
Southeast Louisiana Area Contingency Plan

Section 9000
Appendix Y
Natural Disaster
Response Plan

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Natural Disaster Response Plan

Background

Oil and chemical production and storage facilities in southeastern Louisiana are susceptible to dangerous hurricanes and severe weather. More than 30 hurricanes have passed close to the Louisiana coastal zone in the last century, causing severe damage from wind and storm surge. On average, a tropical storm or hurricane is expected to strike somewhere along Louisiana's coast about once a year. Louisiana's flat coastal zone makes tropical storms and hurricanes especially dangerous. Storm surge pushed by an approaching hurricane can reach heights of more than 20 feet and spread far inland, devastating anything in its path. After a hurricane, access to most of southeastern Louisiana is very difficult as the roads and supporting infrastructure are either flooded or destroyed by the storm. High water, waterways closures, and obstructions, in what were deemed as safe navigable waters prior to the hurricane, eliminate many conventional transportation methods.

Unlike most oil discharges and chemical releases, where there is a single point source at one location from which the spill spreads, the pollution associated with hurricanes and tropical storms are usually widespread throughout more than 2,500 square miles of southeastern Louisiana, due to wide distribution of oil and chemical production activities within the State. In addition to pollution from production facilities, oil storage tanks, and pipelines, there will typically be smaller discharges of refined oil products such as diesel fuel and gasoline from fishing vessels, small fuel storage tanks, as well as trucks and automobiles. In addition to the massive amounts of oil spilled, the total destruction caused by a storm can leave tens of thousands of containers of industrial hazardous materials and household hazardous waste dispersed throughout the area.

Pollution response, under the umbrella of the National Response Framework (NRF), will be successful because of the plans, capabilities, and partnerships forged in accordance with the National Contingency Plan (NCP), combined with the effective use of the Incident Command System (ICS). However, the NCP should not get lost in the shuffle of the massive federal, state and local response associated with the full implementation of the NRF.

One of the most essential keys to successfully responding to a natural disaster is effective management of large amounts of discrete pollution targets at one time. Incident management teams must ensure that the data management tools

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selected can be continuously changed or updated to suit the dynamic information needs of the response and be scalable

Funding Authorities

FEMA Mission Assignments

When a natural disaster is of such magnitude that a State government's resources are overwhelmed, the State may request Federal response assistance to supplement ongoing disaster relief activities. The reimbursement of Federal agency expended funds in support of Federal Emergency Management Agency (FEMA) disaster relief efforts is permitted when support is provided under a Mission Assignment (MA). A MA is a work order issued to a Federal agency by FEMA directing the completion of a specific task, and citing funding, management controls, and guidance. Although most agencies assigned a MA will be reimbursed for their efforts, the possibility exists under the Stafford Act that FEMA can task agencies without expectation of reimbursement. MAs are directives issued by FEMA; they are not contracts or Interagency Agreements (IAAs) but they are an agreement between FEMA and the responding agencies. In most cases, MAs are issued only for assistance under the Stafford Act, not for assistance provided that would normally fall under an agency's independent authorities or responsibilities. For example, the Coast Guard would not receive an MA for search and rescue activities conducted offshore after a hurricane because this would be a mission conducted under the Coast Guard's statutory authority.

MAs are typically assigned by FEMA to address actions required under one of the 15 different Emergency Support Functions (ESFs) described in the NRF. The NRF establishes a comprehensive all-hazards approach to enhance the ability of the Federal government to manage domestic incidents. Consequently, the ESFs are categorized around the major response and recovery functions associated with an incident, such as ESF 1 – Transportation, ESF 9 – Search and Rescue, and ESF 10 – Oil and Hazardous Materials. The Coast Guard has primary for ESF 9 and ESF 10. Therefore, the Coast Guard may receive tasking by FEMA under several MAs for different ESFs; e.g. an air station launches a helicopter to provide damage assessments for FEMA (ESF-5 Emergency Management) and launches a second helicopter to provide transportation (ESF-7 Logistics Management and Resource Support) for disaster personnel and supplies.

Oil Spill Liability Trust Fund (OSLTF)

The (OSLTF) pays for removal costs and damages resulting from oil spills or substantial threats of oil spills to navigable waters of the United States. The

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OSLTF is used for costs not directly paid by the polluter, referred to as the responsible party (RP). The fund is also used to pay, costs to respond to "mystery spills," for which the source has not been identified. Since mystery spills are anticipated before a storm impacts southeast Louisiana, it's likely the FOSC will have a relatively small OSLTF funding stream open to get contracted resources deployed as quickly possible after the storm passes. The ceiling limit on this OSLTF project will vary depending on the needs of the response and how soon a mission assignment can be issued to take over the costs. It's likely that responsible parties, natural resource trustees and other third parties will submit claims against the OSLTF after the storm.

Comprehensive Environmental Response, Compensation, and Liability ACT (CERCLA)

CERCLA enables Federal agencies to respond immediately to hazardous substance releases and contamination problems that pose a threat to public health and the environment. Removal costs are recovered from the RP(s) by EPA. Post-storm, the threat to public health will be prevalent as citizens return to their parishes after the flooded and impacted areas are accessible, and orphaned containers have been deposited in yards, schools and playgrounds, places of employment, and various other locations easily accessible to the general population. Threats to the environment exist when orphaned containers are deposited into the wetlands, wildlife refuges, and many other sensitive ecosystems. Additional threats include releases from chemical facilities, chemical transfer facilities, and various other facilities that use, produce, transport, or have a supply of hazardous substances. The Superfund was designed to address discrete incidents and not multiple chemical releases across a large region. Hence, the full impact of hazardous substances to the public and the environment cannot be ascertained in totality with limited CERCLA funding. For HAZMAT, an ESF-10 mission assignment is *critical* to completing a comprehensive needs assessment and mitigating all actual and potential releases of hazardous substances that are an imminent and substantial threat to the coastal zone.

The highest priority HAZMAT targets will be those that are actively leaking, an imminent threat to public health or welfare and/or have actual or potential impact to navigable waterway. Where the responsible parties are known, an effort initially shall be made, to the extent practicable, to determine whether they can and will perform the necessary removal action promptly and properly.

