REGION III REGIONAL RESPONSE TEAM

ANNEX I & ANNEX II

GUIDANCE TO SUPPLEMENT THE EXISTING MOU

FOR USE OF IN-SITU BURNING

IN OCEAN, COASTAL AREAS AND INLAND ZONES

Prepared for

Region III Regional Response Team
Spill Response Countermeasures Workgroup

MARCH 14, 2003

THIS PAGE INTENTIONALLY LEFT BLANK

ANNEX I

GUIDANCE FOR USE OF IN-SITU BURNING
IN OCEAN AND COASTAL AREAS

Last Revised: March 14, 2003

THIS PAGE INTENTIONALLY LEFT BLANK

Region III Regional Response Team
Ocean and Coastal Areas In-situ Burn Guidance

RECORD OF CHANGES (See Attached Revision Log)

Change Number	Effective Date	Date Entered	Entered By:	Page Check

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Contents
Annex I

Region III Regional Response Team
Guidance to Supplement the Existing MOU for
Use of In-Situ Burn in Ocean and Coastal Areas

THIS PAGE INTENTIONALLY LEFT BLANK

REGION III
REGIONAL RESPONSE TEAM GUIDANCE FOR USE OF IN-SITU BURNING IN OCEAN AND COASTAL AREAS

INTRODUCTION

This is the Region III Regional Response Team (RRT III) in-situ burn (ISB) guidance for ocean and coastal areas. This guidance enhances, and is a direct extension of, the 1997 Memorandum of Understanding among the U.S. Coast Guard District 5 (USCG), the U.S. Environmental Protection Agency Region III (EPA), the U.S. Department of the Interior (DOI), the U.S. Department of Commerce/National Oceanographic and Atmospheric Administration (DOC) the Delaware Department of Natural Resources and Environmental Control (DE DNREC), the Maryland Department of the Environment (MDE) and the Virginia Department of Environmental Quality (VA DEQ).

This guidance provides clearer and more concise guidance and decision-making tools to the RRT III members and to the Federal OSC with regard to ISB in the case of oil releases to ocean, coastal and inland areas. The guidance enhances the preauthorization for use of ISB by providing a framework for communication and coordination between the members of the RRT III should ISB be required to mitigate an oil release. This guidance does not replace the 1997 MOU, but rather provides additional information to enhance it.

It is structured as five sections. Section I defines the purpose, authority and scope of the guidance. Section II describes the established ocean and coastal water zones for pre-authorized and conditional in-situ burning. Section III contains protocols for conducting in-situ burning, applicable to all open water burns throughout the RRT III region. Section IV contains appendices and includes:

- A regional map showing pre-authorized burn zones. (To be determined by RRT III)
- Separate Letters of Agreement for the coastal states within Region III for which this guidance covers, which establish specific conditions for conducting any in-situ burning inside state areas and for special federally managed areas if applicable. Due to the multitude of DOI-administered properties in Region III, separate Letters of Agreement containing specific conditions for ISB for each DOI Land Manager is impractical and unlikely, thus no Letters of Agreement for DOI have been included.
- The intent of RRT III to adopt the current monitoring program for ISB operations in the RRT III region which is supported by the U.S. Coast Guard National Strike Force.
- ISB equipment lists.
- Decision tree and application/checklist form.

- Guidance covering the conditional use of in-situ burning in response to oil discharges occurring on lands within the jurisdiction of RRT III. This guidance includes protocols under which the Federal On-Scene Coordinator (FOSC) in the Inland Zone may be granted authorization for using ISB.

SECTION I

Purpose

The purpose of this document is to provide guidance to the RRT III for consideration of ISB in response to oil discharges occurring in ocean and coastal areas.

RRT III recognizes that in some instances the physical collection and removal of oil is infeasible or inadequate, and the effective use of in-situ burning as an oil spill response technique must be considered. Pre-authorization within the set guidelines of this guidance allows the FOSC to employ in-situ burning to: (1) prevent or substantially reduce a hazard to human life, (2) minimize the environmental impact of the spilled oil or, (3) reduce or eliminate economic or aesthetic losses which would otherwise presumably occur without the use of this technique.

Authority

Subpart J of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) provides that the FOSC; with the concurrence of the EPA representative to the RRT III, and with the concurrence of the State(s) with jurisdiction over affected areas, and in consultation with the DOC, as well as concurrence authority from DOI trustee representatives to the RRT III, which is dervied from the agreement in the Regional Contingency Plan and the 1997 MOU; may authorize the use of in-situ burning on oil spills. Pre-authorization of in-situ burning may be adopted with concurrence from all of the above mentioned RRT III representatives.

Commandant, U.S. Coast Guard, has pre-designated the USCG Captains of the Port as On-Scene Coordinators for coastal oil spills; and has delegated authority and responsibility for compliance with Section 1321 of the Clean Water Act, as amended, to them. The EPA has delegated its authority for authorization of in-situ burning to the EPA representative of the Regional Response Team. RRT III representatives from the DOC, DOI, and the states of Pennsylvania, Delaware, Maryland, Virginia, West Virginia, and the District of Columbia have been delegated authority by their respective agencies or state governments to represent natural resource trustee concerns and to serve as consultants to the FOSC on these matters.

Scope

The USCG, EPA, DOI, District of Columbia, DOC, and the coastal states of RRT III have adopted in-situ burning as an approved tool to remove spilled or discharged oil from ocean and coastal waters within the jurisdiction of RRT III. This agreement covers protocols under which in-situ burning is pre-authorized for use by the USCG FOSC on state and federal coastal and ocean waters.

SECTION II

Pre-authorization of In-situ Burning

The term "in-situ burning" applies to operations conducted for removal of oil by burning. These operations may apply twenty-four (24) hours per day. In-situ burning operations will be conducted within the jurisdiction of the RRT III region in accordance with the MOU and this guidance and, in addition, where applicable, in accordance with protocols established in Letters of Agreement (LOA) between the USCG, EPA, DOI, DOC, and the affected state(s). The authority to authorize the use of in-situ burning provided under this guidance to the USCG FOSC may not be delegated. The following three zones have been established to specify pre-authorized locations and conditions under which burning may occur:

1) "A" ZONES -- PRE-AUTHORIZATION FOR OPEN-WATER BURNING

The "A" zone is defined as any area in Region III, falling exclusively under federal jurisdiction; and not classified as a "B", or "R" zone; which is at least 3 miles seaward from any state coastline; and seaward of any state waters, or as designated by separate LOAs with each individual state, the USCG, EPA, DOI, and DOC. In the event that state jurisdiction extends beyond 3 miles from a state shoreline, pre-approval for the "A" zone applies only to those areas outside state jurisdiction unless an LOA is in place and specifically pre-authorizes in-situ burning within those state waters.

Within "A" zones, the USCG, EPA, DOC, DOI, and the state(s) agree that the decision to use in-situ burning rests solely with the pre-designated USCG FOSC, and that no further approval, concurrence or consultation on the part of the USCG or the USCG FOSC with EPA, DOC, DOI, or the state(s) is required.

The USCG agrees with EPA, DOC, DOI, and the state(s) that the USCG will immediately notify said agencies and affected state(s) of a decision to conduct burning within the "A" zone, via RRT III representatives.

2) "B" ZONES -- WATERS REQUIRING CASE-BY-CASE APPROVAL

A "B" zone is defined as any area in the RRT III region falling under state or special management jurisdiction which is not classified as an "A", or "R" zone.

"B" zones are all areas falling: 1) anywhere within state waters, 2) waters designated as a marine reserve, National Marine Sanctuary, National or State Wildlife Refuge, unit of the National Park Service, proposed or designated Critical Habitats, and 4) Coastal wetlands include aquatic vegetation and algal beds.

