consultation compliance (e.g., Endangered Species Act (ESA), Essential Fish Habitat (EFH), National Historic Preservation Act (NHPA), Tribal).

Authority

Subpart J of the NCP provides that the FOSC may authorize the use of chemical or biological agents identified on the NCP Product Schedule on an oil discharge, or the use of burning agents, for the specific purpose for which they were listed with the concurrence of the U.S. Environmental Protection Agency (EPA) representative to the RRT and, as appropriate, the concurrence of the RRT representatives from the state(s) with jurisdiction over the waters and adjoining shorelines threatened by the release or discharge, and in consultation with the U.S. Department of Commerce (DOC) and U.S. Department of the Interior (DOI) natural resource trustees. The EPA has been delegated authority to maintain a schedule of chemical and biological agents that may be authorized for oil discharges in accordance with procedures set forth in [40 CFR § 300.900](#). The FOSC may also authorize the use of these agents as addressed by a preauthorization plan or under temporary exceptions where an imminent threat to human life exists. RRT3 does not have a preauthorization plan for the use of chemical or biological agents. Temporary exception criteria in accordance with [40 CFR § 300.910\(d\)](#) is addressed within the protocol portion of this document.

In accordance with [40 CFR § 300.120\(b\)](#), EPA Regional Administrators shall designate FOSCs for areas in the inland zone for which an ACP is required under [Clean Water Act](#) Section 311(j) and for the coastal zone Commander, Coast Guard East District (CGD-E), has pre-designated the USCG Captain of the Port (COTP) Sector Delaware Bay as the FOSC for oil discharges in the Sector Delaware Bay zone; COTP Sector Maryland-National Capital Region as the FOSC for oil discharges in the Sector Maryland-National Capital Region zone; and COTP Sector Virginia as the FOSC for oil discharges in the Sector Virginia zone (as defined in [33 CFR § 3 Subpart 3.25](#) and subject to joint response boundary agreements with the EPA); and

¹ Oil means oil of any kind or in any form, including but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredge spoil, but does not include petroleum, including crude oil or any fraction thereof, which is specifically listed or designated as a hazardous substance under subparagraph (A) through (F) of section 101(14) of the CERCLA (42 U.S.C. § 9601) and which is subject to the provisions of that Act.

has delegated to each COTP the authority and responsibility for compliance with the Federal Water Pollution Control Act (FWPCA), as amended.

In accordance with [40 CFR § 300.115\(h\)](#), each state governor is requested to assign an office or agency to represent the state on the appropriate RRT, those state agencies and their primary and alternate representatives are identified in the Region 3 Regional Contingency Plan (R3RCP) [Appendix 1](#). The state agencies represented in RRT3 and whom have the authority and responsibility for providing concurrence for the use of chemical and biological countermeasures affecting their waters are:

- State of Delaware: Delaware Department of Natural Resources and Environmental Control (DNREC)
- District of Columbia: District of Columbia Homeland Security and Emergency Management Agency (HSEMA)
- State of Maryland: Maryland Department of the Environment (MDE)
- Commonwealth of Pennsylvania: Pennsylvania Department of Environmental Protection (PADEP)
- Commonwealth of Virginia: Virginia Department of Environmental Quality (VDEQ) and Virginia Department of Emergency Management (VDEM)
- State of West Virginia: West Virginia Department of Environmental Protection (WVDEP)

Scope

The USCG, EPA, DOI, DOC, and RRT3 state representatives agree that the primary method of controlling discharged oil shall be the physical removal of the oil from the environment. These agencies recognize that in certain instances timely, effective physical containment, collection and removal of the oil may not be possible, and the utilization of chemical or biological countermeasures, alone or in conjunction with mechanical removal methods, may be considered to minimize substantial threat to public health or welfare, or minimize serious environmental damage. The NCP addresses discharges of oil to the environment and response authorities must retain flexibility to allow for environmental tradeoffs that consider incident-specific conditions when determining what actions should be taken to immediately and effectively address the discharge.

These protocols establish the process to obtain concurrence for use of chemical and biological countermeasures listed on the NCP Product Schedule in the inland waters of the Region 3 inland zone and the coastal waters of the COTP Sector Virginia, COTP Sector Maryland-National Capital Region, and COTP Sector Delaware Bay coastal zones.

RRT3 CHEMICAL & BIOLOGICAL COUNTERMEASURES USE PROTOCOL

This protocol outlines the procedures for authorizing the use of chemical and biological countermeasures, including burning agents, during oil discharge response operations within RRT3. Chemical countermeasures listed in the [NCP Product Schedule](#) may be authorized for use in spill response on a case-by-case basis in accordance with requirements in [40 CFR § 300.910\(b\)](#) provided all the general conditions listed in the protocols below are satisfied, as well as all special conditions set forth in this document. As of December 12, 2025, there is no approved preauthorization for use of chemical and biological countermeasures within RRT3.

The processes outlined below do not replace any coordination or best practice requirements of the Unified Command (UC) with other federal, state, or local officials (e.g., public warnings, fire officials' involvement for in-situ burning, land manager coordination, or an FOSCs use of a temporary exception).

Authorized Agents and Applicability

This protocol applies to the following situations:

- Use of chemical or biological agents identified on the NCP Product Schedule for oil discharges.
- Use of burning agents on oil discharges.

Authorization Process

Federal On-Scene Coordinator (FOSC) Authority

For discharge situations not covered by a preauthorization plan, the FOSC has the authority per [40 CFR § 300.910\(b\)](#) to authorize the use of chemical or biological agents identified on the NCP Product Schedule and burning agents for the specific purpose for which they are listed.