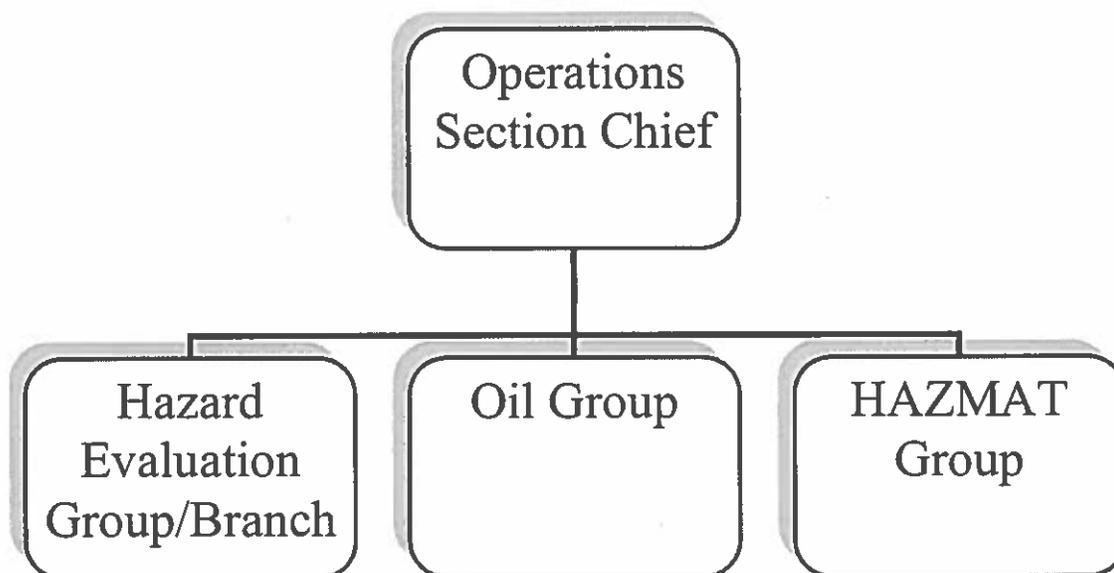
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ICS Positions

Oil and hazardous material data needs to be collected into a central response database in order to track all targets for prioritization, management of resources and situational awareness. The following positions play a critical role in the collection and dissemination of target data for operational decision making.

Operations Section



Hazard Evaluation (HEG) Group/Branch evaluates the impacted areas to determine the magnitude of the event, map the geographical boundaries of the event, and identify immediate threats to public health and the environment during the initial phase of a response. The HEG Group will determine the most heavily impacted areas, assess critical infrastructure (e.g. public water supplies and wastewater treatment facilities) and facilities for damage. Any active releases and discharges will be reported back to command as quickly as practicable. A secondary function is to identify locations for Incident Command Post (ICP), Forward Operating Bases (FOB) and determine operational challenges (roadways destroyed and areas of flooding, etc). Once the initial assessments are complete, the HEG conducts detailed evaluation and documentation of oil and hazardous material targets to direct ground forces and determine operational requirements. As the response dictates, HEG members will merge with other Operation Section branches or

Hazard Evaluation Group
Leader: USCG/DEQ
Members: Federal & State Reps

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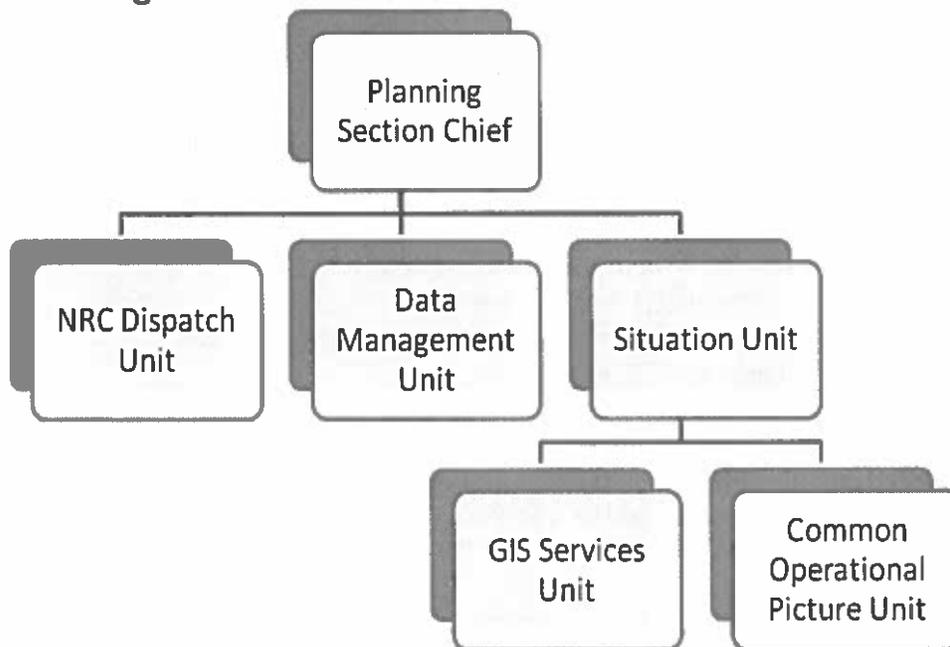
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transition to SCAT teams in the Environmental Unit to utilize their situational knowledge.

OIL/HAZMAT Groups are responsible for ensuring that oil discharges and hazmat releases are properly mitigated and/or recovered. Each group will have their own supervisor.

Group Leader: USCG/DEQ Members: Federal & State Reps

Planning Section



NRC Dispatch Unit (NRC Dispatch) is within the Planning Section and works in close coordination with the Data Management Unit (DMU). The NRC Dispatch is responsible for monitoring the NRC inbox and conducting initial investigations on all reported discharges/releases reported via the NRC. After investigation, the NRC will prioritize the targets and refer the information to the DMU for further clarification/prioritization. Sources of information outside Operations Section (Command Center, SCAT, entities outside official response, etc...), will debrief with the NRC Dispatch Unit and NRC Dispatch Unit will ensure all information is reported to the NRC via online reporting (www.nrc.uscg.mil) or telephone (1-800-424-8802). The NRC Dispatch may encourage secondary reporters to call/report to the NRC; however, the ultimate responsibility lies with the NRC Dispatch Unit. The NRC Dispatch Unit

NRC Dispatch Unit Leader: USCG NRC Dispatchers: USCG x2

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will debrief with all sources of information outside Operations Section and conduct data entry into the response database. The NRC Dispatch Unit will be staffed with Coast Guard members. These members must be proficient in data entry as well as competent in performing thorough initial investigations.