Where an LOA is in effect between the USCG, EPA, DOI, DOC, and the affected state(s); the guidance for pre-authorization established under the provisions of said LOA shall preempt the guidance herein established for zones otherwise designated as falling in the "B" zone. Established LOAs are provided in Appendix II of this document. In the event that a Letter of Agreement is not in effect for areas falling within the "B" zone, the following protocols shall

apply:

a) If the FOSC feels that in-situ burning should be used in areas falling in a "B" zone, a request for authorization must be submitted to the RRT and the affected state(s), along with the required information listed in the in-situ burning Application/Checklist form, found in Appendix VI.

b) The FOSC's decision to use in-situ burning shall be made after consulting with RRT III representatives of state and federal trustee agencies to ensure that the best available information pertaining to the presence or absence of natural resources at the burn site is obtained.

c) The FOSC is only granted authority to conduct in-situ burning in the "B" zone when consent has been given by EPA and the affected state(s) and after concurrence from DOI and consultation with DOC.

d) The RRT III designated agency representatives with authority, pursuant to the NCP, RCP, and 1997 MOU, to authorize ISB will respond to the FOSC's request for authorization to burn in zone "B" within a maximum of four hours from time the FOSC has established deliberative communication with the designated agency representative. If the RRT III has not responded to a request for authorization to burn in zone "B" within four hours, then the FOSC may proceed with ISB operations.

The USCG agrees with EPA, DOC, DOI, and the state(s) that the USCG will immediately notify said agencies and affected state(s) of a decision to initiate an approved burn within a "B" zone via RRT III representatives.

3) "R" ZONES -- EXCLUSION ZONES

An "R" zone is defined as any area in the RRT III region falling under state or special management jurisdiction which is not classified as an "A" or "B" zone.

The "R" zone is that area designated by the RRT III as an exclusion zone. No in-situ burning operations will be conducted in the "R" zone unless: 1) in-situ burning is necessary to prevent or mitigate a risk to human health and safety; and/or, 2) an emergency modification of this agreement is made on an incident-specific basis.

RRT III currently has not designated any areas as "R" zones, but retains the right to include areas for exclusion at a future point in time if it feels this is warranted.

SECTION III

Protocols

The following requirements apply to the use of all burning operations under the provisions of this guidance:

1. **Health and Safety Concerns --** Operators: Assuring workers' health and safety is the responsibility of employers and the USCG FOSC who must comply with all Occupational Health and Safety Administration (OSHA) regulations. Prior to any ISB operations, a site safety plan must be submitted and approved by the FOSC and coordinated with the affected land manager. Public: The burning should be stopped if it is determined that it becomes an unacceptable health and/or safety hazard due to operational or smoke exposure concerns to responders or the general public. If at any time, exposure limits are expected to exceed national federal air quality standards in nearby populated areas, as a result of in-situ burning operations, then in-situ burning operations will immediately cease. The Level of Concern (LOC) for particulate for the general public in the RRT III region is 150 ug/m3 (PM-10) averaged over 1 hour.

2. Monitors representing the USCG, EPA, federal trustee agencies, the affected state(s), OSHA, and the responsible party will have the opportunity to observe in-situ burning operations. Monitoring to establish "Continue/Discontinue" data for input to the FOSC will be conducted in accordance with protocols established by the Region III Regional Response Team and as outlined in the monitoring program contained in Appendix VI. Unless smoke plumes are predicted to cross over populated or environmentally sensitive areas, an inability to conduct monitoring operations will not be automatic grounds for discontinuing or prohibiting ISB operations. All burns must incorporate visual monitoring at the burn site to record the disposition of burn residues and to monitor the burn site for potential impact to any natural resource in the area. Samples of the residue will be collected if feasible.

3. Prior to any in-situ burning operations, the FOSC will apply the decision tree contained in Appendix VI.

4. The Application/Checklist form in Appendix VI shall be completed for all burns and provided to RRT III members in a timely manner for documentation and informational purposes.

5. The USCG will make every reasonable effort to continuously evaluate the decision to burn, and allow RRT agencies and affected state(s) the opportunity to comment. Formal requests to discontinue a burn should be presented, in writing, to the FOSC for consideration.

6. Burning will be conducted in a way that allows for effective control of the burn, to the maximum extent feasible, including the ability to rapidly stop the burn if necessary. Contained and controlled burning is recognized as the preferred method of burning using fire-resistant boom. All practical efforts will be made to control and contain the burn and

prevent accidental ignition of the source. Generally it is not recommended that the source or adjacent unconfined slicks be allowed to ignite during in-situ burning operations. Certain circumstances, however, may warrant consideration of carefully planned source ignition.

7. Mechanical recovery equipment shall be mobilized on-scene, when feasible, for backup and complimentary response capability. Provisions must be made for collection of burn residue following the burn(s). Residue collection efforts could compact soils, change topography and interfere with natural regeneration of wetland plants. The FOSC should consult with the natural resource trustees on how best to collect burn residue in environmentally sensitive areas.

8. In-situ burning will be conducted in accordance with any consultations approved by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS), under Section 7 of the Endangered Species Act. Prior to beginning an ISB, a survey will be conducted to determine if any threatened or endangered species are present in the burn area or otherwise at risk from any burn operations, fire, or smoke. Appropriate natural resource specialists, knowledgeable with any special resource concern in the area and representing the resource trustee, will be consulted prior to conducting any ISB. Measures will be taken to prevent risk of injury to any wildlife, especially endangered or threatened species. Examples of potential protection measures may include: moving the location of the burn to an area where listed species are not present; temporary employment of hazing techniques, if effective; and physical removal of individuals of listed species only under the authority of the trustee agency. A survey may not be necessary if USFWS and NMFS records indicate that the burn and adjacent areas do not contain federally-listed species, or lack the appropriate habitat. USFWS and/or NMFS will be contacted in order to decide if a survey is necessary.

9. In-situ burning is advised only when the meteorological and sea conditions are operationally favorable for a successful burn. The FOSC will give due consideration to the direction of the wind, and the possibility of the wind blowing precipitate over population centers or sensitive resources onshore. A safety margin of 45 degrees of arc on either side of predicted wind vectors should be considered for shifts in wind direction.

10. Any use of in-situ burning requires that a post-incident report be provided by the FOSC, or a designated member of the FOSC's staff, within 45 days of in-situ burning operations. Recommendations for changes or modification to this guidance should be presented in the report, if appropriate. This report will be presented at a Region III RRT meeting, if requested by the RRT.

11. In emergency situations (human health or safety at immediate and serious risk), there may not be ample time to prepare a written document and submit it to the FOSC requesting that a burn be stopped. Verbal cease burn requests may be accepted in emergencies, but must be followed by an immediate written confirmation.

