3000 Operations

3100 Operations Section Organization

Refer to Section 3000 of the Region 9 Regional Contingency Plan (RCP).

The Operations Section of ICS is responsible for all operations directly applicable to the primary mission. The section directs the preparation of unit operational plans, requests or releases resources, makes expedient changes to the Incident Action Plan as necessary, and reports such to the Incident Commander (IC/UC).

In the RCP, this section also lists the various operations branches.

Refer also to Chapter 7 of the Incident Management Handbook (IMH).

3110 Organization Options

Refer to Section 3100 of the Region 9 RCP.

In the RCP, this section defines the Operations Section Chief's roles and responsibilities and includes a diagram illustrating the organization chain of command.

Refer to Section 3113 of this Plan for information on management of wildlife operations.

3200 Recovery and Protection

This section will discuss the strategic objectives as well as the general response philosophy, strategies, and countermeasures that will be applied by the Unified Command System (UCS) to discharges of oil within the boundaries of the area delineated in Section 1000. In addition, the various oil containment, recovery, and removal methods available to the UCS will also be discussed along with shoreline cleanup options that could be employed during a spill response.

United States Policy: In the Clean Water Act, Congress declared "... it is the policy of the United States that there should be no discharges of oil or hazardous substance..., and that necessary actions shall be undertaken to remove discharges and eliminate the threat of imminent discharges." This policy is reiterated to serve as a guiding light for the flow of response decisions and allocation of resources. In support of U.S. policy, the paramount response strategy that should be implemented by the Unified Command (UC) is to allocate resources to their optimum use (i.e., the most oil recovered, contained, or prevented from being discharged per expenditure of resources). The only variance from this strategy should be considerations of safety and of particularly critical natural (environmentally sensitive) or man-made (economically significant) resources that may demand protection even though manpower and equipment may be deployed elsewhere to more efficiently recover oil. Examples of the latter may include protecting a waterfront area that may be threatened by fire or explosion if impacted, and protecting a municipality's water supply. The strategic objectives priorities must be carefully considered since they vary from case to case, but generally they are as follows:

Health and Safety: The preservation of human life and health shall be the overriding *priority* for any response to a discharge of oil. There are two elements to this principle: public safety and response personnel safety.

A large release of oil in the vicinity of houseboats, inhabited shoreline areas, or at an oil transfer facility could pose a health or explosion hazard, especially if the discharge is in a confined area

(e.g., under a dock). Benzene, hydrogen sulfide, and other toxic, explosive, or oxygen-displacing vapors could be generated. Evacuation of the area, even at the expense of delaying the cleanup, may be necessary until the danger has passed. Evacuation of homes or other public and private facilities, if recommended by the UC, is the responsibility of state and local emergency agencies.

All response personnel must comply with all applicable worker health and safety laws and regulations. Initial response and rescue personnel (who may be underway on self-propelled skimmers and other vessels) and shoreline cleanup personnel could be exposed to health and safety risk(s). Therefore, personnel safety is paramount and responders shall comply with the guidelines set forth in OSHA Publication 3172, "Training Marine Oil Spill Response Workers Under OSHA's Hazardous Waste Operations and Emergency Response Standard" located at http://www.osha.gov/ and the site safety plan(s) generated by the UCS.

After the threat to personnel safety has been eliminated or reduced to safe levels, response strategies should be implemented to first minimize the ecological impact and then the economic and public impact as discussed in the following section.

Stop the Source: Typically the highest priority. When a damaged vessel(s), shore side facility or pipeline poses a risk of an imminent major discharge, preventative action to mitigate the size of the spill is the logical first priority (i.e., stabilize and lighter a vessel; contain and secure the shore-based source).

Open Water Containment and Recovery: Once the effort is underway to secure the source, containment and recovery of the spilled oil prior to shoreline impact is the next logical priority. Deploy major recovery vessels, boom-towing vessels and other skimmers to intercept oil before it impacts critical areas or becomes a more costly and environmentally damaging shoreline cleanup problem.

Protection of Sensitive Areas: Depending on the ability to contain and collect spilled oil prior to impact, the protection of resources can compete with containment and collection resources. Priority for protecting these areas is a function of the value of the areas (as prioritized in Section 3610 and 3620) and the feasibility of protecting them. Dedicating open water containment equipment to protecting these areas is not wise if oil that would otherwise have been recovered is merely free to strike other sensitive areas that have not been "prophylactically" boomed. In general, employ tactics that do not weaken open water recovery operations; deploy resources that are not needed in the open water operations; relocate threatened wildlife by means such as capturing or scaring with propane noise making cannons; and close off narrow channels with sediment dikes, boom, siphon dams, or other natural or man-made materials.

Shoreline Cleanup: Shoreline cleanup should be undertaken only when the risk of recontamination from floating oil passes. The UC must decide if shorelines will be pre-cleaned, cleaned at each tidal change, or just once after all the anticipated oil has come ashore.

The preservation of human life and health shall be the overriding *priority* for any response to a discharge of oil. There are two elements to this principle: public safety and response personnel safety.

3210 Response Prioritization

Initial response is focused minimizing impacts though the strategic objectives of *Stopping the Source, Containment and Recovery,* and *Protection of Sensitive Areas* objectives (see Section 3200). In a spill event, Sensitive Area Protection prioritization should be determined by three

considerations: which sites are at risk (how soon the oil will get to each sensitive site); the predefined hierarchy of protection priorities (Section 3210.2 below); and the time and response resources available to implement protection. Responders should not assume that sensitive locales equidistant from the source of a spill are at equal risk from the oil. For the purpose of prioritization, "risk" is defined as "the probability of spilled oil reaching the vicinity of a sensitive site of concern." This means that the urgency to protect a key resource is first determined by the likelihood that it will be impacted in the near future and the mobilization time for requisite response staff and equipment (can the sites at risk be protected by available resources before oil arrives?) If the sites are too numerous to protect with the response resources available within the projected times of impact, then triage of protection follows a prescribe order.