Data Management Unit (DMU) is within the Planning Section and is responsible for compiling data submitted by field teams, disseminating information to end users, generating reports and overall management of the response database. **The Data Management Unit is not responsible for data entry or primary Quality Assurance and Quality Control (QA/QC).**

Data Management Unit Leader: NOAA Members: USCG/DEQ

The Operations Section and NRC Dispatch Unit must take ownership over data entry and work with the Data Management Unit to ensure their work is being captured correctly. When the DMU receives information of new oil and hazardous material targets/threats, the information will also be referred to the NRC Dispatch Unit for proper reporting. Operations Section will have several DMU members attached to them to ensure field personnel properly input data and QA/QC is conducted prior to submission to DMU.

Work Schedule: DMU will work hours similar to Operation Section to ensure cohesive flow of data from field to the SOD, some offsetting of hours may be necessary to avoid burnout and optimize usage of man hours. When down time exists, cooperation with NRC Dispatch Unit should occur.

Geographic Information Systems (GIS) Services Unit (GSU) is subordinate to Situation Unit (SIT) and provides mapping services, such as generating maps for field teams, supplying the Common Operational Picture (COP) and managing GPS/photographic data from field teams. GSU will be staffed by two NOAA GIS technicians and at least one USCG person with familiarity with GIS and/or COP. **Work Schedule:** GSU Leader and Deputy will work 1200 to 2400 to handle the data flow. The NOAA member of DMU can handle GIS demands during morning hours. The COP Manager will work similar hours to Situation Unit Leader and support the proper usage of the COP during briefings.

GIS Services Unit Leader: NOAA Deputy: NOAA

Display Processor (DPRO) is subordinate to the Situation Unit Leader (SITL) and manages incident status information obtain from FOBS, resource status reports, photographs, videos and other imagery. Provide the overall Common

Display Processor Leader: USCG

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Operational Picture by developing required displays in accordance with time limits for completion. This includes GIS information, demographic information, incident projection data, etc.

Other Units

Other Units that can contribute valuable field data to the response (i.e. SCAT, Wildlife, NGO's) should work directly with the NRC Dispatch Unit to ensure proper inputting/updating of data. The NRC Dispatch Unit will ensure that submissions are incorporated into the response database by the Data Management Unit. These other contributors should not go directly to the DMU. to the size and scope

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TAB A – Data Management Plan

Summary

The pollution response component of a natural disaster response presents a set of challenges unlike other pollution responses. The pollution threats are numerous and spread over a large geographic area. The multitude of pollution targets can be from a variety of sources, including wellheads, facilities, orphan containers or vessels. Effective data management is critical during a multi-target response in order to ensure appropriate use of resources. The follow document is to help ensure the success of data management during a natural disaster response.

Procedures for Field Data Documentation

Field documentation is critical for the success of any response, either for a single barrel of oil being discharged by a vessel or for a large scale Type 1 incident. The command cannot make sound decisions without sound data flowing from the field. To that end, the field personnel are responsible for ensuring quality data is being captured in the field.

Data Fields and Valid Values

Data fields are the pre-determined pieces of information that the response wants to capture and valid values are the acceptable inputs for those data fields. Agreement on the data fields and their valid values is critical to ensure the response is getting the data it needs to make decisions. Once an agreement is reached, the field data collection forms, response database and other deliverables are created to meet the needs of the response. The data fields and valid values discussed within this plan are considered a minimum description of oil and hazardous material target and DOES NOT alleviate the need for traditional investigation, SCAT, reporting to NRC and required documentation of a target. The data fields, valid values and resulting products are intended to capture baseline data for Unified Command and Operations Section to properly manage their resources and mitigate oil and hazardous material threats during a post-natural disaster response with multiple targets.

Unique Identifier

A unique identifier is an alpha-numeric label identifies a particular target for tracking purposes. The NRC number usually plays this role, but during a post-natural disaster response, an NRC number might not be immediately available. As a gap fill, a temporary unique identifier for each target shall be assigned in the

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following format: YYYYMMDD_Team Name_Daily Number. For example: 20121006_HEG2_002 = the second target found by HEG Team 2 on Oct 06, 2012.

The unique identifier should not change over time and should not change as teams subsequently visit the same target. After the first assessment, if a team goes back out or the item is mitigated they should be referencing the unique identifier. For continuity and ease of identification, if field teams can, they should mark the target (with a sticker, hanging tag or spray paint) so that any team visiting the target will know that this target was previously assessed and has been assigned a unique identifier. When a target's unique identifier changes from the temporary unique identifier to the primary NRC number, this update should be reflected on the labeling of the target itself. The temporary unique identifier, primary NRC number and secondary NRC number(s) will be listed in the database for cross reference purposes.

Latitude and Longitude

Obtain a latitude/longitude point with a satellite enabled GPS unit for observed discharges or releases at facilities, vessels or other sources. If the oil and hazardous material target covers an area (not a single point location) obtain lat/long points that outline the target. Make certain that the GPS unit is set to use "WGS84" as the horizontal datum, set to read coordinates in decimal degrees (dd.ddddd) and Auto Tracking is turned on. Documentation needs latitude/longitude to 5 decimal points. The safest location for observing an oil and hazardous material target is upwind.

All personnel **MUST VERIFY** all lat/long position data by comparing observations against satellite imagery by means of GIS application (Google Earth, ERMA, EnterpriseGIS, SONRIS, Response Manager, etc). This step, when combined with data entry, is time consuming and field personnel should return to ICP/FOB early enough in day to ensure sufficient time is dedicated to data entry and QA/QC.

Photo Documentation

Prior to departure to field, ensure that camera is set to local time and spare batteries are available. A clear photo of GPS unit with the time (in 24-hr, hh:mm:ss format) taken at the beginning of operations will allow for geo-referencing of photos by using the Track Log from GPS unit.

It is more important to take a few good photos instead of many useless photos. Utilization of photo scales, recognizable landmarks and "the rule of thirds" will

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help ensure photos are useful to an audience that is cramped in command post or is not on-scene.

Aerial Team Procedures

Aerial Team could consist of a Rapid Needs Assessment Task Force or a Hazard Evaluation Group Task Force. Aerial Assessment Teams are not expected to conduct detailed documentation of targets, but are expected to capture critical data for decision makers. A special form with limited data entry has been created to reduce the data collection requirements and expedite the assessment process. Data that aerial assessment teams will be capturing are primarily nature of oil versus hazardous material, source, location, and size of affected area.

Surface Team Procedures

Surface Assessment Team (ground and/or water) and other group task forces will conduct more detailed documentation and complete a more thorough field data collection process because ground assets generally travel slower and have more time to make detailed observations. The field data collection forms will contain most all the data fields.