SECTION IV

Appendices

I. **Region III Area Zone Map**

II. **Letters of Agreement**

III. **ISB Monitoring Program Within Region III**

IV. **Equipment Lists**

V. **Decision Tree, Application/Checklist**

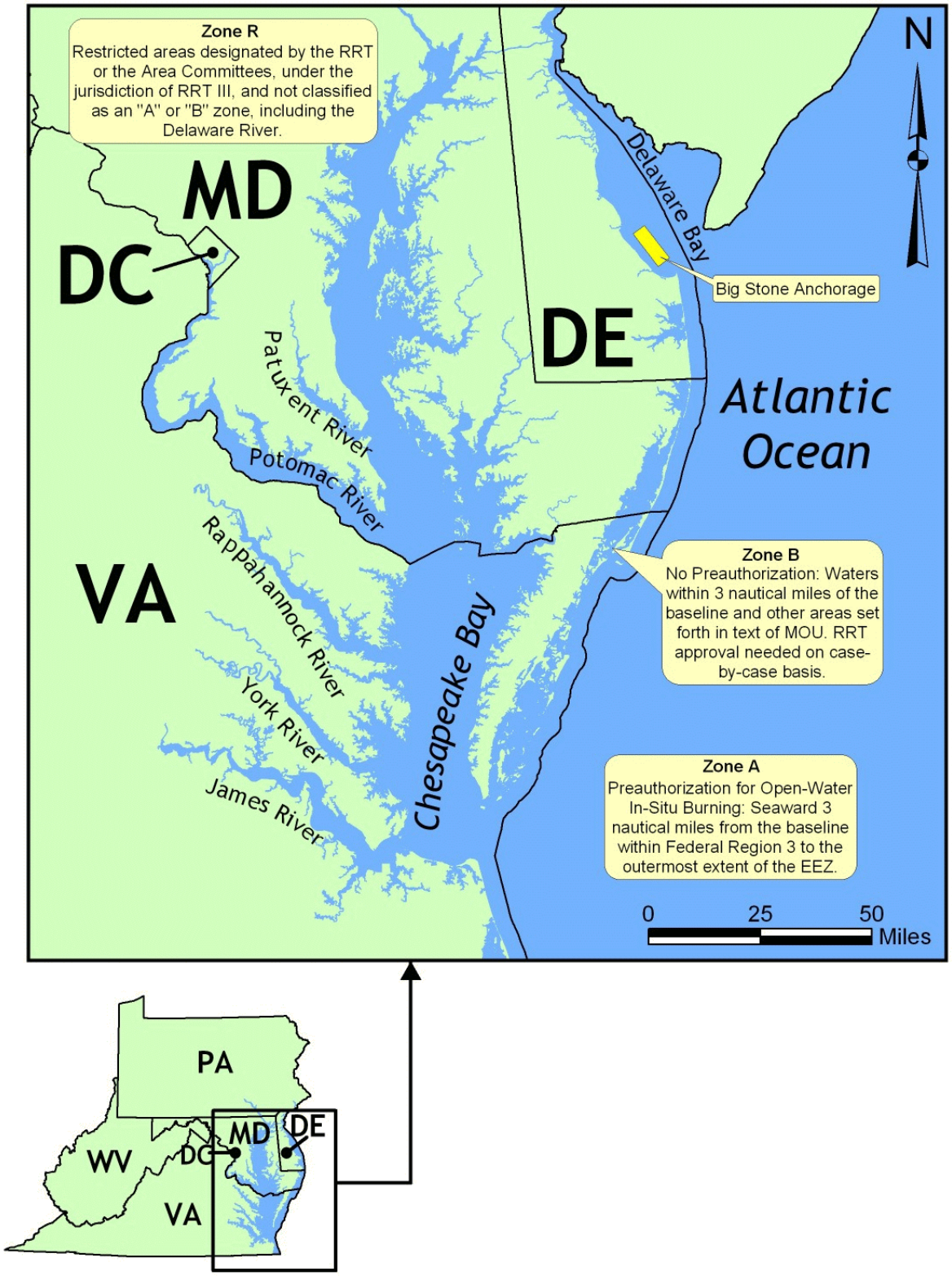
THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX I

REGION III AREA ZONE MAP

THIS PAGE INTENTIONALLY LEFT BLANK

ZONES WITHIN REGION III



THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX II

LETTERS OF AGREEMENT

THIS PAGE INTENTIONALLY LEFT BLANK

DELAWARE

OFFICE: Delaware Department of Natural Resources and Environmental Control
89 Kings Highway
Dover, DE 19901

REQUESTS FROM THE FEDERAL ON-SCENE COORDINATOR TO USE IN-SITU BURNING SHALL BE DIRECTED TO: John Morman

(302) 739-3964 (7:30AM – 5:00PM)
(800) 662-8802 (24 Hours)

PROCEDURES:

State personnel will obtain the necessary input from the Air and Water Quality Sections, Emergency Management, Marine Fisheries, U.S. Coast Guard, etc. and then notify the FOSC of the State's decision.

INFORMATION TO BE PROVIDED BY THE FOSC/RESPONSIBLE PARTY:

Completion of the checklist contained in Appendix VI of this plan will be accepted as meeting the State's information requirement.

TIME NEEDED TO REACH A DECISION: Minimum of four hours.

A DECISION WILL BE MADE ON A CASE-BY-CASE BASIS.

DISTRICT OF COLUMBIA

OFFICE: District of Columbia Department of Health
800 9th Street, S.W.
Washington, D.C. 20002

District of Columbia Department of Health - Emergency Management
Reeves Government Center, 2000 14th Street, NW, 8th Floor
Washington, D.C. 20009

REQUESTS FROM THE FEDERAL ON-SCENE COORDINATOR TO USE IN-SITU BURNING SHALL BE DIRECTED TO: Dr. Michele Penick

(202) 673-2101 (24 hours)

PROCEDURES:

State personnel will obtain the necessary input from the Air and Water Quality Sections, Emergency Management, Marine Fisheries, U.S. Coast Guard. Etc. and then notify the FOSC of the State's decision.

INFORMATION TO BE PROVIDED BY THE FOSC/RESPONSIBLE PARTY:

Completion of the checklist contained in Appendix VI of this plan will be accepted as meeting the State's information requirement.

TIME NEEDED TO REACH A DECISION: Minimum of four hours.

A DECISION WILL BE MADE ON A CASE-BY-CASE BASIS.

MARYLAND

OFFICE: Maryland Department of Natural Resources
Tawes Sate Office Building
580 Taylor Avenue
Annapolis, MD 21401

Maryland Department of the Environment
2500 Broening Highway
Baltimore, MD 21224

REQUESTS FROM THE FEDERAL ON-SCENE COORDINATOR TO USE IN-SITU BURNING SHALL BE DIRECTED TO: Alan Williams

(410) 974-3551 (7:30AM – 5:00PM)
(410) 974-3551 (After hours pager)

PROCEDURES:

State personnel will obtain the necessary input from the Air and Water Quality Sections, Emergency Management, Marine Fisheries, U.S. Coast Guard. Etc. and then notify the FOSC of the State's decision.

INFORMATION TO BE PROVIDED BY THE FOSC/RESPONSIBLE PARTY:

Completion of the checklist contained in Appendix VI of this plan will be accepted as meeting the State's information requirement.

TIME NEEDED TO REACH A DECISION: Minimum of four hours.

PENNSYLVANIA

OFFICE: Department of Environmental Protection
Environmental Emergency response
PO Box 2063
Harrisburg, PA 17105-2063

REQUESTS FROM THE FEDERAL ON-SCENE COORDINATOR TO USE IN-SITU BURNING SHALL BE DIRECTED TO THE APPROPRIATE REGIONAL OFFICE:

Southeast Region: Ron Drake	**(610) 832-6000**
Southcentral Region: Kerry Lieb	**(717) 705-4741 (Work Hours)**
	(877) 333-1904 (After Hours)
Southwest Region: Don Bialosky	**(412) 442-4000 (24 Hours)**
Northeast Region: Len Insalaco	**(570) 826-2511 (24 hours)**
Northcentral Region: Bob Fisher	**(570) 327-3636 (24 Hours)**
Northwest Region: Dan Holler	**(814) 332-6816 (Work Hours)**
	(800) 373-3398 (After Hours)

If Regional contact is unavailable:
Charlie High **(717) 787-4343 (24 Hours)**

PROCEDURES:

State personnel will obtain the necessary input from the Air and Water Quality Sections, Emergency Management, Marine Fisheries, U.S. Coast Guard. Etc. and then notify the FOSC of the State's decision.

INFORMATION TO BE PROVIDED BY THE FOSC/RESPONSIBLE PARTY:

Completion of the checklist contained in Appendix VI of this plan will be accepted as meeting the State's information requirement.

TIME NEEDED TO REACH A DECISION: Minimum of four hours.

A DECISION WILL BE MADE ON A CASE-BY-CASE BASIS.