Required Concurrence

Before the FOSC can authorize the use of chemical or biological countermeasures, unless falling under the temporary exception in [40 CFR § 300.910\(d\)](#), the FOSC must establish deliberative communication with the representatives identified below for concurrence:

- EPA RRT3 representative; and
- RRT3 representatives from the state(s) with jurisdiction over the waters and adjoining shorelines threatened by the release or discharge.

[Annex I](#) of this document contains the RRT3 Chemical Countermeasures Use Request Critical Decision-Making Data Form. This form must be completed in RRT3 by Federal On-Scene Coordinator (FOSC) Staff and Responsible Party (RP) for submission to an Incident Specific RRT to gain concurrence for authorizing the use of chemical and biological countermeasures. The Incident Specific RRT shall be comprised, at a minimum, of the Incident Specific Chair, EPA RRT3 Representative, RRT representatives from the applicable state(s), and natural resource trustee agencies. Consultation, authorization request documentation, and additional consideration requirements outlined below are incorporated into [Annex I](#).

Within RRT3, the FOSC may establish a time frame, not less than four hours, in which non-concurrence must be communicated to mitigate adverse impacts caused by prolonged decision-making timeframes on operational windows of opportunity for response action effectiveness. This time frame will commence once deliberative communications have been established with the designated RRT representatives in accordance with the [Region 3 Regional Contingency Plan \(R3RCP\)](#).

Consultation

The FOSC must conduct emergency consultations with natural resource trustees from:

- DOC natural resource trustees, specifically the National Oceanic and Atmospheric Administration (NOAA) Fisheries, also referred to as the National Marine Fisheries Service (NMFS); and
- DOI, specifically the U.S. Fish and Wildlife Service (USFWS).

It is important to note that there may be other consultations that take place for an incident as part of overall federal response actions (e.g., historical/cultural, tribal, land manager), this protocol is specific to those requirements outlined within Subpart J.

Authorization Request Documentation

As required per [40 CFR § 300.910\(b\)](#), the FOSC must consider and document, at a minimum, the following parameters in their authorization request to the RRT:

1. Quantities requested (i.e., specific amounts of the agent proposed for use);
2. Duration of use (i.e., expected timeframe for agent application);
3. Water depth (i.e., depth of water at the application site);
4. Distance to shoreline (i.e., proximity of the application site to the nearest shoreline); and
5. Proximity to Populated Areas (i.e., distance of the application site from populated areas).

Additional Considerations and Documentation

The FOSC should consider and document the following factors as they relate to the parameters outlined above, such as:

1. Environmentally sensitive resources (i.e., potential impacts to sensitive ecosystems or species);
2. Restricted areas (i.e., proximity to restricted areas, such as drinking water intakes or marine sanctuaries);
3. Agent inventory and storage locations (i.e., location and availability of agent supplies);
4. Agent manufacturing capability (i.e., status of agent manufacturing capability, if applicable);
5. Equipment availability (i.e., availability of necessary equipment for agent application);
6. Trained operators (i.e., availability of adequately trained personnel to apply the agent safely and effectively); and
7. Environmental monitoring (i.e., availability of appropriate means to monitor agent use in the environment).

Zone-Specific Conditions

Within RRT3 there are three distinct zones identified based on suitability for potential consideration of chemical and/or biological countermeasures and jurisdictional authorities, see Figure 1. The FOSC may request concurrence for use in a particular zone or portion(s) of a zone based on suitable conditions for use.

Federal Offshore Zone (>3NM)

COASTAL WATERS under the jurisdiction of COTP Sector Delaware Bay, Sector Maryland-National Capital Region, and COTP Sector Virginia (as defined in [33 CFR §3 Subpart 3.25](#)) that lie 3 nautical miles and seaward of the Territorial Sea Baseline (as defined in [33 CFR § 2.20](#)) along the coasts of Delaware (south of the demarcation of the jurisdiction of RRT2), Maryland, and Virginia to the outermost extent of the Exclusive Economic Zone (EEZ). The water depth and surrounding topography of this area are suitable for potential consideration of chemical countermeasure use.

State Offshore Zone (0.5NM-3NM)

COASTAL WATERS WITHIN Sector Delaware Bay, Sector Maryland-National Capital Region, and Sector Virginia that extend from 0.5 nautical miles to 3 nautical miles from shore and with water depth greater than 40-feet (12.2-meters) along the coasts of Delaware (south of the demarcation of the jurisdiction of RRT2), Maryland, and Virginia. All bays and coves are *excluded* from this zone. Chemical countermeasures may be considered for use in these waters where the water depth is greater than 40-feet (12.2-meters).

The demarcation for the Delaware and Chesapeake Bays are as follows:

Delaware Bay

A line between Cape May Point lighthouse on the southern shore of New Jersey and Cape Henlopen light on the northern shore of Delaware.

Chesapeake Bay

A line between Cape Charles lighthouse on the Eastern Shore of Virginia and Cape Henry light in Virginia Beach, Virginia.

Nearshore/Inland Zone (<0.5NM including all bays and coves)

COASTAL WATERS WITHIN Sector Delaware Bay, Sector Maryland-National Capital Region, and Sector Virginia - Less than 0.5 nautical miles from shore or water depth less than 40-feet (12.2-meters); and

INLAND WATERS extending beyond the inland waters demarcation line within Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia.

Note: Dispersants are not considered a primary response action in this zone, however dispersant application may be appropriate in sensitive areas that may be irrecoverably damaged by direct oiling.