During an actual oil spill event, the relative likelihood of a site coming into contact with the oil is a function of the proximity of the spill to the site and whether prevailing conditions (the wind, current, and tides) at the time of the spill, will move the oil toward or away from it. At a minimum, first responders to a spill in the marine environment should obtain an initial forecast of oil movement speed and direction from a reliable source such as NOAA SSC or OSPR or forecast it based on present and impingent tides, currents, winds, and rainfall runoff conditions. This requires responders to use best information (optimally, real time information) about the local weather, tides, and currents to make the best prediction possible about the movement of the oil away from the spill release location. This information can be used to model the probable trajectory. Models can be as simple as estimates of movement on a chart / map or a computer simulation.

3210.1 Forecasting Oil Trajectories

Oil trajectories may be effectively forecast by several means and should always be done by skilled staff within the Environmental Unit (see Section 4600). Each method has limitations, with no method guaranteed to accurately predict the future distribution of the oil. Because success or failure of response to nearshore spills is usually determined by actions in the early timeframes, UC and on-scene responders must take immediate action using simple predictive methods based on available information rather than delaying action until perfect information becomes available. If time and resources permit, multiple methods should be used to accurately identify slick movement and likely impacts, without slowing response. Regardless of the trajectory method used, it should be recognized that projections provide helpful guidance, but do not substitute for actual spill observations.

If Environmental Unit or other skilled trajectory analysis is not available, initial response may need to proceed based on simple trajectory projections. These projections can be made using simple mathematical calculations of oil movement including hand calculations, trajectory map overlays, and NOAA Trajectory Analysis Planner (TAP) projections, as time permits. More detail is provided in Section 4600. After initial response, trajectories will be developed by Planning / Environmental as part of the IAP.

Once a trajectory has been developed, the threat to significant resources must be assessed. The trajectory should be used to determine the probable sequence of impacts to shorelines and probable times of impacts. This task is typically performed by OSPR scientific field staff since they are most familiar with local resources at risk including seasonal variability. More advanced projections are typically obtained through the NOAA Scientific Support Coordinator (SSC). If neither is available, other responders can utilize

available trajectory programs to provide rough estimates of oil movement relative to sensitive site locations described in Section 9800 of this document. Whoever is tasked with developing the trajectory and recommended site protection priorities should provide this information to Operations Sections as soon as possible.

3210.2 Established Hierarchy of Protection Priorities

In general, State and Federal law establish three priority levels for dedication of emergency oil spill response resources.

First Priority - Protection of human health and safety
Second Priority - Protection of environmental resources
Third Priority - Protection of economic resources

Examples of resources that will receive a first priority response (human health and safety) includes:

-drinking water intakes
-other health/safety intakes
-critical public use areas at risk
-power plant intakes
-desalinization plants

The second priority group is thoroughly treated in Section 9800. Section 9800 is a catalog of identified resources at risk including Sensitive Ecological sites, other ecological resources, cultural/historic concerns, and economic concerns. Ecological sites are given a ranking of sensitivity of A, B, or C which reflects the sensitivity of the site and the relative ecological consequences if the site is impacted by oil or other pollutants. The rationale for this ranking is in the introduction to Section 9800, and the ranking may be useful if response resources are limited.

Economic sites have a D, E, or F designation to reflect the type of resources at risk. However, as mentioned before, resources and sites determined to be critical to the preservation of human health and safety – such as drinking water intakes, power plant intakes and desalinization plants – afford first priority, ahead of environmentally sensitive sites and economic sites.

The UC will make the final decision regarding protection priorities for the environmentally sensitive and economically significant areas. In order to further assist the UC, additional prioritization of equally categorized areas that could be impacted may, in the future, be included in this plan. This will allow the UC to determine which priority sites should be protected when initial resources will only allow the protection of a few of them.

The UC may utilize the predetermined response strategies for environmentally sensitive sites and economically significant sites. Section 9800 includes response strategy recommendations for sensitive sites should be implemented as indicated in the included site strategy sheets. However, the UC and the responders should remain flexible and be receptive to additional information when implementing the booming plan or other countermeasures. Factors such as unusually high winds, strong tidal currents or freshets, equipment limitations, bottom conditions, and the type of oil can have a significant effect on the proposed strategy. Modifications to the preplanned strategies should be expected.

In addition to the seasonal variances, the protection priority of an entire area could foreseeably be changed. For example, if the NOAA Scientific Support Coordinator (SSC) or a Department of Fish and Wildlife (DFW) biologist determines that a certain section of marshland or coastline previously categorized as a lower priority (or not categorized at all) is currently a breeding ground for an endangered species, then protection of that site may be afforded the utmost priority even at the expense of a previously categorized A site located adjacent to it. Contra wise, sensitive locales which may be already impacted or become unprotectable in a particular event may be used to collect or retain oil so that other nearby sites can be protected.

3210.3 Protection

In general, protection of potentially impacted environmentally sensitive areas will receive a higher priority than economically significant sites. This hierarchy was established in the ranking of the environmentally sensitive sites as A, B and C and the economically significant sites as D, E, and F with the highest priority being A. However, as mentioned before, resources and sites determined to be critical to the preservation of human health and safety – such as drinking water intakes, power plant intakes and desalinization plants – afford first priority, ahead of environmentally sensitive sites.

The UC will make the final decision regarding protection priorities for the environmentally sensitive and economically significant areas. In order to further assist the UC, additional prioritization of equally categorized areas that could be impacted may, in the future, be included in this plan. This will allow the UC to determine which priority sites should be protected when initial resources will only allow the protection of a few of them.

The UC may utilize the predetermined response strategies for environmentally sensitive sites and economically significant sites. The UC must decide which sites are in jeopardy of being oiled and the response strategy should be implemented as indicated in the response strategy site summary sheets included in Section 3610. However, the UC and the responders should remain flexible and be receptive to additional information when instituting the booming plan or other countermeasures. Factors such as unusually high winds, strong tidal currents or freshets, equipment limitations, bottom conditions, and the type of oil can have a significant effect on the proposed strategy. Modifications to the preplanned strategies should be expected.

3210.4 Containment and Protection Options

Before spilled oil can be effectively recovered, spreading must be controlled and the oil contained in an area accessible to oil recovery devices. This section discusses various oil containment strategies. Generally, spilled oil is contained using oil containment boom. Typical boom has a flotation section that provides a barrier on and above the water surface and a skirt section that provides a barrier below the water surface. The physical dimensions of the boom to be used for a particular spill will be dependent on local conditions: In the open ocean boom that is several feet tall may be required. In a protected marsh, it may be appropriate to use a boom that is only a few inches tall.