Procedures for Processing Field Data

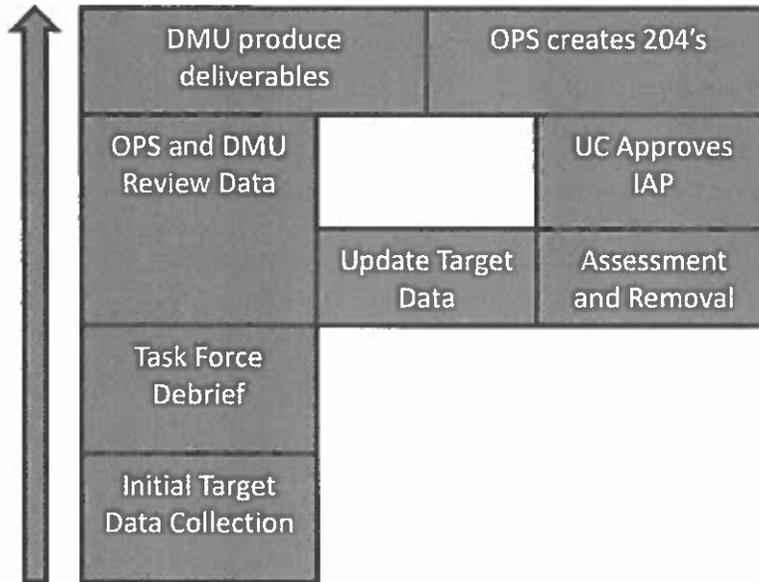
The most challenging aspect of data processing is ensuring that the incoming data is of high quality. In order to overcome this challenge, it has to be emphasized to field personnel the importance of thorough observations and proper documentation. The quality of the incoming data will directly affect the quality of the deliverables that the Unified Command, Section Chiefs and other decision makers will be using to manage the response. The illustrations below illustrate the general flow of data from the field to decision makers. Refer to the diagram below.

Please note that the two data cycles described below intersect at "OPS Chief reviews data."

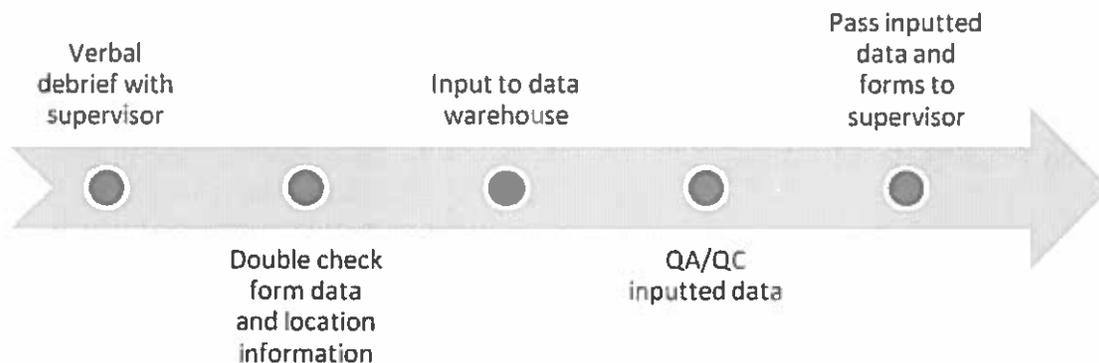
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Data Flow



Task Forces Debrief



Task Forces are the eyes and ears in the field for the response and collect invaluable data not only about targets, but also about operational challenges and recommendations. This acquired knowledge needs to be debriefed to their respective supervisor and inputted into the response database for processing. The team leader is responsible for initial data entry and initial QA/QC of data because they are the experts about their own field observations. Generally, the team leader is the most experienced member of the team.

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Data Fields and Valid Values

The following table describes the data fields and valid values for Louisiana Natural Disaster Response Plan - Marine Environmental Response. The data fields and valid values in this table define the jargon utilized during the response to ensure clear communication. The response database and associated forms are built around these data fields and valid values. The data fields and valid values establish a minimum description of a target and DOES NOT alleviate the need for traditional investigation, SCAT, reporting to NRC and required documentation of a target. These data fields, valid values and resulting products are intended to capture minimum data for Unified Command to properly manage their resources and mitigate pollution threats during a post-natural disaster response with multiple pollution targets.

Data Field	Format	Valid Values
Date Initially Assessed	YYYYMMDD	Date that target was first discovered
Field Team Initially Assessed	AAA0	Three letters and one number – the field team which discovered target
Daily Number	Three digit number	000 to 999, resets each day for each team
Date Updated	YYYYMMDD	Date that entry to spreadsheet is modified, this will allow for tracking the timeline of changes to target information
Field Team Updated	AAA0	Three letters and one number – tracking which field team has provided updated information about target
Location Name	BLANK BAYOU	Waterway, street, landmark, etc
Responsible Party	BLANK ENERGY	When known
Target Latitude	DD.DDDDDD	Positive Number, 0 to 90
Target Longitude	DD.DDDDDD	Negative Number, 0 to 180
Grid	A00	One letter and two numbers
Hazardous Category Not explicitly in form	OIL or HAZ	To delineate for OPS

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HAZ Type Only for HAZ targets (CERCLA)	Three letter code	DRM = Drum CYL = Cylinder TOT = Tote BCK = Bucket TNK = Tank FAC = Facility DBL = Debris Line (not a single target)
HAZ Count Only for HAZ targets (CERCLA)	Number	Number, or approximate number, of HAZ targets within a debris field or contained within the specified target
Oil Type Only for oil targets (OPA 90)	Three letter code	VSL = Vessel PPL = Pipeline FAC = Facility WHD = Wellhead SHN = Sheen UNK = Unknown, Mystery Source
% Coverage Only for oil targets (OPA 90)	Percentage of area being covered by product	Percentage of oil within the given length, width
Length For 2D targets	Number in feet	For debris fields and oil targets
Width For 2D targets	Number in Feet	For debris field and oil targets
Capacity	Number in Gallons	5, 55, 250, 1000, UNK, Worst Case Discharge
Discharge/Release Amount	Number in Gallons, lbs, cubic meters 1 Oil Barrel = 42 US gallons	50, 100, 10000, UNK – units of measure need to be noted!
Condition	Three letter code	DNO = Damage-No Discharge/Release DDR = Damaged-discharge/release NOD = No damage FIR = Fire EMG = Emergency UNK = Unknown