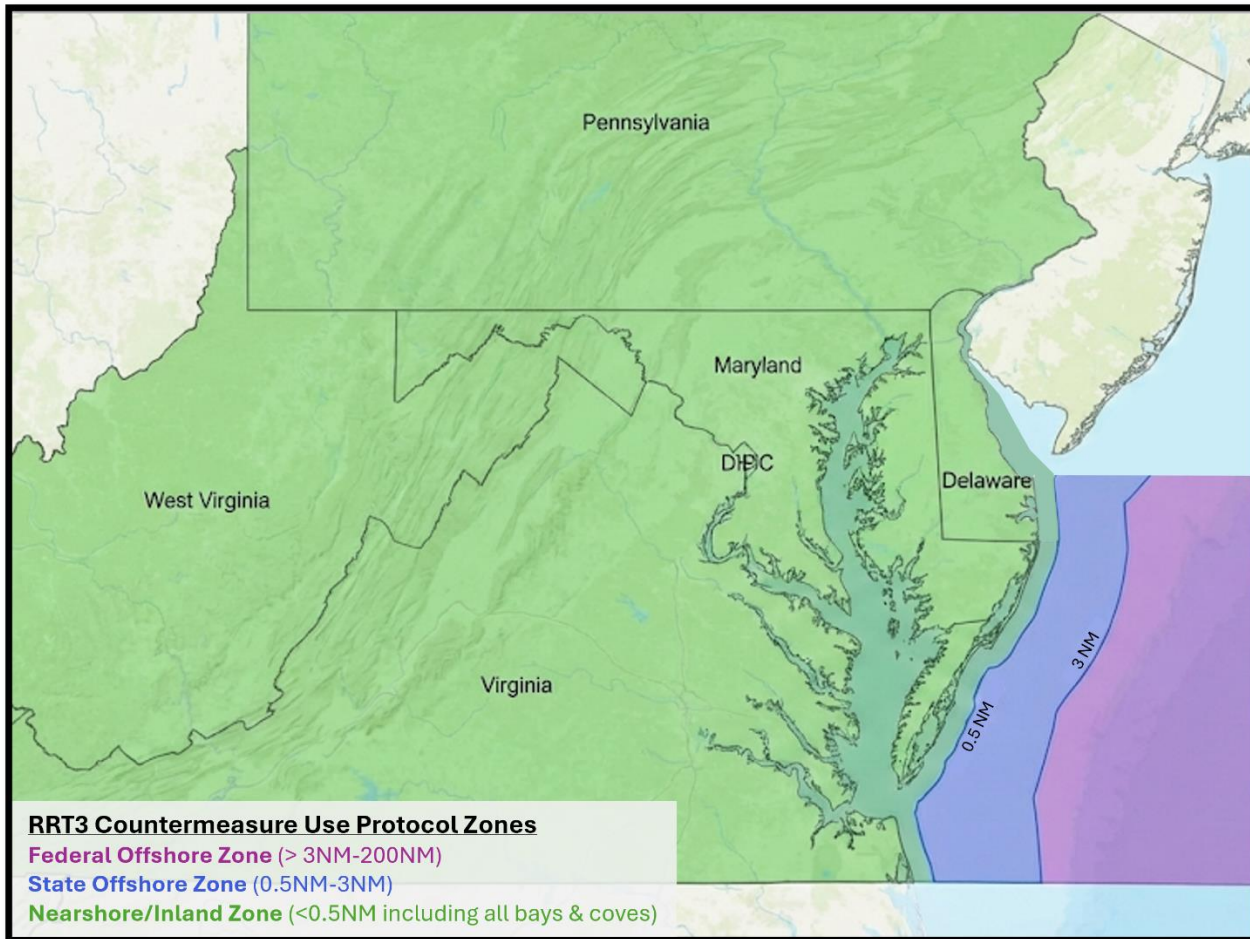


Figure 1. RRT3 Countermeasure Use Protocol Zones

Temporary Exception (Imminent Threat to Human Life)

FOSC Authority

In circumstances where an imminent threat to human life exists that cannot be immediately addressed by other procedures or provisions of the NCP, the FOSC may provisionally authorize the use of *any* chemical or biological agent, regardless of its inclusion on the NCP Product Schedule in accordance with [40 CFR § 300.910\(d\)](#).

No Prior Concurrence Required

This exception allows the FOSC to act without obtaining the concurrence of the EPA RRT representative, state RRT representative(s), or consultation with natural resource trustees.

Limitations

This exception cannot be used as a substitute for compliance with applicable worker health and safety regulations per [40 CFR § 300.150](#), including the use of personal protective equipment.

This exception is only applicable when there is *insufficient time* to seek standard authorization.

Notification Requirements

If an agent is authorized under this exception, the FOSC shall notify the following parties *as soon as possible*:

- EPA RRT representative;

- State RRT representatives (as appropriate for affected states);
- DOC natural resource trustees, specifically NOAA Fisheries (i.e., NMFS); and
- DOI natural resource trustees, specifically USFWS.

Documentation

The FOSC must document the circumstances leading to the use of the agent under this exception, as well as the specific reasons for its selection.

Transition to Normal Protocols

Any chemical or biological agent use for individual circumstances under this exception must transition to adherence with protocols under [40 CFR § 300.910\(b\)](#) no later than 24-hours after initial application.

Prohibited Agents or Substances

Per [40 CFR § 300.910\(e\)](#), the FOSC is *prohibited* from authorizing the use of sinking agents or any other chemical agent, biological agent, or any substance that is used to directly sink oil to the bottom of a water body.

Storage and Use of Agents

Storage Conditions

The FOSC may only authorize the use of products listed on the NCP Product Schedule that are:

- Documented and certified by the responsible party or its representative to have been stored under the conditions provided by the submitter for listing in the NCP Product Schedule under [40 CFR § 300.915\(a\)\(6\)](#); and
- Used before the expiration date listed on the container's label, unless otherwise specified for expired products as provided in [40 CFR § 300.910\(f\)\(2\)](#).