There are limitations on the effectiveness of any boom. Oil can be lost if breaking waves cause a splash over the top of the boom. Oil can also be carried under the boom if currents cause the oil to impact the boom with a velocity perpendicular to the boom of greater than 0.7 knots. Once a boom has been deployed, it may be necessary to reposition it due to changing tides and currents. It is desirable to have personnel available to readjust the boom as necessary. In all cases of boom deployment, consideration must be given to protecting the safety of those involved.

Open Water Containment: Oil spilled on open water is normally contained using boom. The boom will be deployed using vessels that will tow the boom around the perimeter of the oil spill. The type of boom to be deployed will depend on local conditions, including Sea State, tides, currents, and wind. To be most effective, booming on open water must be done as soon as possible after a spill.

Protective Booming: The goal of most oil containment and recovery strategies is to collect the spilled oil from the water and prevent it from reaching sensitive resources. Frequently, however, this is not possible and sensitive resources are oiled in spite of response efforts, especially during large oil spills. In these cases, the goal will be to minimize environmental injury using a variety of booming, containment, and recovery techniques. The following are techniques that the Booming Branch of the UCS' Operations section use for containing spilled oil on water or as a means to direct it away from sensitive natural resources or cultural amenities. Shoreline cleanup and treatment methods are discussed in more detail in Section 4530.

Exclusionary booming is performed prior to the advance of the oil and is used to prevent or exclude oil from entering a harbor inlet, slough, marsh, or estuary. Either skirted or sorbent boom can be used for this type of booming. Factors that must be considered are: type and size of boom, natural outflow of the body of water, wind, tide, and currents or a combination of both. These factors can be predetermined by the establishment of a priority system, training and local knowledge of underwater topography, weather conditions, and boom anchoring capabilities. It is important to remember that the boom needs to be tended and monitored as weather and tidal conditions can change.

Diversionary booming should be set so that oil movement is reduced to under 0.7 knots. This can be accomplished by angling the boom in relation to the current's direction, which reduces the velocity of the floating oil in relation to the boom. Diversionary or deflection booms can be set up in series along a waterway to increase their effectiveness. As stated before, the boom(s) needs to be tended and monitored as weather and tidal conditions can change.

Containment booming is used to prevent spreading and to concentrate the oil so it can be skimmed or vacuumed. Factors that must be considered are: type and size of boom required for weather, winds, tides, and currents in the vicinity of potential spill areas; the type of deployment vessel needed; the amount of boom needed for effective containment; and available skimming capabilities. Fixed or natural anchor points should be selected. These factors can be predetermined by emphasizing worst case spill scenarios and using local knowledge of weather and sea conditions.

Sorbent booming is useful when the amount of oil is minimal, when tides and currents are light, or when shorelines require protection. Heavier oil can be recovered using adsorbents (oil adheres to material) and lighter fuels generally are recovered using absorbents (materials such as sausage, sweep, or diapers that absorbs the oil). Sorbent booming can also be used as a backup for other booming types to recover product that may have entrained past the primary barrier.

Factors that must be considered are wind and wave action; type of sorbent required (i.e., rocky or sandy shoreline, marsh area, etc.) and type and viscosity of product to be recovered.

Berms and Dams: Coastal shores are natural barriers to spreading oil. Temporary berms, dikes, and dams can also serve as effective barriers against oil contamination of sensitive natural resources and economic amenities. Berms, dikes, and dams are simply another form of booming and are subject to the same environmental stresses. The appropriate protection technique for a particular shore depends on several factors:

- Water body type (open water, bay, tidal channel, inlet);
- Water current velocity;
- Water depth;
- Wave height; and
- Shore type (sand, gravel, boulder).

Generally, sediment berms, dikes, and dams will most often be used to protect small coastal inlets or tidal channels that serve wetlands and marshes when these channels are accessible. Berms, dikes, and dams are designed to keep oil outside an inlet to protect the abundant natural resources and economically significant areas that use the sheltered waters of bays and estuaries within. Occasionally, dikes and dams have been used across a channel to contain the oil within a portion of marsh to prevent widespread contamination of other resources.

Dikes and dams are not practical to use in strong currents, deep waters, and large waves. Beaches abundant with sand are generally the most suitable for building dikes and dams. Berms can be built above the active beach face to prevent the contamination of high beaches during spring tides. Alternative strategies should be prepared and the necessary supplies and equipment be in place should a berm, dike, or dam fail.

3210.5 Near Spill Containment and Recovery

Containment is the most effective strategy to aid in oil collection and removal. All oil removal and recovery techniques are most effective where oil is thickest, which is typically at or near the release site. As oil escapes containment it becomes increasingly difficult to recover and recovery success diminishes rapidly. Therefore, the most effective use of resources is to insure containment at the primary release site. This must include surrounding the release site with impervious oil barriers, including multiple layers of boom as necessary.

Inevitably, oil escapes containment. As a result, additional measures must be included to anticipate and deal with this escape. This is a particular necessity where oil booming is subject to winds and waves or strong currents and entrains or is splashed over boom. Two measures must be incorporated into boom deployment.

Containment booms must be configured to focus on and limit any oil escapement to preplanned points along the boom perimeter, for both the ebb and flood tides. These points should be selected to optimize recovery of any escaping oil. A skimmer should then be positioned downstream from these locations to continue skimming escaping oil throughout the 24-hour tide cycle, regardless of light or weather conditions. This is very practical in bay conditions where both boom and skimmers can be anchored. It is more difficult to implement in open ocean conditions.

Secondary booming should be employed in the spill area. This strategy is most effective in nearshore areas typical to bays, though opportunities may occur in open water to slow the spread from the primary containment area. In bays, spill locations are often near shorelines. Shorelines act as natural containment since they prevent free movement of oil. Also, winds and tides often drive oil toward the shore. Once oil is ashore or in a low current area, it should be confined and recovered there, if possible, to minimize its movement and contamination of other locales. Shores which have already been oiled can no longer be protected; therefore, use them as containment

and recovery sites. This changes the objective from protection to containment and preventing oil escape to unoiled areas.