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Status	Three letter code Color designation is for target maps	<p><u>RED</u> FAR = Further Assessment Required RP = Requires RP action SOP = Requires Special Ops</p> <p><u>YELLOW</u> MIT = Mitigation underway RDY = Ready for stakeholder site visit and sign off</p> <p><u>GREEN</u> INF = Item not found REF = Refer to other agency (and agency is noted in comments) LIP = leave in place and no further action NFA = No Further Action REM = Removed and brought to pad RRP = Removed by RP DIS = Disposed SGN = closed by stakeholder site visit and sign off</p>
Concurrence	Drop-down	<p><i>No Concurrence (No Sign-off)</i> <i>No Further Action (Signed-off)</i> <i>Referred to Regulatory Agency (Signed-off)</i> <i>Unfounded (Signed-off)</i></p>
Concurrence Note	Comment Box	Notes about concurrence
Action Taken	Text Box	Details to support the chosen STATUS
Recommendations	Text Box	Recommendation for mitigation
Resource Needs	Text Box	Supporting the recommendations
Comments	Text Box	Catch all for other data
Photographs	Text Box	For listing the names of photographs associated with target

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Primary NRC Number	123456	This should have only one value and used as the primary NRC number
Support NRC Number(s)	123456	This is a listing of other NRC numbers associated with this one target i.e. 123456. 234567, 345678, 987654

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TAB B – Surface Hazard Evaluation Form

Field Team:		TIME - 24hr Format	End:
Date (YYYYMMDD):		Start:	
Evaluation by: Foot / Boat / Airboat / Helicopter / Plane		Weather: Sun / Cloud / Fog / Rain / Snow / Windy	
Start Latitude:		Start Longitude:	
End Latitude:		End Longitude:	
Name	Organization	Phone	
Unique Identifier: (i.e. 20130801_HEB1_002)			
Date (YYYYMMDD):	Team Name (ABC#)	Daily Seq Number:	
Latitude (dd.dddddd):	Grid:		
Longitude (dd.dddddd):	Responsible Party:		
Location Description:	HAZ Type:		Oil Type:
	HAZ Count:		% Coverage:
Capacity: gallons/lbs/cu m			
Discharge/Release Amount: gallons/lbs/cu m	Length: feet	Width: feet	
Condition:	Status		
Action Taken:			
Recommendations:		Resource Needs:	
Comments:		Photographs:	
Primary NRC:		Support NRC:	
Unique Identifier: (i.e. 20130801_HEB1_002)			
Date (YYYYMMDD):	Team Name (ABC#)	Daily Seq Number:	
Latitude (dd.dddddd):	Grid:		
Longitude (dd.dddddd):	Responsible Party:		
Location Description:	HAZ Type:		Oil Type:
	HAZ Count:		Oil % Distr:
Capacity: gallons/lbs/cu m			
Discharge/Release Amount: gallons/lbs/cu m	Length: feet	Width: feet	
Condition:	Status		
Action Taken:			
Recommendations:		Resource Needs:	
Comments:		Photographs:	
Primary NRC:		Support NRC:	

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TAB C – Arial Hazard Evaluation Form

Field Team:		TIME - 24hr Format	End:
Date (YYYYMMDD):		Start:	
Evaluation by: Foot / Boat / Airboat / Helicopter / Plane		Weather: Sun / Cloud / Fog / Rain / Snow / Windy	
Start Latitude:		Start Longitude:	
End Latitude:		End Longitude:	
Name	Organization	Phone	
Unique Identifier: (i.e. 20130801_HEB1_002)			
Date (YYYYMMDD):		Team Name (ABC#)	Daily Seq Number:
Latitude (dd.ddddd):		Grid:	
Longitude (dd.ddddd):		HAZ Type:	
Location Description:		HAZ Count:	Oil Type:
		HAZ Count:	% Coverage:
Capacity: gallons/lbs/cu m			
Discharge/Release Amount: gallons/lbs/cu m		Length: feet	Width: feet
Unique Identifier: (i.e. 20130801_HEB1_002)			
Date (YYYYMMDD):		Team Name (ABC#)	Daily Seq Number:
Latitude (dd.ddddd):		Grid:	
Longitude (dd.ddddd):		HAZ Type:	
Location Description:		HAZ Count:	Oil Type:
		HAZ Count:	% Coverage:
Capacity: gallons/lbs/cu m			
Discharge/Release Amount: gallons/lbs/cu m		Length: feet	Width: feet
Unique Identifier: (i.e. 20130801_HEB1_002)			
Date (YYYYMMDD):		Team Name (ABC#)	Daily Seq Number:
Latitude (dd.ddddd):		Grid:	
Longitude (dd.ddddd):		HAZ Type:	
Location Description:		HAZ Count:	Oil Type:
		HAZ Count:	% Coverage:
Capacity: gallons/lbs/cu m			
Discharge/Release Amount: gallons/lbs/cu m		Length: feet	Width: feet

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TAB D – Operational Strategy for Oil Release

Summary

This guidance is developed under the Natural Disaster Subcommittee of the New Orleans and Morgan City Area Committees to ensure net environmental benefit during natural disaster response operations. This document focuses primarily on oil releases into marshes, but similar practices should be adapted for chemical releases. If the techniques below are not applicable to non-oil release, then consult with the Environmental Unit for target review and recommendations.

Marsh Operations Plan

Aggressive cleanup of free product releases in marshes may actually cause greater long-term damage than the pollutant itself. Any physical cleanup activities in marsh areas must comply with the follow items to prevent unacceptably high collateral damage to marsh vegetation and entrainment or entrapment of oil product into sediments:

- Any foot traffic access to the marshes shall avoid oiled grasses and sediments and utilize one-way-in and one-way-out traffic with walking boards in travel lanes and crosswalks on the marsh.
- *All treatment operations in the marshes will be done on the walking boards, without direct foot traffic in the marsh. Walking boards should not be placed in un-oiled marsh areas or landward of the oiled wrack line, and no foot traffic or other entry by response personnel or equipment should occur in these un-oiled areas unless approved by the Unified Command.*
- All vessel approaches to the marshes shall be limited to grounding the bow of the vessel on the fringe of the marsh, avoiding landing directly on top of the marsh grasses as much as possible.
- Water channels shall be used for navigation through the marshes. Under no circumstances shall vessels run over the top of or across the marsh grasses. Stopping or landing a vessel on top of the marshes is prohibited.

Sorbent boom should be staked along the front edge of oiled marsh for passive recovery of sheens. These sorbents must be inspected and replaced routinely. Best professional judgment by the Environmental Unit should be used to

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determine if further treatment or cleanup would provide net environmental benefit or might delay, rather than accelerate, recovery of the vegetation. This judgment should be based on fact, past studies or data from previous oil spills.