Expired Products

The FOSC may authorize the use of products listed on the NCP Product Schedule that exceed their expiration date if the responsible party or its representative:

- Documents and certifies that the expired product has been stored under the conditions provided by the submitter under [40 CFR § 300.915\(a\)\(6\)](#); and
- Certifies that the product still meets the applicable efficacy and toxicity listing provisions under [40 CFR § 300.915\(f\)\(2\)](#), based on testing of representative samples within the previous 12 months.

Supplemental Testing, Monitoring, and Information

RRT Authority

The RRT may require, for both planning and response (including authorization of use), supplemental toxicity and efficacy testing or submission of available data and information. This may include site, area, and ecosystem-specific concerns related to the use of any chemical or biological agent.

Product Manufacturer Responsibility

The NCP Product Schedule Technical Notebook Manufacturer Data Summaries for products currently listed on the NCP Product Schedule can be found at: [Product Manufacturer Data Summaries](#). The product manufacturer or responsible party shall provide, upon request of the RRT or FOSC, additional monitoring or testing data and information to inform chemical or biological agent use decisions specific to a response.

Recovery of Chemical Agents and Other Substances

Responsible Party Responsibility

The responsible party shall ensure that removal actions adequately contain, collect, store, and dispose of chemical agents and other substances that are to be recovered from the environment, unless otherwise directed by the FOSC. Recoverable chemical agents and substances include solidifiers, surface washing agents, and sorbents.

FOSC Considerations

The FOSC should consider factors such as the safety of response personnel and harm to the environment when making determinations regarding recovery.

Reporting Requirements

Reporting to RRT

The authorizing FOSC shall provide the RRT with the information below on chemical and biological agents used in response to an oil discharge.

1. Product name;
2. Product category;
3. Quantity and concentrations used;
4. Duration of use.
5. Location(s) of use;
6. Any available data collected (e.g., weather conditions); and
7. Any available analyses of efficacy and environmental effects.

Reporting Timeline

This information must be provided within 30-days of completion of agent use. Information may be submitted in accordance with the FOSC reporting provisions under [40 CFR § 300.165](#), as applicable, subject to the 30-day timing requirement.

Public Notification

The authorizing FOSC shall provide for notification to the public and updated during a response as appropriate, the following information on chemical and biological agents used in response to an oil discharge:

1. Product name;
2. Product category;
3. Quantity and concentrations used;
4. Duration of use.
5. Location(s) of use.

Environmental Consultation Requirements

As of the current revision date of these protocols no pre-incident consultations have been completed for use of chemical or biological countermeasures within RRT3. The FOSC must consult with DOC and DOI natural resource trustees via emergency consultation on an incident-specific basis prior to use of any chemical or biological countermeasures, unless their use falls under the temporary exception provisions, after which the FOSC must notify DOC and DOI as soon as possible.

RRT3 has developed environmental consultation guidance and consultation forms to inform and document compliance with environmental consultation authorities. See the [RRT3 Environmental Consultation Guide](#)

[and Form for U.S. Coast Guard East District Coastal Zone](#), for consultation guidance, points of contact, tools, and forms for documentation of consultations.

Environmental Best Management Practices

RRT3 has developed general environmental best management practices (BMPs) to provide recommendations and guidance to the FOSC to avoid and minimize impact to fish, wildlife, and cultural/historic resources during a response to an oil spill. The BMPs are general in nature for typical oil spill response actions and enable the FOSC to quickly implement BMPs for response actions at the onset of a response.

See the [RRT3 Environmental Best Management Practices for Coastal Zone Oil Spill Response](#)

for a compilation of general BMPs for oil spill response to include use of on-water chemical countermeasures. Incident specific BMPs may need to be developed to account for incident specific variances based on spilled products, species or location specific concerns, and types of response actions utilized and/or considered.

Training and Exercises

Chemical and biological countermeasure use protocols will be incorporated into regular training and exercises to ensure that FOSCs, RRT members, and other key personnel are familiar with this protocol and are proficient in its implementation. These trainings and exercises will simulate various oil discharge scenarios and include consideration of chemical and biological countermeasures.

Protocol Review and Updates

This protocol will be reviewed and updated at least annually to ensure its continued effectiveness and compliance with applicable regulations. The review process will be conducted by the RRT3 Spill Countermeasures Workgroup and include input from the EPA RRT representative, state RRT representatives, and other relevant stakeholders.

List of Annexes

[Annex I – Critical Decision-Making Data Form](#)

[Annex II – Chemical and Biological Countermeasure Monitoring](#)

[List of Abbreviations](#)

**ANNEX I – COUNTERMEASURES USE REQUEST CRITICAL
DECISION-MAKING DATA FORM**

This form must be completed by the Federal On-Scene Coordinator (FOSC) Staff and Responsible Party (RP) for submission to an Incident Specific RRT to gain concurrence for authorizing the use of chemical and biological countermeasures. This form should be completed to the degree that information is available, reliable, and timely. Critical questions for the Incident Specific RRT to consider and concurrence responses are located at the end of the form.