If the oil moves from a near shore spill site to open water, the recovery potential will diminish dramatically. As with primary containment, escapement from secondary containment booms is predictable and skimmers should be positioned to capture oil throughout the day and night, particularly during the ebb tide. These secondary shoreline confinement strategies should always be reviewed with the Resources at Risk Specialist.

Shoreline Collection: There are predictable locales where recovery efforts can be optimized at shorelines. Since oil re-accumulates, oil collection should be vigorously attempted at the shoreline in two situations: 1. Places where winds and currents cause oil to naturally collect at the shoreline and 2. Diversion and capture of oil as it flows past or along shorelines and points with low environmental sensitivities.

(Oil recollects because it is a substance that spreads primarily in two dimensions on the water surface while water moves in three dimensions. Oil will spread and thin but it will also re-accumulate at predictable locales; wherever water has downward currents – such as tide rips along mud flats – and at windward coves.)

Here are the operational considerations when establishing a shoreline collection site when oil is moving along or near shore should be: Boom should be positioned at an acute angle to the current to move oil toward the shore collection site (cascading boom arrangements may be necessary). Once oil is at the shoreline, it may be necessary to deploy additional boom to trap the accumulated oil at the shore collection site when the tide reverses. Good land accessibility is an important part of selecting capture sites since it permits site support and easy removal of collected oil. Though some natural collection sites may have poor land access, they may be important accumulation points that can be exploited effectively via water.

Deployments of this type should be made only per recommendation of the ACP, Incident Action Plan, or with the direction of the Resources at Risk Specialist and the UC.

Natural collection points for debris are on all shorelines. These points are so predictable that it is very difficult to keep oil off even with pre-deployments. An alternative is to anticipate such collections and leverage the opportunity for oil capture. This entails developing the site for collection while limiting and focusing undesirable impacts to the habitat. Though this entails risk, the trade-off is likely to be nominal since the impacts are virtually inevitable.

Diversion to shores with low environmental sensitivities is a desirable alternative to unmitigated oil spread. As described above, oil spreads rapidly on open water and effective on-water skimming is difficult in a high current environment. Diversion can shunt oil out of the high current and into quiet water capture points at shore. It can be an effective addition to on-water skimming recovery.

3220 On-Water Recovery

Oil spilled in open water spreads quickly and weathers rapidly. Often, rough wind and sea conditions will be contributing factors to the cause of the spill and these same conditions will preclude response and deployment of surface equipment or minimize their effectiveness. Such conditions may cause the oil to be dispersed into the water column, evaporated into the atmosphere, and/or transported away from sensitive areas and resources. These conditions may prescribe a decreased response with an action plan that allows a natural “weathering and

cleansing" process. If possible, however, an active response must be undertaken in order to remove oil from the environment and thereby reduce the threat to sensitive natural resources.

Usually a series of successive strategies are necessary and appropriate for any spill. Each set of environmental and situational conditions limit the array of possible useful strategies. Omission of any appropriate strategy can have severe results. Consequently, it is very important that every effort be given to implementation of the strategies described.

Mechanical control and recovery countermeasures are most effective immediately after a spill when the oil is in a thick layer and covers a small area. When oil is spilled in or allowed to escape to open water, the possibility of containment and recovery is limited by the weather and sea conditions. Booms and skimmers are most effective in calm waters but can also work during moderate weather and sea conditions. When the open water is rough, booms and skimmers become ineffective and containment is impossible and weir skimmers are particularly ineffective. Windy conditions speed the rate of spreading, resulting in diminishing opportunity for open water recovery.

On Water Recovery Branch: On-water recovery is in the Operations Section of the UCS. The On Water Recovery Branch reports to the Operations Section Chief. Major responsibilities are as follows:

- Implement assigned portion of spill action plan to contain and recover spilled oil;
- Request needed resources and assign to group supervisors;
- Maintain ship to shore communications;
- Provide situation and resource status information to the Operations Section;
- Coordinate activities with Shoreline Cleanup and Booming Branches;
- Report all events and accidents to the Operations Section Chief;
- Evaluate the performance of containment and recovery equipment; and
- Participate in strategy development with Planning and Logistics Sections.

3220.1 Storage

To expedite removal of spilled oil, refined products, and contaminated materials from marine waters during an emergency response, containment activities (to include temporary waste storage) may be conducted at appropriate on-shore locations [22 CCR 66270.1(c)3]. The transportation of oil and contaminated material to temporary waste storage sites during an emergency response is exempt from transportation and manifesting requirements, per the draft MOU between OSPR and DTSC (these requirements are also exempted per 22 CCR 66263.30 and/or 66263.43 for transportation-related emergency responses).

During an immediate response, all oil and/or oily materials may be recovered, transported, or transferred to temporary waste storage sites and are exempt from any hazardous waste generator and facility permit requirements for a period of 30 days, per the draft MOU between

OSPR and DTSC. Additional 30-day extensions may be granted by DTSC, under appropriate circumstances.

Temporary storage sites can be an area or facility approved by the IC or UC for characterizing and/or temporarily storing recovered oil and/or oily materials used, collected, or recovered during an oil spill response. Such an area may include, but is not limited to, permitted or interim status hazardous waste storage facilities, other non-permitted facilities, vessels, barges, tanks, vacuum trucks, barrels, containers, storage piles, or other appropriate containment methods and locations that may be used to hold recovered oil and/or oily materials. Temporary storage sites need not be owned, operated, or leased by the RP. Temporary storage sites that are on-shore should be established at locations that are convenient to the recovery operations for the temporary storage of recovered petroleum products, and contaminated materials and debris. Establishment of the temporary storage site, however, must be done with the concurrence of the following:

- FOSC
- (DTSC)- The DTSC Duty Officer can be contacted at (800) 260-3972 or (916) 255-6504. After hours, on weekends and on holidays, contact the Governor's Office of Emergency Services Warning Control Center at (800) 852-7550.
- California Coastal Commission: (1) CCC Oil Spill Program (Deputy Director 415-904-5205, or 24-hour cell phone 415-693-8375); or (2) if CCC Oil Spill Program cannot be reached, call CCC San Diego District Manager (619-767-2375).
- Regional Water Quality Control Board (RWQCB); and
- Local health, fire and emergency services departments.
- If a Unified Command (UC) is established, OSPR will facilitate the contact of the State and local government agencies through the Liaison Officer.