Oiled vegetative wrack at the water's edge can be manually picked up and removed with hand tools such as shovels, rakes, and pitchforks. Wrack in the marsh interior should not be removed, even near the source, unless heavily oiled with the potential to cause sheen or substantial contact risk to wildlife.

Pooled oil in areas that are difficult to access because of water depth may potentially be collected from a shallow skiff or airboat by using sorbent pads or vacuum systems with duck bills or other applicable and approved methods.

Low-pressure, high-volume flushing can be utilized by operations to mobilize oil from marsh and into a containment boom with sorbent tubes and/or collection system. The Environmental Unit is to be notified if this technique is desirable and to be utilized.

Cleanup is expected to progress in three phases:

Phase 1 – Source Control and Removal Phase that focuses on containment, recovery of mobile oil, and initial shoreline cleanup (e.g., bulk oil removal/gross decontamination).

Phase 2 – Managed Recovery Phase that consists of any final cleanup activities to mitigate residual pollution. The Managed Recovery Phase would typically include oil recovery using sorbent booms, demobilization and cleaning of equipment no longer needed, and final disposal issues. Although generally reduced, the Managed Recovery Phase still requires Federal and State oversight to ensure that all threats to the environment, as well as, public health and safety are minimized.

Phase 3 – Natural recovery and restoration. No additional cleanup or active mitigation is required. Once any and all remaining booms, sorbents, cleanup materials, and response waste (if any) has been removed, the site will be left for natural recovery and closure and sign-off procedures will be implemented.

The overall cleanup objective is to minimize or eliminate threats to wildlife and natural resources while avoiding doing more harm than good. Site-specific

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guidance for each cleanup division grid may be generated by the Environmental Unit.

The defined cleanup criteria may not be applicable (or even achievable) at all sites. Best professional judgment and the consensus of the Environmental Unit should be used to assess when the cleanup meets the above objectives. There may be additional requirements defined by private landowners or municipal managers, and such requirements may be outside the scope of the Unified Command.

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TAB E – Operation Strategy for Orphan Containers

Summary

As a result of a natural disaster, the Louisiana coastal zone can be littered with numerous drums, cylinders, tanks, and other containers that contain crude oil, refined petroleum products, chemicals and other hazardous materials (HAZMAT). Many of these items are stranded in and adjacent to residential communities, but many others are stranded in adjacent coastal habitats that are accessed and utilized by the public. Most of these items are classified as orphaned, or abandoned, and are a threat to public health and safety because of the potential for direct exposure or secondary contamination. Additional concerns include the unknown nature of many of the contents. Changing weather conditions or exposure to fires may cause releases that would result in increased public risk and possible need for evacuations.

To mitigate the threat posed by orphaned drums and hazardous materials, field operations will include a wide range of response activities and techniques. Because of the geographic extent of operations, the development of Forward Operating Base(s) may be essential to enhancing operational effectiveness. The goal of all recovery operations will be to minimize the risk to the public, and the responders, while minimizing the environmental impact of the response operations overall. Any orphan container that can be accessed by field response teams would also be accessible to the public and therefore constitutes a potential threat to public health and safety.

There are several phases to the orphaned drum and hazardous material container removal project: Assessment, Investigation, Operational Planning, Oil/Hazardous Material Removal and Disposal.

Assessment includes ground and aerial surveillance using small boats, airboats, and helicopters to identify and chart suspected threats. Aerial photographs will be correlated with recorded GPS overflight track lines for mapping and display in ERMA. Identified hazardous material and oil pollution related debris will be classified as drum, tank, cylinder, container, or other and prioritized by: no damage, damaged no spill, damaged leaking, or could not discern. The reconnaissance information will be used to develop situational awareness as to the scope of the problem and to direct future field activities.

Investigations relate to large orphan containers that have a known and viable industry owner. One objective of the investigation process is to attempt to

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contact the suspected owner to coordinate removal and any required pollution response under the owner's funding.

Operational Planning includes charting suspected targets using a GIS system, development of operational tactics, and any required natural resource trustee consultations. Technical experts and appropriate spill response guides such as the Emergency Response Guide (ERG), Material Safety Data Sheets (MSDS's), Chemical Hazards Response Information System (CHRIS), and Computer-Aided Management of Emergency Operations (CAMEO) reference resources should be consulted during operational planning to ensure a safe and properly mitigated response.

Actual Oil/Hazardous Material Removal will be conducted in a safe manner. Based on mitigation options available, consideration will be given to that which results in the least environmental impact, i.e., "do no more harm than good".

Preferred Response Options:

Container is leaking and there is an observable spill of oil/hazardous material:

- 1) Non-Oil/HAZMAT responders should only function in the First Responder role – identify threat, secure area with caution tape, and notify appropriate response team for technical support.
- 2) Secure leak if it can be done safely.
- 3) Mitigate and recover spilled material using appropriate technology and qualified Oil/HAZMAT personnel.
- 4) Remove gross environmental contamination using appropriate technology.
- 5) Recover contents by a transfer to drum or other temporary storage container.
- 6) Recover lightered, partially evacuated, or partially empty container to remove threat of residual Oil/HAZMAT contents.
- 7) Leave lightered, partially evacuated, or partially empty container in place if removal would create unacceptable habitat damage. Ensure the container is properly cleaned, marked and documented if left.

Container is damaged, but not leaking:

- 1) For damaged drums and smaller containers, consider over-packing and removal.
- 2) Recover contents by transfer to a drum or other temporary storage container.
- 3) Recover lightered, partially evacuated, or partially empty container to remove threat of residual Oil/HAZMAT contents.
- 4) Leave lightered, partially evacuated, or partially empty container in place if removal would create unacceptable habitat injury. Ensure the container is properly cleaned, marked and documented if left in the environment.

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Container is undamaged and structurally sound:

- 1) Recover the container intact and transport to staging area for disposition if feasible.
- 2) Recover contents by transfer to a drum or other temporary storage container.
- 3) Recover lightered, partially evacuated, or partially empty container to remove threat of residual Oil/HAZMAT contents.
- 4) Leave lightered, partially evacuated, or partially empty container in place if removal would create unacceptable habitat injury.
- 5) Consider leaving container and contents in place if inaccessible or access with heavy equipment would result in unacceptable habit damage relative to Oil/HAZMAT risk. Ensure the container is properly cleaned, marked and documented if left.