VIRGINIA

OFFICE: Department of Conservation and Recreation
Division of Natural Heritage
217 Governor Street, 3rd Floor
Richmond, VA 23219

Department of Environmental Quality
P.O. Box 10009
Richmond, VA 23240-0009

REQUESTS FROM THE FEDERAL ON-SCENE COORDINATOR TO USE IN-SITU BURNING SHALL BE DIRECTED TO: Janet Queisser

(804) 698-4268 (7:30AM – 5:00PM)
(804) 527-5020 (24 Hours)

PROCEDURES:

State personnel will obtain the necessary input from the Air and Water Quality Sections, Emergency Management, Marine Fisheries, U.S. Coast Guard. Etc. and then notify the FOSC of the State's decision.

INFORMATION TO BE PROVIDED BY THE FOSC/RESPONSIBLE PARTY:

Completion of the checklist contained in Appendix VI of this plan will be accepted as meeting the State's information requirement.

TIME NEEDED TO REACH A DECISION: Minimum of four hours.

A DECISION WILL BE MADE ON A CASE-BY-CASE BASIS.

WEST VIRGINIA

OFFICE: West Virginia Department of Natural Resources
State Capitol Complex, Building 3
1900 Kanawha Boulevard
Charleston, WV 25305-0060

REQUESTS FROM THE FEDERAL ON-SCENE COORDINATOR TO USE IN-SITU BURNING SHALL BE DIRECTED TO: Thomas Fisher

(304) 558-5989 Ext. 222 (7:30AM – 5:00PM)
(800) 642-3074 (24 Hours)

PROCEDURES:

State personnel will obtain the necessary input from the Air and Water Quality Sections, Emergency Management, Marine Fisheries, U.S. Coast Guard. Etc. and then notify the FOSC of the State's decision.

INFORMATION TO BE PROVIDED BY THE FOSC/RESPONSIBLE PARTY:

Completion of the checklist contained in Appendix VI of this plan will be accepted as meeting the State's information requirement.

TIME NEEDED TO REACH A DECISION: Minimum of four hours.

A DECISION WILL BE MADE ON A CASE-BY-CASE BASIS.

APPENDIX III

ISB MONITORING PROGRAM
WITHIN REGION III

THIS PAGE INTENTIONALLY LEFT BLANK

ISB Monitoring Program within Region III

In-situ burning means the controlled burning of oil "in place." While this technique requires specialized equipment, it requires less labor than most other techniques and can be applied in areas where other methods can not be used. In-situ burning is subject to some of the same limitations as mechanical removal; since a boom is used to contain the oil, the same wind and sea limitations apply. Burning can quickly remove large quantities of oil, and the need for recovery and storage is minimized.

In-situ burning of oil primarily produces carbon dioxide and water vapor. About 90% to 95% of the carbon product is released to the atmosphere as carbon dioxide, while particulates commonly account for about 5% to 10% of the original volume burned. In addition, about half of the particulates are soot. Soot is responsible for the black appearance of the smoke plume. Gaseous pollutants are emitted, such as carbon monoxide, sulfur dioxide, and nitrogen, in minor amounts. Some polynuclear aromatic hydrocarbons (PAHs) are emitted. The amount released is less than the amount in the original oil.

The Region III RRT has adapted the current USCG National Strike Force monitoring program for ISB operations to allow for timely utilization of this response tool and to insure the availability of the monitoring results to the FOSC and the Federal and State Trustees involved in the response. This program is designed for assets and logistical capabilities that are provided in this region by the scientific support team.

The USCG National Strike Force has been chosen for this task because of their proven ability to quickly respond to the FOSC's technical needs during an oil spill incident with properly trained and equipped personnel and logistical support. Having a government agency accomplish this task is partially dictated by the operational need for such monitoring data sets to remain in the public domain in order to insure timely availability and objective presentation of the data to the FOSC.

The USCG National Strike Force will perform the actual on-site monitoring to collect the raw data with the guidance of the scientific support team. The scientific support team will assist in monitoring, analysis of the data, and forwarding of the results to the FOSC in a timely manner.

The monitoring program is designed to enhance the decision making process undertaken by the FOSC during the use of in-situ burning in fulfillment of his/her responsibility to insure appropriate and timely response to mitigate the effects of oil spills, as established by the Clean Water Act and defined by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. This monitoring program is established to attempt to provide the FOSC with logical "Continue/Discontinue" input during actual operations involving in-situ burning.

Since the monitoring protocols are constantly undergoing revision and change due to improvements and enhancements made to the available technology and monitoring practices, the actual monitoring procedures and process are held under separate cover; however, a general description of the ISB monitoring process is provided in the following paragraphs.

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.

A more detailed description of the SMART process can be found at the National Oceanographic and Atmospheric Administration's website, at the following location:

http://response.restoration.noaa.gov/oilaids/SMART/SMARTtour/SMARTtour.html

APPENDIX IV

EQUIPMENT LISTS

IN-SITU BURNING EQUIPMENT STOCKPILE
SUMMARY TABLE (May 2001 - July 2002)

The OSRO equipment list has been provided as an attachment to this document, on magnetic media for the reader's convenience. The database is in Microsoft Access format and is usable on any PC that has Microsoft Access. If the reader does not have Access, the database is also available in FoxPro 2 format, from the U.S. Coast Guard National Strike Force Website:

http://www.uscg.mil/hq/g-m/nmc/response/osrodata.htm

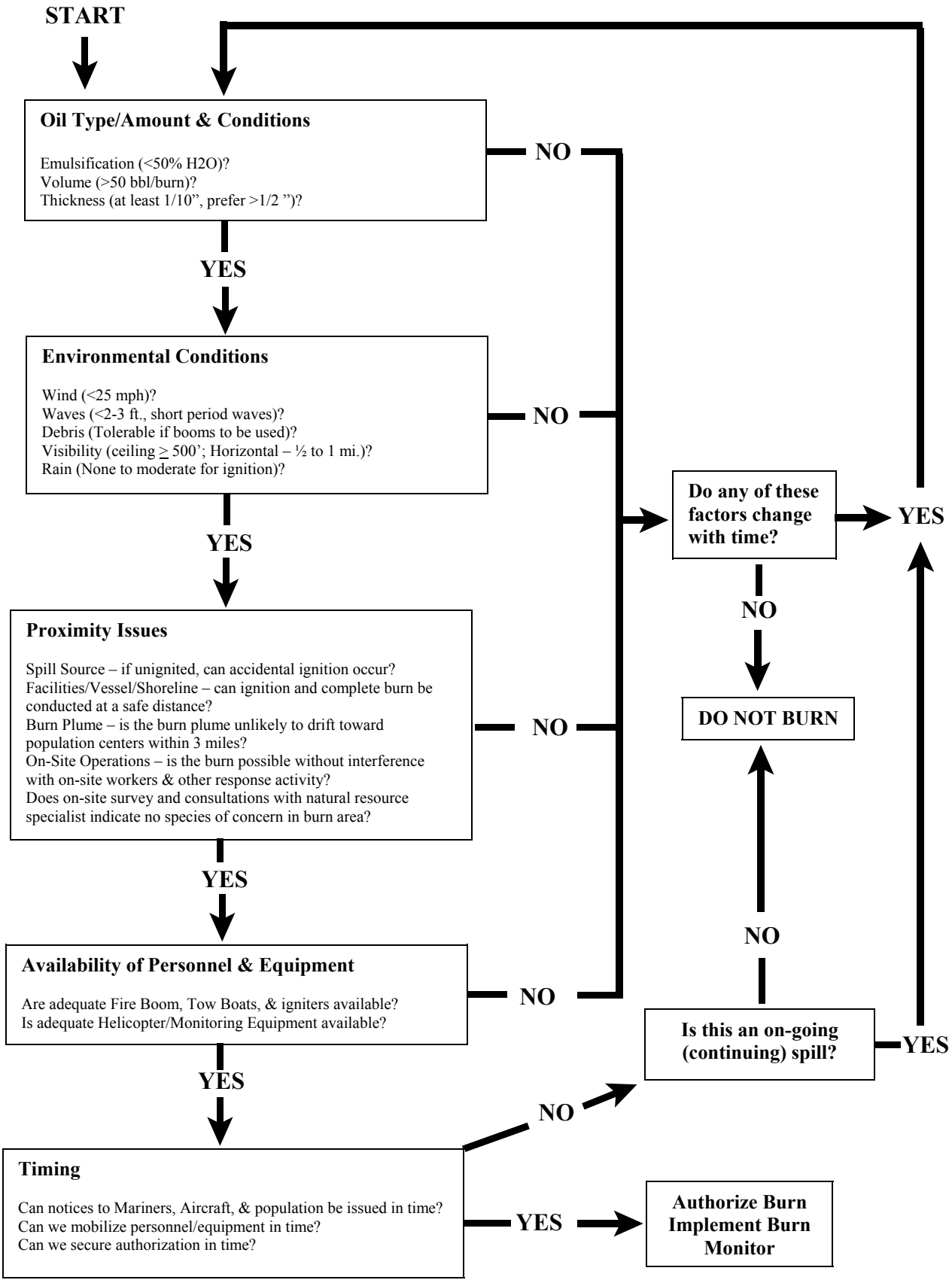
THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX V