3230 Shoreside Recovery

Shoreline Types:

The most obvious differences between shorelines along the California coast are due to geomorphology. Geomorphological differences are caused by exposure to different quantities of water and wind-driven forces of shoreline energy (specifically waves and currents) and the actual shoreline type (substrate, grain size, tidal elevation, origin). The geomorphology and the degree of exposure to waves and currents combine to influence the plants and animals that inhabit the intertidal and shallow subtidal areas of the shoreline and the natural persistence of stranded oil. These same factors provide the criteria to determine the appropriate shoreline cleanup techniques.

These concepts were the basis for development of the Environmental Sensitivity Index (ESI) by the Research Planning Institute (RPI), which ranks 15 major shoreline types according to their sensitivity to oiling and shoreline cleanup activity. The ESI provides a useful first step in the design of contingency plans because it enables the ready identification of priority areas for protection from oiling and determination of appropriate shoreline cleanup methods during response activities. Summarized, the ESI ranges from least sensitive to oil (lowest numbers) to most sensitive to oil (highest numbers). Detailed descriptions of the ESI shoreline types and likely

oil impacts can be found in the National Oceanic & Atmospheric Administration (NOAA) Shoreline Assessment Manual at: http://response.restoration.noaa.gov/shor_aid/shor_aid.html

Shoreline types are ranked as follows:

RANK	SHORE	(NOAA ESI Map Shore Type)
1	Exposed rocky shores	(1)
2	Exposed rocky platforms	(2)
3	Fine-grained sand beaches	(3)
4	Coarse-grained sand beaches	(4)
5	Mixed sand and gravel beaches	(5)
6	Gravel beaches	(6a)
7	Riprap structures	(6b)
8	Exposed tidal flats	(7)
9	Sheltered rocky shores	(8a)
10	Sheltered artificial structures	(8b)
11	Sheltered tidal flats	(9)
12	Salt to brackish marshes	(10a)
13	Freshwater marshes	(10b)
14	Swamps	(10c)
15	Mangrove	(10d)

3230.1 Shoreline Cleanup Options

Shoreline Cleanup:

Under certain conditions it will be appropriate to take actions to remediate the effects of oil on shorelines. Other conditions may dictate that no actions should be taken. The primary goal of the implementation of any shoreline countermeasure is the removal of oil from the environment with no further injury or destruction to that environment. A list of the 22 different countermeasures is provided. These 22 countermeasures, including natural recovery, have been evaluated for the appropriateness of their use on five major categories of petroleum products (very light, light, medium, heavy, and non-floating) stranded on 10 shoreline types. The results of these evaluations are presented on five matrices attached at the end of this section. These matrices are intended to be used as a planning guide by the Shoreside Recovery Group of the Operations Section.

The countermeasures listed may not be the best for use under all possible circumstances, and multiple countermeasures may need to be used on the same shoreline. Selection of specific countermeasures for use during a spill response will be based on the properties of the stranded oil, the degree of contamination, the shoreline type, and the presence of sensitive natural resources. The FOSC or the State OSC has the authority to select or approve specific countermeasures for use during an oil spill response.

Potential Shoreline Treatment Methods:

The following section lists and describes those techniques which may be required for use during a shoreline cleanup. Methods and equipment currently in use for these shoreline treatment methods are described in more detail in the Shoreline Assessment Manual. These methods, when used according to the guidelines in this document, may be used on most sites as part of the UC-directed response. It should be noted that methods noted with an (*) will require special

consideration and authorization by the natural resource trustee prior to commencement of work. The trustee agency(s) for fish and wildlife resources will make the final recommendations to the UC on which specific method(s) to employ on a case-by-case basis. Regardless of this decision, contingency plans should provide for an array of identified methods to be used. Currently approved methods are:

- Natural Recovery
- Barriers/Berms
- Manual Oil Removal/Cleaning
- Mechanical Oil Removal
- Sorbents
- Vacuum
- Debris Removal
- Sediment Reworking/Tilling
- Vegetation Cutting/Removal
- Flooding (deluge)
- Low Pressure, Ambient Water Flush (<50 psi)
- High Pressure, Ambient Water Flush (50-100 psi)
- Low Pressure, Hot Water (<50 psi)
- High Pressure, Hot Water (50-100 psi)
- Steam Cleaning
- Sand Blasting
- Solidifiers
- Shoreline Cleaning Agents
- Nutrient Enrichments
- Natural Microbe Seeding
- In-situ Burning
- Dry Ice Blasting

Refer to NOAA for more details on Shoreline Countermeasures.

3230.2 Pre-Cleaning Beaches

Refer to Section 9800 on pre-cleaning beaches.

3240 Disposal

Crude oil and Refined Petroleum Products

Under California law, material released or discharged to marine waters of the state are defined as waste. Once the final disposition of a specific waste is determined, the waste may be redefined as a product or material and may no longer be subject to waste management requirements.

Also refer to Sections 5700 of the Region 9 RCP for information.

3240.1 Waste Management and Temporary Storage Options

One of the major issues associated with an oil spill response is the proper management of the recovered petroleum product, as well as the contaminated cleanup materials, soil, and debris. How these are managed is dependent on how they are characterized - as either a solid waste, hazardous waste or a hazardous material (used or reused).

3240.11 Waste Management Strategies

One of the major problems associated with an oil spill response is the disposal of collected product and contaminated cleanup materials, soil, and debris. Each category of waste has it own type of response and management problem. The following discussion presents a general approach to the management of the various types of wastes collected during an oil spill. The charts following this section presents an encapsulated view of what types of waste are generated by an oil spill and the disposal options for each type.

3240.12 Disposal Options

Crude oil and refined petroleum products. Under California law, material released or discharged to marine waters of the State are defined as waste. Once the final disposition of a specific waste is determined, the waste may be redefined as a product or material and may no longer be subject to waste management requirements.