Because of the variability in habitat and accessibility, each container or accumulations of orphan containers along a debris line might require a unique recovery project using a different assemblage of field equipment. Hazardous Household Waste (HHW) may be recovered by orphaned drum and orphan container recovery teams at sites where field activities are being conducted.

Disposal for the field component of this operation is limited to transferring the material to one of the established disposal staging areas. Final disposal of collected Oil/HAZMAT debris is outside of the scope of this document.

As previously stated, all orphan containers that pose a risk to public health and safety will be removed unless the risk for habitat damage exceeds the benefit of removal.

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TAB F – Endpoints for Target Closure

Summary

These guidelines establish target endpoints for cleanup operations for pollution targets, including free product release and containerized product. Because all releases are unique and present distinct cleanup challenges, these endpoints may be amended to address as yet unforeseen circumstances and do not constitute shoreline restoration or full recovery criteria, which may be addressed through a longer-term process. These endpoints define the conclusion of cleanup operations while attempting to minimize overall impact (including those from operations) to sensitive resources.

Endpoint Criteria for Free Product Free Oil Product

- Oiled shorelines shall be free of recoverable product and not produce continuous sheen under normal weather and tidal conditions.
- There shall be no recoverable oiled debris.
- Oil stain or sporadic coat on vegetation and large immobile debris that does not produce continuous sheen and is not a contact risk to wildlife may be allowed to weather and degrade naturally. If the decision is to allow oil stain or sporadic coat to degrade naturally, monitoring of the area must occur.
- Oil stain or coat may still be present if best professional judgment of the Environmental Unit Leader (as defined below) determines that further recovery will not produce environmental benefit. Such residual oiling would be allowed to degrade naturally. If the decision is to allow oil stain or coat to degrade naturally, monitoring of the area must occur.

General Cleanup Endpoint Criteria for Orphan Containers

- An orphan container that poses actual or potential imminent or substantial threat to a navigable waterway will be removed, unless removal will cause undue harm to sensitive resources as is determined by the Environmental Unit Leader, using best professional judgment.

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- Leaving an orphan container in place will be determined on a case-by-case basis to ensure net environmental benefit and shall be properly cleaned and identified, including documented coordinates.
- Responsible Party is identified and assumes responsibility for removal.

Target Closure for Oil Pollution Targets

A joint site visit or an administrative review by Unified Command will be acceptable for Target closure. A joint site visit shall be made by an assessment team consisting of representatives of the Unified Command, natural resource trustees and, when possible, a parish representative. Incident-specific cleanup assessment and inspection forms will be generated to track progress. The FOSC and SOSC will sign off each target as having met the endpoints based upon the administrative review or on the observations and recommendations of the assessment team.

Sign off on endpoints does not constitute any acknowledgment that damages to natural resources caused by this incident have been adequately addressed.

It is recognized that the above endpoints may not be applicable (or achievable) at all sites. Best professional judgment and the consensus of federal, state and, if applicable, the RP's environmental consultants (identified herein as "Environmental Unit") should be used to assess when the cleanup meets the above objectives. The Environmental Unit Leader for these endpoints will be a representative of the state of Louisiana. If a responsible party exists for a given target, there may be additional requirements defined by private landowners or municipal managers, and such requirements may be outside the scope of the Unified Command.

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TAB G – Best Management Practices (BMPs) for the Protection of Sensitive Ecological & Cultural Resources

Summary

All operations shall be conducted with the overarching philosophy of “do no more harm than good”. Many of the following BMPs are provided for the protection of Federal & State protected species and other sensitive resources. For species identification, refer to the “EU Guidance on Threatened/Endangered Species”.

For All Personnel

- Watch for and avoid collisions with wildlife. Report all distressed or dead wildlife to Wildlife Rehab Task Force
- Report any distressed or dead sea turtles or marine mammals
- Remove all personal & Response trash or anything that would attract wildlife to work areas

For all Field Operations

Cultural Resource Protection:

- Any Native American graves or burials must be reported to the State Historic Preservation Office
- Native American and historic-era artifacts (e.g. pot shards & arrowheads) must not be collected.
- When activity occurs within 250 meters of a sensitive cultural resource as indicated by EU, a qualified archaeologist or other qualified historic preservation professional must be present to monitor the work.

Natural Resource Protection:

- Do not disturb wildlife or habitat (including foraging or nesting areas).
- Report any distressed or dead sea turtles or marine mammals to the stranding networks:
 - Report sea turtles to 225-765-2377
 - Report dolphins to 1-877-WHALEHELP (1-877-942-5343)
- Perform site visits & work from waterway, paved surfaces or existing roadways whenever possible to minimize impacts to sensitive habitats.
- Select vehicles and equipment which are least likely to disturb soils/sediments and keep loading to a minimum to reduce ground pressure (on unpaved surfaces).

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- Sensitive, non-ecological sites (i.e. cultural, historical, pipelines, water control structures, etc.) must be avoided unless otherwise authorized. EU will identify sensitive sites in the vicinity of actionable targets, though all field personnel should take care when transiting to and from actionable targets.
- Avoid minimize the release of contaminants from orphaned containers into critical habitat and other aquatic areas.
- Removal of orphan pollution containers from sensitive habitats may require specialized operations to minimize impacts. Such operations shall be closely coordinated with Environmental Unit.

For Specific Response Activities

Aerial Operations:

- Avoid hovering or landing aircraft in/near posted bird sites or areas with high bird concentrations.
- No flights below 500 feet over Wildlife Refuges, Management Areas, bird rookeries or National Parks.

Open-water Operations:

- Do not block major egress points in channels, rivers, passes, and bays.
- Water channels shall be used for navigation through the marshes. Under no circumstances shall vessels run over the top of or across the marsh grasses. Stopping or landing a vessel on top of the marshes is prohibited.
- All vessel approaches to the marshes shall be limited to grounding the bow of the vessel on the fringe of the marsh, avoiding landing directly on top of the marsh grasses as much as possible.
- Special Use Permits are required for conducting Air Boat operations in National Wildlife Refuges. Contact EU to ensure proper permits have been obtained.
- If using Air Boats, maintain a distance of 1,000 feet from critical habitats, rookeries, and/or other high bird use areas to minimize disturbance.
- Monitor boom, lines & underwater equipment regularly to prevent fish/wildlife entanglement/entrapment.
- If a sea turtle or marine mammal is observed trapped or entangled in a boom, line, or anchoring systems, open the boom to free the animal and notify the Wildlife Branch & Environmental Unit.
- Watch for and avoid collisions with sea turtles and dolphins.