DECISION TREE
AND APPLICATION/CHECKLIST FORMS

THIS PAGE INTENTIONALLY LEFT BLANK

Decision Tree



OIL SPILL RESPONSE APPLICATION/CHECKLIST: IN-SITU BURNING

The following checklist is provided as a summary of important information to be considered by the Federal On-Scene Coordinator (FOSC) in reviewing any request to conduct in-situ burning in response to offshore oil spills within the Region 3 Regional Response Team area. This information shall be provided prior to approval of in-situ burning in all zones that are not pre-authorized. The information must be recorded for information and documentation purposes for any offshore ISB.

1. SPILL DATA (To be completed by Responding Party and submitted to OSC)

A. Name of incident: _____

B. Date and time of incident: Month/Day/Year _____ Time _____

C. Incident: Grounding ____ Transfer Operations ____ Collision ____
Blowout ____ Pipeline Rupture ____ Explosion ____ Other ____

D. Did spill source ignite? Yes _____ No _____
Is source still burning? Yes _____ No _____

E. Spill Location: Latitude _____ Longitude _____

F. Distance (in miles) and direction to nearest land: _____

G. Product(s) released: _____

H. Product(s) easily emulsified? Yes _____ No _____ Uncertain _____

I. Product(s) already emulsified upon release? No _____
Light emulsion (0-20%) _____ Moderate emulsion (21-50%) _____
Heavy emulsion (>51%) _____ Unknown _____

J. Estimated volume(s) of product released: _____ gals / bbls

K. Estimated volume(s) of product that could still be released:

_____ gals _____ bbls _____
_____ gals _____ bbls _____

L. Release status: Continuous _____ Estimated Rate _____
Intermittent _____

One time only ("batch" spill); flow now stopped _____

M. Estimated area of spill:

Approx. Date/Time _____ Surface Area _____ Sq. Miles (Stat ___ Naut. ___)
Approx. Date/Time _____ Surface Area _____ Sq. Miles (Stat ___ Naut. ___)
Approx. Date/Time _____ Surface Area _____ Sq. Miles (Stat ___ Naut. ___)

2. WEATHER AND WATER CONDITIONS AT TIME & LOCATION OF SPILL (To be completed by Responding Party and submitted to FOSC)

A. Temperature: Air _____ (deg. F) Water _____ (deg. F)

B. Weather: Clear _____ Partly Cloudy _____ Heavy Overcast _____
Rain _____ (heavy _____ moderate _____ light _____)
Fog _____ (type & amount at spill source _____)
(type & amount at burn site _____)
Air Quality/Ozone Alert Status (if applicable) _____

C. Tidal Condition: Slack Tide _____ Flood _____ Ebb _____

D. Dominant Surface Current (net drift):
Speed _____ (knots)
Direction (to) _____ (True compass heading)

E. Wind Speed: _____ knots Wind Direction (from) _____

F. Expected transition time between on-shore & off-shore breeze

_____

G. Sea State: Flat Calm _____ Light Wind-Chop _____
Wind-Waves: <1 ft _____ 1-3 ft _____ >3 ft _____
Swell (est. height in ft) _____

H. Water Depth (in feet): _____

I. Other Consideration:
General Visibility _____
Rip Tides/Eddies _____
Floating Debris _____
Submerged Hazards _____

Notes: See Section II Part I for weather and water conditions forecast (to be completed by NOAA Scientific Support Coordinator)

See Section III Part II for predicted oil behavior (to be completed by NOAA SSC)

Responding party has option of also submitting information on predicted oil behavior to OSC.

3. PROPOSED BURNING PLAN (To be completed by Responding Party)

A. Location of proposed burn with respect to spill source:

_____

B. Location of proposed burn with respect to nearest ignitable oil slick(s):

_____

C. Location of proposed burn with respect to nearest land:

_____

D. Location of proposed burn with respect to commercial fishing activity, vessel traffic lanes, drilling rigs and/or other marine activities/facilities:

_____

_____

_____

E. Risk of accidental (secondary) fires:

_____

F. Risk of reducing visibility at nearby airstrip(s) or airport(s): (Coordinate with local FAA Flight Service Station, if applicable)

_____

G. Distance to, location and type of nearest population center(s) (e.g., recreational site, town, city, etc.):

_____

H. Methods that will be used (prior to ignition) to notify residents in areas where smoke could conceivably drift into or over such areas (notify local Air Quality representative):

_____

I. Type of igniter proposed for use:

_____

J. Helicopter(s) needed to deploy igniters? No _____ Yes _____
Name of company and type of helicopter to be used:

_____

FAA approval already granted to company for use of igniter:
Yes _____ No _____

Awaiting FAA approval or verification of prior approval _____

K. Burning promoters or wicking agents proposed for use?
Yes _____ No _____
If yes, give type and amount: _____

L. Describe proposed method of deployment for igniter(s)

_____
Burning Promoter(s):

_____
Wicking Agent(s):

_____

M. Describe method for oil containment, if any:

_____

N. Proposed location of oil containment relative to spill source:

_____

O. Proposed burning strategy:

_____ Immediate ignition at or near source
_____ Ignition away form source after containment and movement to safe location
_____ Ignition of uncontained slick(s) at a safe distance
_____ Controlled burning in boom or natural collection site at/near shore
_____ Possible need for multiple ignition attempts

P. Estimated amount of oil to be burned:

_____

Q. Estimated duration of each burn: _____
Total possible burn period: _____

R. Estimated smoke plume trajectory:

_____

S. Method for collecting burned oil residue:

_____

T. Proposed storage & disposal of burned oil residue:

_____

4. WEATHER AND WATER CONDITION FORECAST FROM TIME OF SPILL (To be completed by NOAA SSC)

A. Wind Speed (knots):
24-hour projection: _____
48-hour projection: _____

B. Wind Direction (from):
24-hour projection: _____
48-hour projection: _____

C. Sea Condition:
24-hour projection:

Flat Calm _____ Light Wind-Chop _____
Wind-Waves: <1 ft _____ 1-3 ft _____ >3 ft _____
Swell (est. height in ft) _____

48-hour projection:

Flat Calm _____ Light Wind-Chop _____
Wind-Waves: <1 ft _____ 1-3 ft _____ >3 ft _____
Swell (est. height in ft) _____

D. Tidal Information:

Date _____ High (time/height) _____/_____
Low (time/height) _____/_____

Date _____ High (time/height) _____/_____
Low (time/height) _____/_____

Date _____ High (time/height) _____/_____
Low (time/height) _____/_____

Date _____ High (time/height) _____/_____
Low (time/height) _____/_____

E. Predicted Dominant Current (net drift):

Speed (knots): _____ Direction (to): _____

5. PREDICTED OIL BEHAVIOR (To be completed by NOAA SSC)

A. Unburned Oil Forecast:

Estimated trajectory (attach sketch if necessary):

_____

B. Expected area(s) and time(s) of land fall:

Location _____ Date/Time _____
Location _____ Date/Time _____
Location _____ Date/Time _____
Location _____ Date/Time _____

C. Estimated percent naturally dispersed and evaporated:

Within first 12 hours: _____
Within first 24 hours: _____
Within first 48 hours: _____

6. RESOURCES AT RISK (To be completed by resource agencies)

A. Habitats

Sheltered Tidal Flats _____
Coastal Marshes _____
Critical Habitats _____

B. Biological Resources

Are marine mammals, turtles, or concentrations of birds noted in the burn area?