UNIFIED COMMAND / FOSC INFORMATION (Completed by FOSC)			
Federal On-Scene Coordinator	Rank/Name	Email	Phone Number
State On-Scene Coordinator(s)	Rank/Name	Email	Phone Number
Responsible Party	Rank/Name	Email	Phone Number
Other UC Representatives (if applicable)	Rank/Name	Email	Phone Number
Countermeasure Type Requested	Select countermeasure use type from dropdown menu.		
Date / Time of Request	Date / HH:MM (local)		
Has the RRT3 Environmental Consultation Form been submitted to initiate required emergency consultations for use of this countermeasure? <i>If yes, include as an attachment.</i>	<input type="checkbox"/> Yes Date _____ <input type="checkbox"/> No		
Incident-Specific RRT Chair	Rank/Name	Email	Phone Number

SPILL DATA (Completed by FOSC)	
Incident Name	Click or tap here to enter text.
Location of Spill	Click or tap here to enter text.
State(s) with jurisdiction over the waters and adjoining shorelines threatened by the release or discharge	<input type="checkbox"/> Delaware <input type="checkbox"/> Pennsylvania <input type="checkbox"/> Maryland <input type="checkbox"/> West Virginia <input type="checkbox"/> Virginia <input type="checkbox"/> Other _____
Type of Product	Click or tap here to enter text.
Volume of Product Released	Click or tap here to enter text.
Total Potential of Release	Click or tap here to enter text.
Is the Source Secured	<input type="checkbox"/> Yes <input type="checkbox"/> No
Brief Incident Description	Click or tap here to enter text.
Current & Proposed Actions	Click or tap here to enter text.

SPILL DATA (Completed by FOSC)	
Trajectories / Modeling Attached ➤ <i>Surface trajectory</i> ➤ <i>Dispersion plume</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No

APPLICATION AREA INFORMATION (Completed by FOSC)	
Location of Area(s) to be Treated	<input type="checkbox"/> Federal Offshore Zone <input type="checkbox"/> State Offshore Zone <input type="checkbox"/> Nearshore/Inland Zone Geographical area(s) and/or state(s) with jurisdiction over the waters if in State Offshore or Nearshore/Inland Zone(s).
Water Depth	Depth of water at the application site.
Depth of Application	Surface or depth of chemical/biological countermeasure application (i.e., for subsurface application).
Distance to Shoreline	Proximity of the application site to the nearest shoreline.
Proximity to Populated Areas	Distance of the application site from populated areas.
Environmentally Sensitive Resources & Resources at Risk <i>If completed, attach ICS-232, Resources at Risk Summary.</i>	<input type="checkbox"/> NMFS Threatened / Endangered Species <input type="checkbox"/> USFWS Threatened / Endangered Species <input type="checkbox"/> Critical Habitats <input type="checkbox"/> Marine Mammals (pupping / migration) <input type="checkbox"/> Bird Use (feeding / nesting / migration) <input type="checkbox"/> Shellfish (spawning / harvesting) <input type="checkbox"/> Finfish (spawning / release migration / harvest) <input type="checkbox"/> Natural / Artificial Reefs <input type="checkbox"/> Commercial Use (aquaculture / water intakes / traffic) <input type="checkbox"/> Public Use Areas (parks / beaches / marinas / recreation) <input type="checkbox"/> Cultural / Historic Resources <input type="checkbox"/> Tribal Resources <input type="checkbox"/> Other Resources of Specific Significance Expand on potential impacts.
Restricted Areas	Proximity to restricted areas.
SMART Monitoring Available	<input type="checkbox"/> Atlantic Strike Team <input type="checkbox"/> Gulf Strike Team <input type="checkbox"/> Other _____

PRODUCT DATA & CONSIDERATIONS (Completed by QI / OSC)	
Product Requested / Manufacturer	Enter name and manufacturer.
Listed on NCP Product Schedule	<input type="checkbox"/> Yes Listing Date <input type="checkbox"/> No
Product Manufacturer Data Summary Attached <i>Attach Product Manufacturer Data Summary for product(s) requested.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No As requested by the FOOSC and/or RRT, additional toxicity and efficacy testing or submission of available data and information must be provided. This may include site, area, and ecosystem-specific concerns related to the use of any chemical or biological agent.
Product Stored Under Conditions Provided by the Submitter for Listing in NCP Product Schedule	<input type="checkbox"/> Yes <input type="checkbox"/> No
Product will be used before the Expiration Date <i>If no, must document/certify that expired product has been stored under the conditions provided by the submitter AND that the product still meets the applicable efficacy and toxicity listing provisions based on testing representative samples within the previous 12 months.</i>	<input type="checkbox"/> Yes Expiration Date <input type="checkbox"/> No Must document/certify that expired product has been stored under the conditions provided by the submitter AND that the product still meets the applicable efficacy and toxicity listing provisions based on testing of representative samples within the previous 12 months.
Quantities Requested	Specific amounts of the agent proposed for use.
Duration of Use	Expected timeframe for agent application.
Agent Inventory and Storage Locations	Location and availability of agent supplies, to include anticipated arrival timeframes.
Agent Manufacturing Capability	Status of agent manufacturing capability, if applicable.
Equipment Availability	Availability of necessary equipment for agent application, to include anticipated arrival timeframes.
Trained Operators	Availability of adequately trained personnel to apply the agent safely and effectively.
Environmental Monitoring	Availability of appropriate means to monitor agent use in the environment.
Recovery of Chemical Agents and Other Substances from the Environment	Ability to adequately contain, collect, store, and dispose of chemical agents and other substances that are to be recovered from the environment.

Critical Questions (Completed by Incident Specific RRT)	
Can the predicted threat to endangered / threatened species, marine mammals, and waterfowl be lessened?	<input type="checkbox"/> Yes <input type="checkbox"/> No Click or tap here to enter text.
Will the overall damage to habitats and resources resulting from countermeasure use be less than those resulting without countermeasures?	<input type="checkbox"/> Yes <input type="checkbox"/> No Click or tap here to enter text.
Will use of countermeasures reduce the impact / damage to a particular resource? If so, is it worth the tradeoff of potential harm the action may cause to other resources? <i>See the RRT3 Environmental Consultation Form, which should include endangered/threatened species and critical habitat effects determination based on proposed countermeasure use.</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No Click or tap here to enter text.
Are adequate monitoring capabilities and protocols in place (proposed) for this treatment location?	<input type="checkbox"/> Yes <input type="checkbox"/> No Click or tap here to enter text.
If recreational, economic, and aesthetic considerations are a higher priority than natural resource considerations, what is the most effective means for their protection?	Click or tap here to enter text.