Crude oil spilled into marine waters, recovered, and transported to a refinery may be considered a product and may not be subject to hazardous waste management regulations [California Health and Safety Code (CHSC), 25943.2]. The collected crude oil may be shipped to the refinery of original destination or a refinery that can accept the spilled crude oil. Refined petroleum products that are recovered from marine waters may also be handled as a product if they can be used for their originally intended purpose (i.e., fuel, fuel oil, etc.)(CHSC 25250.3).

There are other avenues by which recovered petroleum may be managed as a material (CHSC 25143.2). These approaches include recycling the petroleum through incineration, as a fuel, as a substitute for raw material feedstock, or as an ingredient used in the production of a product (i.e.,

asphalt). The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) should be consulted for more information on these and other management options. The DTSC San Diego Field Office can be reached at (858) 637-5531.

State law requires the consideration of recycling, therefore recycling should be a top priority and will be undertaken if at all possible. The latest published list of companies who recycle oil, and the latest published list of licensed used oil haulers are presented in tables following this subsection. A discussion of waste minimization and recycling options is included in this subsection.

Recovered petroleum "products" that are not accepted by a refinery or that cannot be recycled must be managed as a waste. In order that the appropriate management mechanism is determined for the recovered petroleum, the waste must be characterized by a State certified laboratory to determine if the waste is hazardous or non-hazardous. It is the responsibility of the Responsible Party (RP) to have the waste accurately characterized for proper disposition [Title 22, Sec. 66260.200(C) of the California Code of Regulations (22 CCR)].

Disposal at Sea of Water Separated from Recovered Oil. Oil recovered at sea typically contains significant amounts of seawater. In order to maintain the efficiency of the skimming process this water must be separated/decanted from the oil and discharged back to the ocean during recovery operations. Separated seawater typically contains elevated levels of hydrocarbons and thus the discharge of this material may constitute a discharge of a pollutant. The USCG On-Scene Commander (OSC) recognizes the "discharge" of separated/decanted water as an integral part of offshore skimming operations and as an excellent waste minimization tool. Therefore, the USCG OSC or his/her representative may authorize the discharge of separated/decanted water back into the catenary area of a boom/skimming system outside of State waters (three miles). The exception to this will be in NOAA Marine Sanctuary waters, however, there are no National Marine Sanctuaries in the San Diego Area.

Contaminated Debris. Contaminated debris, including organic material, contaminated cleanup equipment (i.e., booms, pompoms, sorbents, etc.) and other contaminated materials that cannot be recycled must be managed as a waste. The materials must also be characterized before the appropriate waste management option is determined.

Oiled Animal Carcasses. Handling of oiled wildlife and carcasses is not permitted by law unless under the direction of Department of Fish and Wildlife, Office of Spill Prevention and Response (OSPR) representatives who are responsible for wildlife rehabilitation and collection of carcasses for natural resource damage assessment (NRDA) investigations. The identification and location of OSPR representatives can be provided by the Unified Command Center. Collection, handling, and disposal should only proceed at the direction of OSPR which is the designated responsible trustee. RCP Section 3600 has the California Wildlife Response Plan, provides details about handling and preservation of oiled wildlife and carcasses.

Refer to Section 9240.5 for information on San Diego Wildlife Rescue Organizations within the Oiled Wildlife Care Network (OWCN) and Section 9250 of this Plan for contact information on "Activating the OWCN."

3240.13 Waste Minimization and Recycling Opportunities

Debris Avoidance. It is generally not possible to avoid the generation of oily debris resulting from the contact of floating oil with waterborne solids. However, it is possible to minimize the generation of oily debris in the coastal intertidal zone if the anticipated area of oil impact can be

cleaned prior to stranding of the spilled oil. This has been successfully accomplished in a small number of past spills (W. Schumaker, personal communication).

Personnel can be deployed to remove debris from beach intertidal areas above the high tide line in order to minimize oiling of stranded debris/trash. It is important to note that such crews are not likely to be certified as required under OSHA 1910.120 and can only perform this task prior to the stranding of spilled oil. A safety/industrial hygiene specialist should be consulted regarding the limitations of these crews and the effective establishment of exclusion zones in the area of beach impact.

Selection of Personal Protective Equipment (PPE). Depending upon climatic conditions and material compatibilities of PPE, waste can be minimized through the selection of reusable equipment, when possible. For instance, heavy gloves and boots that can be effectively decontaminated and reused can minimize the generation of oil-contaminated disposable gloves and boots, as long as the site safety officer approves such equipment use. Reusable rain gear may also be used instead of disposable suits, if approved. Such decisions should be made early in the response process in order to minimize generating containerized, contaminated PPE which is generally disposed at Class I facilities.

Recovered Oil and Oily Water. In order to maximize skimmer efficiency and effectiveness, water should be decanted to the spill impact area with the approval of the Federal OSC and relevant State agency representatives. Operational standards (e.g., decanting only in the impact area where water depth is sufficient, no free oil) should be established as soon as skimming is initiated. In Federal waters, decanting can be approved through a request to the Federal OSC. As discussed earlier, in State waters approval must be secured from the Regional Water Quality Control Board (RWQCB); Keith Yaeger is the San Diego RWQCB contact (619-521-5899).

Both oil and oily water recovered from skimming operations should be off loaded to facilities where it can be effectively recycled/ managed within established process and treatment streams. Such facilities would include terminals, refineries and commercial refiners/reclaimers/recyclers. These facilities can often provide temporary tank storage, when necessary. Oiled debris that is recovered with skimmed oil should be maintained in secure, temporary storage until it is sufficiently characterized for disposal.

Sorbent Use/Reuse. Synthetic sorbents (i.e., pads, sweeps, and booms) have become standard response materials in the “mechanical recovery” of spilled oil. Their oleophilic, hydrophobic character makes them efficient at separating oil and water and they are routinely used to recover oil from solid surfaces as well (e.g., rubble, cobble and boulder shorelines; equipment/gear; vessels; etc.). Since oiled sorbent material often constitutes a substantial percentage of the oily solid waste generated during spill response and cleanup, opportunities for minimizing this waste volume should be considered.