Yes _____ No _____

Endangered/Threatened Species
Non-Endangered/Threatened Species

Are federally-listed plants, insects and invertebrates noted in the burn area?

Yes _____ No _____

Endangered/Threatened Species
Non-Endangered/Threatened Species

C. Historic and Archaeological Resources

_____

D. Commercial Harvest Areas

_____

7. ON-SCENE COORDINATOR'S EVALUATION OF RESPONSE OPTIONS (To be completed by OSC)

A. Is in-situ burning likely to result in the elimination of significant volumes of spilled oil?

Yes _____ No _____

B. Will the use of in-situ burning interfere with (or in any way reduce the effectiveness of) mechanical recovery and/or dispersant application?

Yes _____ No _____

Can in-situ burning be used safely, and with an anticipated overall reduction in environmental impact (compared with the decision not to burn)?

---

8. ON-SCENE COORDINATOR'S DECISION REGARDING IN-SITU BURNING (To be completed by FOSC)

A. _____ Do not conduct ISB

B. _____ ISB may be conducted in limited or selected areas

C. _____ ISB may be conducted as requested

Note: If the OSC approves of in-situ burning, local media and residents in areas within the potential smoke plume trajectory must be notified prior to initiating the burn.

Signature of OSC: _____

Printed Name of OSC: _____

Time and Date of Decision: _____

Concurrence of DOI (If ISB is considered in B and R Zones): _____

Time and Date of Concurrence: _____

ANNEX II

GUIDANCE FOR USE OF IN-SITU BURNING IN THE INLAND AREAS

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Contents
Annex II
Region III Regional Response Team
In-Situ Burning in the Inland Areas

THIS PAGE INTENTIONALLY LEFT BLANK

In-Situ Burning in the Inland Zone

The USCG, EPA, DOI, DOC, and the states have adopted in-situ burning as a tool to remove spilled oil from inland waters and lands within the jurisdiction of RRT III. For the purposes of this guidance, the Inland Zone is comprised of all non-coastal land areas, not including coastal marine estuaries, and land areas which fit the description given in 40 CFR 300.5, specifically "*the environment inland of the coastal zone excluding the Great Lakes and specified ports and harbors on inland rivers.*" The precise boundaries of the Inland Zone are determined by agreements between the EPA and the USCG.

Description

- This guidance covers the case-by-case use of in-situ burning in response to oil discharges occurring on inland waters and lands within the jurisdiction of the RRT III. This guidance includes protocols under which the FOSC in the inland zone may be granted authorization for using ISB.

Authority Required

- The FOSC, with the concurrence of the EPA, DOI and the USCG representatives to the RRT III, and with the concurrence of the state(s) and tribe(s) with jurisdiction over affected resources, and in consultation with the land manager/owner (private, state, federal), and DOC trustees' representatives to the RRT III, may authorize the use of ISB on oil spills.

- The FOSC must complete the Region III Inland ISB Evaluation and Response Checklist and submit it to RRT III for approval.

General Application Requirements

- ISB will be allowed only when it may enhance overall cleanup or protection efforts; or, after mechanical recovery is shown to be inadequate, infeasible, or may cause unacceptable additional impact to sensitive resources and habitats.

- Burn residue may need to be collected and disposed of following a burn. If this is the case, provisions must be made for collection and disposal of burn residue following the burn. Attachment 1 describes factors that may determine whether residue sinks or floats.

- ISB will be allowed only under the direction of a fire ecologist/practitioner. Burning will be conducted utilizing safe fire management techniques. All practical efforts will be made to control and contain the burn and prevent accidental or unplanned ignition of adjacent areas.

- ISB will occur primarily in wetland areas, inland waters, agricultural lands, lands void of vegetation, and grasslands. Burning will not occur in bottom land hardwood swamps or in forested areas unless otherwise recommended by the fire ecologist, the land manager/owner, and approved by the RRT.

Prior to ISB:

1) A survey will be conducted to determine if threatened or endangered species are present in the burn area or otherwise at risk from ISB operations. Appropriate specialists knowledgeable of threatened and endangered species and habitats in the area, will be consulted prior to conducting any ISB, and the conduct of surveys for the presence of federally listed species will be coordinated with the USFWS and the NMFS. A survey may not be necessary if USFWS and NMFS records indicate that the burn and adjacent areas do not contain federally-listed species, or lack the appropriate habitat. USFWS and/or NMFS will be contacted in order to decide if a survey is necessary.

2) Compliance with the Programmatic Agreement on the Protection of Historic Properties during Emergency Response Under the NCP will occur.

3) The DOI may accept responsibility for monitoring the effects of in-situ burning on biota.

- Any use of in-situ burning requires that a post-incident report be provided by the FOSC, or a designated member of the FOSC's staff, within 45 days of in-situ burning operations.

- Residue collection efforts could compact soils, change topography and interfere with natural regeneration of wetland plants. The FOSC should consult with the natural resource trustees on how best to collect burn residue in environmentally sensitive areas.

Health and Safety Issues

- The FOSC will notify and receive concurrence from adjacent land managers/owners and/or DOI land managers that administer properties adjacent to any ISB operation, prior to any ISB operation. The FOSC will also coordinate with State Air Quality representatives (State OSC or Regional Emergency Response Program Manager, or designee) in situations where ISB may occur in a designated Air Basin or outside of an Air Basin where smoke and/or odors may cross property lines.

- Operators: Assuring workers' health and safety is the responsibility of employers and the FOSC who must comply with all Occupational Health and Safety Administration (OSHA) regulations. Prior to any ISB operations, a site safety plan must be prepared and approved by the FOSC.

- Public: The burning should be stopped if it is determined that it becomes an unacceptable health hazard due to operational or smoke exposure concerns to responders or the general public. If at any time, exposure limits are expected to exceed national federal air quality standards in nearby populated areas, as a result of in-situ burning operations, then in-situ burning operations will immediately cease. The Level of Concern (LOC) for particulates for the general public is 150 ug/m^3 (PM-10) averaged over 1 hour. Certain jurisdictions may use additional crietria for consideration. For instance, the PADEP also uses a concurrent LOC of 350 ug/m^3 for a 24-hour average. For information purposes, Attachment 2 compares emission rates from the NOBE test burns

with other known sources.

- Burning will occur at a minimum of three miles from sensitive human population centers (i.e., hospitals, schools, day care, retirement, nursing homes). The FOSC will give due consideration to the direction of the wind, and the possibility of the wind blowing precipitate over population centers or sensitive resources. A safety margin of 45 degrees of arc on either side of predicted wind vectors should be considered for shifts in wind direction.