Incident Specific RRT Concurrence Responses (Signed by Incident Specific RRT)	
Incident Specific RRT Chair	Name Additional comments (optional). Signature / Date: _____
EPA RRT3 Representative	EPA Representative Name Select concurrence option from dropdown menu. Additional comments (optional). Signature / Date: _____
States (s) <input type="checkbox"/> Delaware <input type="checkbox"/> Pennsylvania <input type="checkbox"/> Maryland <input type="checkbox"/> West Virginia <input type="checkbox"/> Virginia <input type="checkbox"/> Other	State Representative Name and State Agency Represented Select concurrence option from dropdown menu. Additional comments (optional). Signature / Date: _____
	State Representative Name and State Agency Represented Select concurrence option from dropdown menu. Additional comments (optional).

Incident Specific RRT Concurrence Responses (Signed by Incident Specific RRT)	
	Signature / Date: _____
	State Representative Name and State Agency Represented Select concurrence option from dropdown menu. Additional comments (optional). Signature / Date: _____
	State Representative Name and State Agency Represented Select concurrence option from dropdown menu. Additional comments (optional). Signature / Date: _____
	State Representative Name and State Agency Represented Select concurrence option from dropdown menu. Additional comments (optional). Signature / Date: _____
DOC (NOAA NMFS)	Name Additional comments (optional). Signature / Date: _____
DOI (USFWS)	Name Additional comments (optional). Signature / Date: _____

ANNEX II – CHEMICAL & BIOLOGICAL COUNTERMEASURE MONITORING

Applicability

This annex addresses the critical need for continuous monitoring when chemical countermeasures are deployed during spill response. Effective decision-making by the Unified Command (UC) depends on a clear understanding of the impact and efficacy of these countermeasures. This document details the monitoring protocols and requirements for collecting scientifically sound, real-time data, enabling the UC to make informed choices. Successful implementation of this annex also hinges on the UC establishing and documenting clear, agreed-upon monitoring objectives and goals at the outset of the incident.

Special Monitoring of Applied Response Technologies

Purpose

The Special Monitoring of Applied Response Technologies (SMART) program establishes a monitoring system for the rapid collection and reporting of real-time, scientifically based information, to assist the Unified Command with decision-making during typical dispersant operations in surface waters and/or in-situ burning operations. SMART is not limited to oil spills and can be adapted to hazardous substance responses where particulate air emissions should be monitored, and to hydrocarbon-based chemical spills into fresh or marine water. SMART recommends monitoring methods, equipment, personnel, training, and command and control procedures that strike a balance between the operational demand for rapid response and the Unified Command's need for feedback from the field to make informed decisions.

It is important to note that SMART is not a regulatory requirement, but rather a guidance protocol option that is available for the Unified Command to assist in decision-making. While every effort should be made to implement SMART or parts of it in a timely manner, dispersant application or in-situ burning should not be delayed to allow the deployment of the SMART teams.

The intent of the SMART dispersant guidance is to support operational decision-making by the Federal On-Scene Coordinator (FOSC) during typical dispersant use operations within surface waters. The guidance is separate from monitoring requirements during subsurface dispersant applications, prolonged dispersant use and/or major discharge events >100,000 gallons in a 24-hour period. The guidance also differs from the 2013 NRT guidance document for atypical dispersant operations.

The U.S. Coast Guard (USCG) National Strike Force (NSF) can lead SMART operations and provide direct support to the Federal On-Scene Coordinator (FOSC) to include a SMART Monitoring Group and NOAA Scientific Support Coordinator to include visual, air, and water monitoring teams. This data is then sent to a designated technical specialist and/or the Environmental Unit to analyze, interpret, and make recommendations based on the data collected. An internal tactics, techniques, and procedures (TTP) publication, [CGTTP 3-75.1](#), provides guidance for SMART protocol to assist NSF members to perform SMART duties for conducting both in-situ burn (ISB) and dispersant monitoring operations.

General Utilization in Countermeasure Monitoring

The SMART protocols function as a real-time feedback loop for response leadership. The general workflow is as follows:

- Deployment: Monitoring teams are deployed with specialized equipment when a countermeasure is being considered or used.

- **Data Collection:** Teams collect specific data on countermeasure performance or environmental impacts (e.g., air or water quality).
- **Information Flow:** Data is relayed through the ICS structure, typically from a Monitoring Group in the Operations Section to a Technical Specialist (such as a NOAA Scientific Support Coordinator) in the Planning Section.
- **Interpretation & Recommendation:** The Technical Specialist analyzes the data and provides recommendations to the FOSC/UC.
- **Decision-Making:** The FOSC/UC uses this information to make informed decisions, such as to continue, modify, or cease countermeasure operations.

Protocol for Dispersant Monitoring

The goal of [SMART for Dispersant Operations](#) is to determine effectiveness – that is, whether the dispersant is breaking up the surface oil slick and causing it to mix into the water column. The protocol uses a three-tiered, scalable approach:

Tier I: Above-Water Monitoring

- **Method:** Uses visual observation or remote sensing (e.g., from aircraft or drones) to qualitatively assess changes in the surface slick. Effective dispersion is indicated by a change from black or brown oil to a cloudy, milky-white, or brownish underwater plume.
- **Use:** Provides rapid, qualitative feedback. In many cases, this is sufficient to confirm efficacy.