Some sorbents are designed to be reusable (i.e., mechanized rope-mop skimmers) or can be recycled onsite with inexpensive gear (e.g., appropriate barrel-mounted wringers). Sorbent manufacturer's instructions should be followed regarding the limits of effective reuse for their individual products. It is also possible to replace sorbent sweeps and booms with recyclable boom and other appropriate gear in circumstances where floating oil can be efficiently recovered without generating oiled sorbents. For example, in good-access, low-energy shoreline areas (harbors, bays, inlets), it may be possible to use containment boom and recover the trapped oil with vacuum trucks instead of contaminating large volumes of sorbent.

Petroleum-Contaminated Spill Recycling and Reuse. While the volume of petroleum-contaminated soil associated with coastal spills is generally lower than such volumes resulting from large inland spills, opportunities for recycling/reuse should be considered. For soils satisfying the waste profiling requirements of the State and commercial facilities, beneficial reuse as daily landfill cover after appropriate treatment is an available option in California (see Response Resources lists). Recycling of oil-contaminated soil as aggregate in cold-mix and hot batch asphalt is available at four facilities in the State of Washington (Nash, et. al, 1992).

Furthermore, a recently completed study of the incorporation of oily/solid residuals into construction materials concluded that a large market exists in California and that these recycling/reuse opportunities should be pursued and encouraged (Mittelhauser Corporation, 1992). It is important to note that both the costs and benefits of such recycling (less than $100/ton and low future liability) versus disposal in a California Class I or II disposal facility (greater than $100/ton and moderate to high future liability) are substantial. Removal of contaminated soil from temporary storage will require the authorization of the OSC.

3240.14 Temporary Storage

To expedite removal of spilled oil, refined products, and contaminated material from marine waters during an emergency response, temporary storage sites may be erected at appropriate shore locations [22 CCR 66270.1(c)3]. The transportation of oil and contaminated material to temporary storage sites during the emergency response is exempt from handling and permitting requirements [22 CCR 66263.30 and/or 66263.43]. Contact DTSC at (800) 260-3972 or (916) 255-6504 and request to speak to the DTSC Emergency Response Duty Officer. After hours, weekends, or on holidays, call the Governor's Office of Emergency Services (OES) Warning Control Center at (800) 852-7550 and OES will notify the DTSC Duty Officer.

Temporary storage facilities can include Baker tanks, tank trucks, oil drums, or empty fuel storage tanks. If suitable containers are not available, oily wastes may be temporarily stored in roll-off bins.

Temporary storage sites should be available at an onshore location convenient to the recovery operations to temporarily store recovered petroleum products and contaminated materials and debris. A temporary storage site may require a permit from the California Coastal Commission (CCC). For information on emergency permits for temporary storage sites within the coastal zone, call: (1) CCC Oil Spill Program (Deputy Director 415-904-5205, or 24-hour cell phone 415-693-8375); or (2) if CCC Oil Spill Program cannot be reached, call CCC San Diego District Manager (619-767-2375).

Sitting of the temporary storage site, however, must be done with the concurrence of the following:

DTSC [The DTSC duty officer can be contacted at one of the following phone numbers: Region 1 (Sacramento) @ 916-255-3545; Region 2 (Berkeley) @ 510-540-2122; and Region 4 (Long Beach) @ 714-484-5300.];

California Coastal Commission (CCC): For information on obtaining emergency permits within the coastal zone, call: (1) CCC Oil Spill Program (Deputy Director 415-904-5205, or 24-hour cell phone 415-693-8375); or (2) if CCC Oil Spill Program cannot be reached, call CCC San Diego District Manager (619-767-2375);

Regional Water Quality Control Board (RWQCB); and

Local health, fire and emergency services departments.

If a Unified Command is established, OSPR will facilitate the contact of the state and local government agencies through the Liaison Officer.

3240.15 Initial Treatment

Petroleum and petroleum-contaminated cleanup materials can potentially be treated at a temporary storage site. One of the treatment processes that may be used is Transportable Treatment Units (TTU). The most likely treatment process undertaken with a TTU will be separation of seawater from collected petroleum. Another method employed for separating water is decanting water from temporary storage tanks.

Any water generated through the separation of petroleum and seawater may be potentially discharged to a sanitary sewer system or back to marine waters. The sanitary sewer discharge will require a permit from the local sanitation district that will establish effluent requirements for the discharged water. Should a sanitation district not allow the discharge of water to its system, the recovered sea water would either be discharged back to the adjacent marine waters or transported off-site for disposal. The discharge of recovered seawater to State waters will require a NPDES permit from the local RWQCB.

A portable incinerator may be another type of TTU available during a spill response for use with contaminated material. The use of an incinerator will require a permit from the local air quality agency. The potential use of any TTU and regulatory standards must be discussed with DTSC.

3240.16 Characterization of Recovered Material

Recovered petroleum and contaminated debris not recycled must be characterized to determine their waste classification before the waste can be shipped to a proper waste management facility for final disposal. A State of California certified laboratory may conduct the actual testing on representative samples of each type of waste.

It is the responsibility of the generator/RP to have petroleum and contaminated material managed as waste accurately classified as hazardous or non-hazardous for proper disposition [22 CCR 66260.200(c)]. A generator who incorrectly determines and manages a hazardous waste as non-hazardous is in violation of the hazardous waste requirements and may be subject to DTSC enforcement action.

22 CCR 66264.13 and 66265.13 states that before an owner or operator of a treatment, storage, or disposal facility transfers, treats or disposes of any hazardous waste, the owner or operator shall obtain a detailed chemical and physical analysis of a representative sample of the waste. Characterization of the waste must be provided to DTSC (via profile sheet). DTSC then designates the waste acceptable prior to shipment. State criteria for characterizing a waste hazardous or non-hazardous is found in 22 CCR 66261.10 and 66261.20-66261.24 while federal criteria is presented in 40 CFR 261.30-261.33. These criteria can apply to any oily water; sorbents, booms, and debris generated as a result of oil spill cleanup. Based on waste characterization, the wastes can be further defined as either a Federal Resource Conservation and Recovery Act (RCRA) waste (hazardous waste regulated under federal regulations), non-RCRA waste (hazardous waste regulated under California regulations), or non-hazardous waste. Non-hazardous waste in this instance is defined as designated waste per 23 CCR 25522. Once

the waste is characterized, disposition options can then be selected. Removal of recovered material from temporary storage will require the authorization of the OSC.