When to Use

- Consider in-situ burning under these conditions:
    - To remove oil to prevent it's spread to sensitive sites or over large areas.
    - To reduce the generation of oily wastes, especially where transportation or disposal options are limited.
    - Where access to the site is limited by shallow water, soft substrates, thick vegetation, or the remoteness of the location.
    - As a removal technique, when other methods begin to lose effectiveness or become too intrusive.
- Favorable conditions include:
    - Remote or sparsely populated sites (at least 3 miles from populated areas).
    - Fresh crudes or light/intermediate refined products which burn more readily and efficiently.
    - Mostly herbaceous vegetation, though some shrubs and trees are fire tolerant.
    - Areas void of vegetation, such as dirt roads, ditches, dry streambeds, idle cropland.
    - In wetlands, with an adequate water layer (at least 1") covering the substrate (prevents thermal damage to soil and roots, and keeps oil from penetrating substrate). However, a water layer is not mandatory, at a minimum, the soils should be water saturated (at least 70%).

Limiting Factors/Environmental Constraints

- Heavy, weathered, or emulsified oils may not ignite.
- A crust or residue is often left behind after burning and may need to be broken up or removed to speed restoration.

- Prolonged flooding of a burned wetland may kill surviving plants if they are completely submerged.

- Erosion may be a problem in burned areas if plant cover is reduced; short-term erosion control measures may be needed.

- The site may need protection from overgrazing, especially since herbivores may be attracted to new growth at burned sites.

- Thickness of the oil to be burned must be 2 to 3 mm.

Monitoring

- Monitoring in-situ burning for effectiveness is the responsibility of the FOSC; monitoring for effects on biota may be conducted by the trustees.

- All burns must incorporate visual monitoring at the burn site for safety and fire control and to record the disposition of burn residue. The burn site will be monitored for potential impact to natural resources in the area. Samples of the residue will be collected if feasible.

- Monitoring to establish "Continue/Discontinue" data for input to the FOSC will be conducted utilizing a tiered approach as outlined in the plan. An inability to conduct monitoring operations, except for visual monitoring, will not be grounds for discontinuing or prohibiting ISB operations.

- Describe and photograph the burn site before and after the burn, record detailed information on the burn, including duration, residue type and volume, water depth before/after the burn, visible impacts, post-burn activities (e.g., residue removal methods), restoration efforts and results, etc.

Waste Generation and Disposal Issues

- In-situ burning should significantly reduce the amount of oily wastes generated. Burn residue that is collected must be properly disposed of after the burn is completed.

Attachment 1

Residues from In-Situ Burning of Oil

Results from larger-scale laboratory and meso-scale field tests suggest that the most important factors determining whether an ISB residue will float or sink are:

1. **Water Density**

   Burn residues that are denser than the receiving waters are likely to sink. The density of fresh water is 0.997 g/cm3 at 25 degrees Celsius, and the density of seawater is 1.025 g/cm3.

2. **Properties of the Starting Oil**

   Studies predict that burn residues will sink in sea water when the burned oils have a) an initial greater density than about 0.0865 g/cm3 (or API gravity less than about 32) or b) a weight percent distillation residue (at >1000 F) greater than 18.6%. When these correlations are applied to 137 crude oils, 38% are predicted to sink in seawater, 20% may sink, and 42% will float.

3. **Thickness of the Oil Slick**

   Residues from burns of thick crude oil slicks are more likely to sink than residues from burns of thin slicks of the same crude oils, because higher-molecular weight compounds concentrate in the residue as the burn progresses.

4. **Efficiency of the Burn**

   Factors affecting burn efficiency include original slick thickness, degree of emulsification and weathering, areal coverage of the flame, wind speed, and wave choppiness. For efficient burns, removal efficiencies are expected the exceed 90% of the collected and ignited oil. Rules of thumb for predicting residue thickness are:

   - Un-emulsified crude oil up to 10-20mm thick, residue will be about 1mm thick.
   - Thicker slicks result in thicker residues (up to 3-6mm thick).
   - Emulsified oils can produce much thicker residues.
   - Light/medium refined products, the residue will be about 1mm thick, regardless of slick thickness.
   - Burn residues sink only after cooling. Models of cooling rates predict that ambient water temperature will be reached in less than five minutes for 3mm-thick residues, and in 20-30 minutes for 7mm-thick residues.

Attachment 2

Emission Rates from the NOBE Test Burns and Other Known Sources.

Substance	Average Emission Factor for NOBE (g/kg, fuel burned)	Emission Rate (kg/hr)	Comparable Emissions from Other Known Sources
$C0_2$	2,800	75,600	approx. 2-acre slash burn
CO	17.5	470	approx. 0.la slash burn or ~1,400 wood stoves
$S0_2$	-15	405	7400 kg/hr. (avg. coal-fired power plant)
Total smoke particle	150	4,050	approx. 9-acre slash burn or ~58,000 wood stoves
Sub-3.5 micro-meter smoke particle	3	3,050	approx. 9-acre slash burn
Sub-3.5 micro-meter soot	55	1,480	approx. 38-acre slash burn
PAHs	0.04	1.1	Approx. 7-acre slash burn or ~1,800 wood stoves

Region III Inland ISB Evaluation and Response Checklist

STEP 1: EVALUATING THE NEED FOR BURNING

Nature, Size, and Type of Product Spilled

A. Name of incident: _____

B. Date and time of incident: _____

C. Type of Incident: ___ Grounding
___ Transfer Operations
___ Explosion
___ Vehicle Accident
___ Blowout
___ Pipeline
___ Other

D. Did source burn? Yes ___ No ___
Is source still burning? Yes ___ No ___

E. Spill location: _____

F. Distance and direction to nearest human use areas: _____
(i.e., schools, hospitals, recreation areas, surface water intakes, public wells, etc.)

G. Product(s) released: ___ Heavy Crude
___ Bunker C/#6 fuel oil
___ Medium crude
___ Diesel/#2 fuel oil
___ Jet fuels/gasoline
___ Other

H. Estimated volume of released product: _____ gals _____ bbls

I. Estimated volume of potential release: _____ gals _____ bbls

J. Release status: _____ Continuous _____ Intermittent
One time only, now stopped? Yes ___No ___

If continuous or intermittent, specify rate of release:
_____ gals/bbls per hour

K. Estimated surface area covered _____ acres/sq. ft.

Weather: Current and Forecasted

A. Current Weather:
___ Clear
___ Partly Cloudy
___ Overcast
___ Rain/Snow/Fog
___ Inversion

24-hour projection: _____

48-hour projection: _____

B. Wind speed and direction are generally looked at three levels: Surface (measured at the site); 20 foot (these are usually the forecasted winds); and the transport winds. The transport winds determine where and how fast the smoke will go. These winds are generally given by the state forestry agency in the daily-prescribed fire or smoke management forecast. Transport wind speed, direction and mixing heights are critical components.

	Surface	Forecasted	Transport
Current Wind Speed (mph):	_____	_____	_____
Direction (from):	_____	_____	_____
24-hour projection (mph):	_____	_____	_____
Direction (from):	_____	_____	_____
48-hour projection (mph):	_____	_____	_____
Direction (from):	_____	_____	_____

Evaluation of Response Operations

A. Considering spill size, forecasted weather and trajectories, amount of available equipment, is there time to deploy mechanical recovery equipment? Yes___ No ___

B. Considering spill size, forecasted weather and trajectories, amount of available equipment, is there time to conduct burning operations? Yes ___No ___

C. Why is in-situ burning necessary?(check all that apply)

___ To remove oil to prevent it's spread to sensitive sites or over large areas.
___ To reduce the generation of oily wastes, especially where transportation or disposal options are limited.
___ Access to the site is limited by shallow water, soft substrates, thick vegetation, or the remoteness of the location.
___ Other removal methods have lost effectiveness or have become too intrusive.
___ Other (specify):

STEP 2: BURNING FEASIBILITY CHECKLIST

Weather and Oil Conditions

A. Are weather conditions acceptable to conduct burn operations? Yes___ No ___

B. Visibility: Sufficient to see oil, containment systems, and suitable for aerial overflight for burn observation? Yes___ No ___