Tier II: On-Water Monitoring

- **Method:** Deploys vessel-based teams with instruments (e.g., fluorometers, particle size analyzers) to measure dispersed oil at a single, near-surface depth (typically 1-2 meters).
- **Use:** Provides quantitative data to confirm the presence of oil droplets in the water column under the treated slick, validating visual observations from Tier I.

Tier III: In-Water Monitoring

- **Method:** Expands upon Tier II by monitoring at multiple depths and locations. This may involve more advanced instrumentation or increased water sampling.
- **Use:** Conducted when the UC requires more detailed information on the three-dimensional transport, dilution, and persistence of the dispersed oil plume.

Protocol for In-Situ Burn (ISB) Monitoring

The goal of [SMART for ISB Burn Operations](#) is to assess potential impacts on public health by monitoring particulate matter in the smoke plume. For the purposes of this RRT3 Chemical & Biological Countermeasures Use Protocol, use of burning agents associated with ISB operations may incorporate SMART for ISB Operations. For RRT3 Specific Preauthorization for ISB, see the [R3RCP, Appendix 5-B1, RRT3 MOU for Preapproved Use of In-Situ Burning](#). The RRT3 ISB MOU includes a Response Decision Matrix for In-Situ Burning, ISB Evaluation & Response Checklist, and an ISB Monitoring Plan.

Method:

- **Air Monitoring:** Deploys teams with real-time particulate monitors capable of measuring fine particulates (PM_{2.5}).
- **Location Strategy:** Teams are positioned at upwind locations (to measure background air quality) and downwind locations, particularly near populated or other sensitive areas, based on the predicted smoke trajectory.
- **Data Analysis:** Monitors provide a time-weighted average (TWA) concentration of particulates.

Use:

- TWA readings are compared against pre-determined Levels of Concern (LOCs), which are health-based air quality thresholds.
- If monitoring indicates that TWA readings are approaching or exceeding the LOC, the Technical Specialist will advise the FOSC/UC. This information is critical for deciding whether to continue or terminate the burn to ensure public safety.

Regulatory Monitoring

In accordance with [40 CFR § 300.913](#), dispersant monitoring procedures must be conducted by the Responsible Party (RP) under the following circumstances:

- Surface use of any dispersant in response to oil discharges of more than 100,000 gallons occurring within a 24-hour period.
- Surface use of any dispersant for more than 96 hours after initial application in response to an oil discharge.
- Subsurface use of any dispersant in response to an oil discharge (unlikely use in RRT3).

The RP is responsible for conducting monitoring and submitting a Dispersant Monitoring Quality Assurance Project Plan (DMQAPP) covering the collection of environmental data to the Federal On-Scene Coordinator (FOSC). These dispersant monitoring procedures are effective for the entire duration of dispersant use.

The DMQAPP must include a comprehensive data quality assurance (QA) plan. The QA plan should address all aspects of data collection, handling, and analysis to ensure data quality and defensibility. It should also include specific procedures for verifying data integrity, assessing data usability, and ensuring that all data meets the data quality objectives (DQOs) identified in the DMQAPP.

RP Monitoring Requirements

The RP shall implement the following monitoring activities as applicable, when the dispersant use meets applicability circumstances.

Documentation

The RP shall document the information below in accordance with the DMQAPP and provide it to the FOSC.

Source Oil Characteristics: Comprehensive description of the source oil, including API gravity, viscosity, chemical composition, and other relevant properties.

Oil Discharge Volume/Flow Rate: Best estimate of the oil discharge volume or flow rate, periodically reevaluated as conditions dictate. This estimate must include a detailed description of the method used, associated uncertainties, and materials used for the estimation.

Dispersant Information:

- dispersant product name and manufacturer;
- rationale for dispersant choice(s), including results of any efficacy and toxicity tests specific to area or site conditions; and
- recommended dispersant-to-oil ratio (DOR) and justification.

Application Method & Procedures: Detailed description of the application method(s) and procedures, including:

- description of the equipment to be used (e.g., aircraft, vessel, nozzles);
- hourly application rates (e.g., gallons per acre, gallons per minute);

- capacities of application systems; and
- total amount of dispersant applied.

Volatile Petroleum Hydrocarbons (for subsurface application only): For subsurface discharges, the best estimate of the discharge flow rate of any associated volatile petroleum hydrocarbons, periodically reevaluated as conditions dictate. This estimate must include a detailed description of the method used, associated uncertainties, and materials used for the estimation.

Water Column Sampling and Analysis

The RP shall collect and analyze water column samples according to the below requirements.

Sample Locations and Frequency: Samples shall be collected from representative locations as determined by the FOSC. At a minimum, these include:

- Ambient Background: Collect a representative set of water column samples in areas not affected by the discharge of oil, at the closest safe distance from the discharge as determined by the FOSC, and in all directions of likely oil transport considering surface and subsurface currents.
- Baseline: Collect a representative set of baseline water column samples absent dispersant application at depths and locations affected by the oil discharge, considering surface and subsurface currents, oil properties, and other relevant discharge conditions.
- Dispersed Oil Plume: On a daily basis collect dispersed oil plume water column samples at depths and locations where dispersed oil is likely to be present, considering surface and subsurface currents, oil properties, and other relevant discharge conditions (e.g., weather).

Sampling Procedures: All samples must be collected following standard operating and quality assurance procedures as detailed in the DMQAPP. This should include proper chain-of-custody documentation, sample preservation, and adherence to analytical method requirements.

