Appendix 8-A Special Monitoring of Advanced Response Technologies (SMART)

Region III believes that the use of optional response technologies, such as dispersants and in situ burning among others, needs to be monitored while the operation is underway. Region III has adopted the Special Monitoring of Advanced Response Technologies (SMART) as the program that will be implemented whenever an in situ burning, dispersant operation is authorized in Region III. SMART establishes monitoring protocols for advanced or optional response technologies used in an oil spill. However, those operations will not be delayed pending availability of personnel or equipment needed to operate SMART.

SMART will be continually updated as more information becomes available, especially as decisions are made to use other chemical technologies. Until SMART contains protocols for other chemical countermeasures, Region III used the monitoring guidance contained in Vol. 1 of the Job Aid for Spill Countermeasure Technologies.

The purpose of the SMART is to establish a system for: (1) rapid collection of scientifically-based information that provides the Unified Command with a measure of the success of an advanced response technology, and (2) improving our knowledge and sharing information about them. The SMART program mandate is to identify the best response personnel, equipment and methods that meet the scientific and operational demands of an oil spill response. SMART modules are designed to assist and not hinder the response decision-making process. The SMART might be modified, depending upon the incident-specific conditions and concerns.

For convenience, major features of the SMART are summarized in the following matrix. The entire SMART can be downloaded and seen at:

At a NOAA OR&R website at https://response.restoration.noaa.gov/smart
Or it can be downloaded from a USCG website at
https://response.restoration.noaa.gov/sites/default/files/SMART_protocol.pdf

Monitoring	
Reference:	Special Monitoring of Advanced Response Technologies (SMART) for dispersants and in situ burning (website: www.uscg.mil/vrp/smart.pdf) Monitoring Guidance in Vol. 1 of the Job Aid (in progress) for other chemical technologies
SMART	The following protocols might be modified with concurrence of the EPA, affected state(s), and resource trustee representatives depending upon incident-specific conditions and concerns. Tier 1: Visual Monitoring Tier 2: Tier 1, plus water column monitoring Tier 3: Tiers 1 and 2, plus dispersed oil fate. For Tier 3, SMART is the minimum requirement. Other fate sampling requirements may be added by the Spill Response Countermeasures Workgroup, e.g., Annex IV of the Chemical Countermeasures MOU

Vol. 1 of the Job Aid Step 4. Monitoring	Elements of a Good Testing/Monitoring Program Testing and Monitoring Procedures: - Level 1: "Tail-gate Testing" - Level 2: Field Effectiveness Testing - Level 3: Effects Testing - Level 4: Operational First-use Testing - Level 5: Continued Operational Monitoring

Introduction

The need for protocols to monitor response technologies during oil spills has been recognized since the early 1980s. Technological advances in dispersant applications and in situ burning (referred to as advanced response technologies) have resulted in their increased acceptance in several regions in the U.S. Many regions have set up pre-approval zones for dispersant and in situ burning operations, and established pre-approval conditions, including the requirement for monitoring protocols. This reaffirms the need for developing national protocols to standardize monitoring, especially when the Federal Government assumes all responsibility for the response under the National Oil and Hazardous Substances Pollution "Contingency Plan. Protocols are also needed to serve as guidelines for assisting or overseeing industry's monitoring efforts during spills.

In November 1997, a workgroup consisting of Federal oil spill scientists and responders form the U.S. Coast Guard, the National Oceanic and Atmospheric Administration, the U.S. Environmental Protection Agency, and the Centers for Disease Control and Prevention, convened in Mobile, Alabama to draft guidelines for generating this protocol. The workgroup built upon currently available programs and procedures, mainly the Special Response Operations Monitoring Program (SROMP), developed in 1994, and lessons learned during spill response and drills. The results of this collaboration is the Special Monitoring of Advanced Response Technologies (SMART) program.

SMART establishes a monitoring system for rapid collection and reporting of real-time, scientifically based information, in order to asset the Unified Command with decision-making during in situ burning or dispersant operations. 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 in order to make informed decisions. SMART is not limited to oil spills. It can be adapted to hazardous substance responses where particulate air emission should be monitored, and to hydrocarbon-based chemical spills into fresh or marine water.

SMART Materials on the Web include:

https://response.restoration.noaa.gov/smart

SMART Protocol (August 2006)

SMART at the new Carissa Oil Spill (1999)

Monitoring results from 1999 R/B Vessel Ferrell Research Project

Dispersant Mission Planner

Dispersant Applications Observer Job Aids

In Situ Burning