C. Oil Condition: 1. Fresh oil,< 2-3 days exposure. Yes___ No___
2. >2-3 mm, (0.1 inch) thickness. Yes___ No ___

Habitats Impacted and Resources at Risk

A. Local public health official/agency notified and consulted? Yes ___ No ___

Name: _____

Address: _____

Phone: _____

B. Land Owner/Manager (federal/tribal/state/private) notified and consulted?
Yes ___ No ___

Name: _____

Address: _____

Phone: _____

C. Local Fire Management Officer/Fire Ecologist/State Forestry Commission consulted?
Yes ___No ___

Name/Agency: _____

Address: _____

Phone: _____

D. Historic Property Specialist pursuant to the Programmatic Agreement on Protection of Historic Properties During Emergency Response contacted? Yes ___No ___

Name: _____

Address: _____

Phone: _____

E. State Natural Resource Agency notified and consulted? Yes___No ___

Name/Agency: _____

Address: _____

Phone: _____

F. Federal Natural Resource Trustees notified and consulted

___ Department of the Interior
___ Tennessee Valley Authority
___ U.S. Forest Service
___ Department of Energy
___ Department of Defense
___ National Oceanic and Atmospheric Administration/Dept of Commerce
___ National Aeronautics and Space Administration
___ Other:

G. Native American interests present? Yes ___No ___ Unknown ___

Tribal contact:

Name: _____

Address: _____

Phone: _____

Bureau of Indian Affairs contact:

Name: _____

Address: _____

Phone: _____

H. Surface water intakes and wells (public and private): Yes ___No ___

I. Habitat Type(s) Impacted:

___ Wetlands
___ Estuarine
___ Riverine
___ Lacustrine
___ Palustrine
___ Agricultural lands
___ Other (specify):

J. Seasonal concerns: Yes ___ No ___
Comments:

K. Biological Resources Present:
(Describe significant issues such as large concentrations, breeding activities, rookeries, designated critical habitat, etc.)

1. ____ Threatened and Endangered Species, including plants (list):
2. ____ Mammals
3. ____ Waterfowl
4. ____ Wading Birds
5. ____ Diving Birds
6. ____ Shore Birds
7. ____ Raptors
8. ____ Fish
9. ____ Reptiles
10. ____ Amphibians
11. ____ Other
12. ____ Comments/Attachments (i.e., ESI Maps)

L. Natural Areas (list)

1. ____ National Park:
2. ____ National Wildlife Refuge:
3. ____ National Forest:
4. ____ State Park:
5. ____ State Wildlife Area:
6. ____ Other Natural Areas:
7. ____ Comments

M. Historic, Cultural, and Archeological Resources

___ Unknown
___ Not Present
___ Present

Equipment & Personnel

A. Has the burn area been isolated (e.g., by fire breaks)? Yes ___ No ___
Is there an approved site safety plan in place? Yes ___ No ___
Have local fire and police departments been notified? Yes ___ No ___

B. Are the appropriate fire fighting gear and personnel on-scene?
Yes ___ No ___

C. Is aircraft for ignition and aerial observation required? Yes ___ No ___
If yes, are they available? Yes ___No ___(Flight requirements: daylight hours; visibility >1 mile; ceiling >500 feet, FAA certified for helitorch)

D. Ignition System: 1. Available? Yes ___ No ___
2. Type/method to be used? _____
3. Burn Promoters? Yes ___No ___

E. Personnel trained, equipped with safety gear, & covered by
site health and safety plan? Yes ___No ___

F. Communications System to communicate with aircraft and fire fighters available and working?
Yes ___No ___

G. Is access to the site restricted to response personnel only? Yes ___ No ___

Proposed Burn Plan

A. Proposed burning strategy (circle appropriate responses)
1. Ignition away from source after containment
2. Immediate ignition at or near source
3. Ignition of uncontained slick(s) at a safe distance

B. Estimated amount of oil to be burned: surface area _____ sq ft
volume _____ gal/bbl

C. Estimated duration of burn in minutes: _____

D. Are simultaneous burns planned? Yes ___No ___If yes how many? _____

E. Are sequential or repeat burns planned (not simultaneous)? Yes ___No ___

F. Method for terminating the burn:

_____

G. Proposed method for ignition:

_____

H. Ability to collect burned oil residue: Yes ___ No ___

I. Estimated smoke plume trajectory (miles): _____

J. Monitoring protocols contained in SMART will be applied as appropriate.
Is additional monitoring required? Yes ___ No ___ If yes, attach additional monitoring needs and specify responsible agency.

STEP 3: IS BURNING ACCEPTABLE?

Evaluation of Anticipated Emissions

A. Using an appropriate chart, plot and calculate the following locations and distances:

1. Location of proposed burn in reference to source.

2. If on water, location of proposed burn in reference to nearest ignitable oil slick.

3. Location of proposed burn in reference to nearby human habitation/use areas,(e.g. towns, recreational use areas, airports/strips, roads, daycare centers, schools, hospitals, etc.).

B. Populations of special concern:

1. Schools ___
2. Hospitals ___
3. Retirement communities ___
4. Nursing/convalescence homes ___
5. Day care centers ___
6. Other ___

C. Determine the following:

1. Distance between proposed burn and spill source ____ (miles)

2. Distance between burn and human habitation/use area ____ (miles)

3. Approximate surface area of the proposed burn or burns ____ (sq. ft.)

4. Will impairment of visibility affect airports and/or highways? Yes ___ No ___

D. Can burning be conducted in a controlled fashion? Yes ___ No ___
Explain measures to reduce and/or control secondary fires.

_____

_____

E. Using a distance of miles with the forecasted wind and transport wind direction, plot the estimated smoke plume with particulate concentration >150 ug/m3.

F. Are additional pollutants of concern present in the smoke plum?
Yes ___No ___ If yes, what are the projected concentrations to human habitation areas?
* Consultation with local air and health authorities may be necessary.

G. Will the anticipated smoke plume disperse before reaching populated areas? Yes ___No ___

Determination of Acceptability

A. Does the estimated smoke plume potentially impact a populated area with particulate concentrations averaged over one hour exceeding 150 ug/m3? Yes ___No ___

If No, Burning is Acceptable, proceed to Step 4.

If Yes, continue with B.

B. Can the impacted population be temporarily relocated prior to burn?
Yes ___ No ___

If Yes, initiate warning or evacuation and authorize burning AFTER population is protected, proceed to Step 4. If No, do NOT authorize burning!

STEP 4: CONTROLS & CONDITIONS

Operational Controls, Required for All Burns

A. Forecasted weather, winds and atmospheric stability class obtained?
Yes ___ No ___

B. A trial burn may be necessary to observe and confirm anticipated smoke plume behavior.
* Trial burns must have RRT approval.

C. Safe downwind distance validated, or expanded if winds are inconsistent with anticipated forecast?
Yes ___No ___

D. Burn extinguishing measures in place and available? Yes ___No ___

Public Notifications

Public notification (e.g. radio broadcast to public, safety zone broadcast to mariners, road closure, etc.) implemented? Yes ___ No ___

Unified Command Request to the RRT For In-situ Burning

Additional conditions that apply: Yes ___ (Attached) No ____

_____ _____
Signature of Federal On-Scene Coordinator Printed Name

_____ _____
Signature of State On-Scene Coordinator Printed Name

Does Land Owner/Manager Concur? Yes ____ No ____

_____ _____
Signature of Land Owner/Manager Printed Name

RRT Decision Regarding In-situ Burning

A. ____ Do not conduct ISB
B. ____ In-situ burning may be conducted pursuant to attached conditions
C. ____ In-situ burning may be conducted as requested in Step #3

_____ _____
Signature of EPA Co-Chair Printed Name

_____ _____
Signature of USCG Co-Chair Printed Name

_____ _____
Signature of DOI Representative Printed Name

_____ _____
Signature of Affected State(s) Printed Name

_____ _____
Signature of Other Federal Trustee(s) Printed Name