Land-based Operations (includes river levees, battures and spoil banks):

- Minimize ground-disturbing activities to as small an area as feasible to complete the task.

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- Avoid posted/marked or other high bird use areas and minimize activities in critical habitat areas for Endangered Species.
- When working on/near sand beaches, do not disturb Piping Plovers

Marsh Operations - Protect marsh vegetation & associated soils by doing the following:

- Maximize use of open water, dikes, existing roads and trails and stay away from undisturbed marsh. Access routes should be planned to minimize impacts to the environment.
- Do not create unnatural ruts, channels, dikes or drainage routes and do not re-use previously made tracks.
- Use care around bank and shoreline crossings at canals, natural water bodies and ditches.
- Avoid disturbing vegetation, marsh soils, or peat with foot traffic/boats/equipment.
- Travel corridors should be as narrow as possible with designed turn around area. Stay within designated access or travel lanes when present.
- Minimize removal of clean sediment, seaweed and natural debris. Replace removed materials, if practical.
- Use low-pressure tire vehicles (e.g. ATVs, Gators) when practical and consult with the EU to minimize impact
- Avoid posted/marked or other high bird use areas and minimize activities in critical habitat areas for Endangered Species.
- Activities that may require removal of forested and shrub or scrub habitat should be minimized
- Any foot traffic access to the marshes shall avoid oiled grasses and sediments and utilize one-way-in and one-way-out traffic with walking boards in travel lanes and crosswalks on the marsh.
- All foot traffic in oiled marshes will be done on the walking boards, with no direct foot traffic in the marsh. Walking boards should not be placed in un-oiled marsh areas, and no foot traffic or other entry by response personnel or equipment should occur in these un-oiled areas unless approved by the Unified Command.
- If pollution target location is inaccessible or access with heavy equipment would result in unacceptable habitat damage relative to that posed by the pollution threat, then specialized operations may be needed to minimize impacts. Such operations shall be closely coordinated with Environmental Unit.
- Water channels shall be used for navigation through the marshes. Under no circumstances shall vessels run over the top of or across the marsh grasses. Stopping or landing a vessel on top of the marshes is prohibited.

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The Unified Command recognizes the importance of partnerships with trust resource agencies and the stewardship of the environment. The procedures below are intended to expedite target closure and sign-off process while allowing opportunity for trustee input.

The Operations Section will use their professional judgment to apply the appropriate status (open or closed) to a target in the database. Once a target is set to be closed, that target will be routed to the Environmental Unit via spreadsheet summary for review. The Environmental Unit will determine if concurrence with closed status exists by approved methods. If concurrence does not exist, recommendations for further action will be provided to Operations Section. If concurrence exists, then the database will be updated to reflect change and supporting documentation completed.

The acceptable methods for achieving concurrence on closure status of a target may include administrative decision, aerial inspection or site inspection. The Environmental Unit will use their best professional judgment to determine the risk of a target and an appropriate method for achieving concurrence.

For HAZMAT Targets

- Low risk targets will achieve concurrence by administrative decision, provided collected field observations and data can sufficiently justify concurrence
- Potentially high risk targets may require aerial inspection or site inspection to achieve concurrence.

For Oil Targets

- Any target that threatened or impacted navigable waters per National Contingency Plan (40CFR300.3), may require an aerial or site inspection to achieve concurrence

To support proper documentation of the above closure and concurrence process, the database will contain fields to capture such information. "Status" is a field that tracks operational status and is described in Data Management Plan.

"Concurrence" is a field that tracks the consensus on target closure between Operations Section, Environmental Unit, Unified Command and supporting resource agencies. An additional field, "Concurrence Comment," will capture any additional information that will ensure thorough documentation. The following table lists the valid values for "Concurrence" with definitions and examples.

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Concurrence	Definition	Example
<i>No Concurrence (No Sign-off)</i>	UC has determined that clean up endpoints have not been met and additional cleanup is required	-Operations determines that cleanup endpoints have been met, but UC determines otherwise
<i>No Further Action (Signed-off)</i>	UC determines that no further action is required and cleanup endpoints have been met	- UC concurs that endpoint has been met for a given target -Orphan container left in place in a satisfactory condition
<i>Referred to Regulatory Agency (Signed-off)</i>	UC determines that another agency is better suited to take responsibility for the target based on authority and jurisdiction and notes agency in comments field. Target responsibility is handed off.	-LDEQ assumes responsibility for target -USFWS, LDWF, LDEQ and/or Corps of Engineers
<i>Unfounded (Signed-off)</i>	Target lacks the minimum information to be further investigated	-Unsubstantiated reports -No lat/long info -No known pollution threat

NOTE: For initialization of "Concurrence" field, each entry will be populated with No Concurrence (Pending) and this will be the default value for new entries. All targets on graphical representations shall conform to the following convention:

- All targets Open and No Sign-off will be shaded red
- All targets Closed and No Sign-off will be shaded blue
- All targets Closed and Signed-off will be shaded green
- All oil targets will be a circle with a black border and black dot in the centroid
- All HAZMAT targets will be a triangle with a black border and black dot in the centroid

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TAB H – Target Site Inspection Form

1. GENERAL INFORMATION		Date (ddmmyy)	Time (24hrs Local Time)	Tide Height LMH
Site Name:				
SCAT Division/Grids:				
Inspection By: Foot -Airboat -Boat -Other			Sun- Clouds- Fog -Rain- Snow -Windy	
2. INSPECTION TEAM	Name	, Organization	, and Signature	
3. Grids	Description of Shoreline Surveyed:			
4 SHORELINE TYPES	Select Primary (P) and Secondary (S) Habitat Types Present			
	Marsh or Wetlands (includes Floating Marsh)		Manmade Structures	
	Tidal Flats/Mud Flats		Wave-cut Scarps	
	Shell or Mixed Sand & Shell Beaches		Other:	
5 CLEANUP ENDPOINTS	REFER TO ENDPOINTS (09 SEPTEMBER 2012)			
Yes No				
Has Operations remediated the target such that all endpoints been reached?				
If no, please explain:				
Other oiling conditions or observations:				
6 RECOMMENDATIONS				
Yes No Recommend Additional Active Cleanup (Stage 1). Comments:				
Yes No Recommend continued maintenance of passive sorbent recovery for sheens (Stage 2). Comments:				
Yes No Site meets the interim cleanup endpoints (Stage 3). Recommend natural recovery for residual pollution.				
Photos taken? Yes – No Additional Comments: Yes – No (if yes, see attached)				