Analytical Parameters: The following parameters shall be analyzed for each water column sample:

- in-situ oil droplet size distribution, including mass or volume mean diameter for droplet sizes ranging from 2.5 to 2,000 μm , with the majority of data collected between the 2.5 and 100 μm size;
- in-situ fluorometry and fluorescence signatures targeted to the type of oil discharged and referenced against the source oil;
- total petroleum hydrocarbons, individual resolvable constituents including volatile organic compounds, aliphatic hydrocarbons, monocyclic, polycyclic, and other aromatic hydrocarbons including alkylated homologs, and hopane and sterane biomarker compounds;
- heavy metals, including nickel and vanadium;
- turbidity;
- water temperature;
- pH;
- conductivity; and
- for subsurface only, dissolved oxygen (DO) and methane (if present).

Dispersant Effectiveness and Oil Distribution Characterization

The RP shall characterize the dispersant effectiveness and oil distribution, including trajectory, accounting for the condition of oil, dispersant, and dispersed oil components from the discharge location. This characterization should consider available technologies (e.g., modeling, remote sensing) and describe associated uncertainties.

Ecological Receptor Characterization

The RP shall characterize the ecological receptors (e.g., aquatic species, wildlife, and/or other biological resources) and their habitats that may be present in the discharge area and their exposure pathways. The characterization shall include, but is not limited to, those species that may be in sensitive life stages, transient or migratory species, breeding or breeding-related activities (e.g., embryo and larvae development), and threatened and/or endangered species that may be exposed to the oil that is not dispersed, the dispersed oil, and the dispersant alone. The RP shall also estimate an acute toxicity level of concern for the dispersed oil using available dose-response information relevant to potentially exposed species following a species sensitivity distribution. This characterization should utilize existing data, scientific literature, and consultation with relevant experts.

RP Reporting Requirements

The RP shall provide the reports outlined below to the FOSC and the applicable RRT(s).

Immediate Reporting

The RP shall immediately report the following to the FOSC:

- Ecological receptors of environmental importance, and any other ecological receptors as identified by the FOSC or the natural resource trustees, to include any threatened or endangered species that may be exposed based on dispersed plume trajectory modeling and level of concern information.
- For subsurface applications, a deviation of more than 10 percent from the mean hourly dispersant use rate, based on the dispersant volume authorized for 24 hours use, and the reason for the deviation.

Daily Reporting

The RP shall report to the FOSC on a daily basis, the water column sampling and analytical parameters outlined in the previous section and include:

- For each application platform, the actual amount of dispersant used for each one-hour period and the total amount of dispersant used for the previous 24-hour reporting period.
- All collected data and analyses of those data within a time frame necessary to make operational decisions (e.g., within 24 hours of collection), including documented observations, photographs, video, and any other information related to dispersant use, unless an alternate time frame is authorized by the FOSC.
- For analyses that take more than 24 hours due to analytical methods, provide such data and results as available but no later than five days, unless an alternate time frame is authorized by the FOSC.
- Estimates of the daily transport of dispersed oil, non-dispersed oil, the associated volatile petroleum hydrocarbons, and dispersants, using available technology.

RRT Reporting

All information provided to the FOSC for immediate and daily reporting shall also be reported to the applicable RRT(s).

Periodic Review

This Annex will be reviewed periodically by RRT3 to ensure its effectiveness and consistency with current scientific knowledge and regulatory requirements.

LIST OF ABBREVIATIONS

Abbreviation	Definition
ACP	Area Contingency Plan
API	American Petroleum Institute
BMPs	Best Management Practices
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CGD-E	East District (<i>U.S. Coast Guard</i>)
COTP	Captain of the Port
CWA	Clean Water Act
DC	District of Colombia
DE	Delaware
DEEP	Dispersant Employment Evaluation Plan
DMQAPP	Dispersant Monitoring Quality Assurance Project Plan
DNREC	Department of Natural Resources and Environmental Control
DO	Dissolved Oxygen
DOC	Department of Commerce
DOI	Department of the Interior
DOR	Dispersant-to-Oil Ratio
DQOs	Data Quality Objectives
DRAT	District Response Advisory Team
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FOSC	Federal On-Scene Coordinator
ft	Feet (<i>unit of measurement</i>)
FWPCA	Federal Water Pollution Control Act

HSEMA	District of Columbia Homeland Security and Emergency Management Agency
ICS	Incident Command System
ISB	In-situ Burn
LOCs	Levels of Concern
m	Meters (<i>metric unit of length or distance</i>)
MD	Maryland
MDE	Maryland Department of the Environment
µm	Micrometer (<i>metric unit of length</i>)
NCP	National Contingency Plan
NHPA	National Historic Preservation Act
NM	Nautical Miles (<i>measurement of distance</i>)
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NSF	National Strike Force
OPA90	Oil Pollution Act of 1990
OSC	Operations Section Chief
PA	Pennsylvania
PADEP	Pennsylvania Department of Environmental Protection
PM	Particulate Matter (<i>measurement of inhalable particles</i>)
QA	Quality Assurance
QI	Qualified Individual
R3RCP	Region 3 Regional Contingency Plan
RP	Responsible Party
RRT2	Regional Response Team II
RRT3	Regional Response Team III
SDS	Safety Data Sheet
SMART	Special Monitoring of Applied Response Technologies
SOSC	State On-Scene Coordinator

TTP	Tactics, Techniques, and Procedures (<i>internal USCG publication</i>)
TWA	Time-weighted Average
UC	Unified Command
USC	U.S. Code
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
VA	Virginia
VDEM	Virginia Department of Emergency Management
VDEQ	Virginia Department of Environmental Quality
WV	West Virginia
WVDEP	West Virginia Department of Environmental Protection