3240.17 Transportation

Recovered petroleum product not accepted at a refinery or recycling facility and contaminated material must be transported to an approved waste management facility. The type of waste management facility will be based on the results of the waste characterization performed.

Hazardous Waste. Waste classified as hazardous under either Federal or State regulations must be transported to a permitted or interim status hazardous waste facility. A State licensed hazardous materials hauler must do hauling of the waste. The licensed hauler must have a U.S. EPA ID number and State transporter ID number. Prior to removal of the hazardous material from temporary storage, a uniform hazardous waste manifest (form DHS-8022A) must be prepared by the generator (RP or his representative) for recovered petroleum and other contaminated materials (22 CCR 66263.20 - 66263.23). If assistance is required for manifesting, the RP may request it from the on-scene DTSC representative or the state DTSC duty officer (916-255-6504).

When Coast Guard Sector San Diego is a waste generator, contact the FOSC Duty Spill Phone at (619) 571-2621 and request the Federal generator and State generator ID number.

All hazardous materials shipped off-site must be transported in compliance with applicable regulations. These include the RCRA regulations in 40 CFR 262-263, DOT Hazardous Materials Regulations (49 CFR 171-178), and any applicable State regulations (22 CCR 6626.20-6626.23).

Non-Hazardous Waste. Waste determined to be non-hazardous but designated waste (23 CCR 2522) will be transported to a Class II waste management facility. Manifesting of the waste is not required but a Bill of Lading is required for transportation. The appropriate RWQCB and local health department should be contacted to determine which waste management facility would accept the waste and any additional test requirements the facility might require. Removal of non-hazardous waste from temporary storage will require authorization of the OSC.

3240.2 Decanting Policy

Refer to “Disposal at Sea of Water Separated from Recovered Oil” under “Disposal Options” in Section 3240.11.1 of this Plan for information on decanting policy.

See also the MOU for State Waters found in Section 5710 of the Region 9 RCP.

3240.3 Sample Waste Management Plan

Refer to Section 5750 of the Region 9 RCP.

3250 Decon

This section identifies general guidance procedures to be followed for vessels and equipment involved with oil spill response operations. Because these operations may involve operating within oiled waters or recovery operations, we may assume that vessels, equipment, machinery, and other gear will be impacted with oil. This plan will be used for all vessels and equipment either contaminated or suspected of being contaminated with oil to return to a non-oiled state. Note: Plan should identify decontamination location or site.

Refer to the Environmental Protection Agency's Environmental Response Team website for more information. See also Section 7243 of the Region 9 RCP.

In view of the extensive equipment inventory involved in a response effort, the On Scene Coordinator will establish decontamination zones.

All contaminated items will be cleaned to a condition of cleanliness mutually agreed upon by the Unified Command and the equipment owner.

The primary focus of this operation will be to expedite cleanup of oiled vessels and response equipment in a safe, organized and efficient manner while minimizing further damage to the environment and waste generation.

3250.1 Sample Decon Plans

The following are decon plan formats for the Unified Command to use during an incident. The UC must recognize the unique circumstances of each incident and see which one is more suitable to follow. The UC can also create an entirely different format it they feel it is more appropriate.

Format Number One

Equipment Decontamination Form						
Company						
Contact Person			By			
Phone			Contract			
Item	Quantity	Unit	Location	Date Started	Date Released	FOSC

Format Number Two

EQUIPMENT DECONTAMINATION PLAN

Date: _____

FOSC _____
SOSC _____
RP _____

PREPARED BY: _____

CONTENTS:

PURPOSE

This plan serves to identify general guidance procedures to be followed by vessels involved with oil spill response operations. Because these operations may involve transiting through slicks, operating within oiled waters or recovery operations, we may assume that vessel hulls, decks, machinery, tanks, piping, deck gear and other areas will be impacted with oil. This plan will be used for all vessels and support equipment, either contaminated or suspected of being contaminated with oil, to return to a non-oiled state.

SITE SPECIFICS

Site Location: _____
Description: _____
Oil Type: _____
Contact Person: _____
Phone: _____

CONCEPT OVERVIEW

In view of the extensive equipment inventory involved in this response effort, the responsible party will:

- oversee gross decontamination of vessels;
- establish and oversee temporary berthing of oiled vessels; and
- oversee final decontamination of oil spill recovery vessels and equipment.

The primary focus of this operation will be to expedite cleanup of oiled vessels and response equipment in a safe, organized and efficient manner while minimizing further damage to the environment and waste generation.

Equipment decontamination is planned to occur in two phases:
Recovered oil is to be off-loaded from skimmers cargo tanks to portable storage tanks and or vacuum trucks pending disposal as per the “Approved” Disposal Plan.
Equipment is to be transferred into a bermed area and be decontaminated.

All equipment will undergo full decontamination prior to demobilization.

CLEANING PROCESS

A Hypalon liner or like (secondary containment) will be placed under each decon pool with the perimeter sufficiently bermed to allow for wastewater and rainwater evacuation. All wastewater will be pumped to a poly portable storage tank vacuum truck for disposal. All pumps, hoses and piping will be left in place to facilitate speedy evacuation of retained oil / water. The final disposal of wash water, oiled sorbents and materials will be accomplished in accordance with the “approved” Disposal Plan.

A cleaning solution (PES 51 or like) will be utilized as a degreaser and will be applied by a Hudson sprayer as applicable. By utilizing the PES 51 product, which will not emulsify the oily water, it is possible to recycle/reclaim the rinsates.

A MSDS for PES 51 is available at _____. Actual pressure washing, if required, will utilize a Landa (or like) hot/cold pressure washer with a temperature range up to 220° F and a pressure rating up to 3000 psi. Every attempt will be exercised to mitigate noise-generating equipment by placing it in insulated areas. Once the piece has been determined clean to the owner’s standard, the equipment will be demobilized.

See site safety plan for PPE requirements for decontamination activities.

METHODOLOGY FOR TYPES OF VESSELS

TANKER VESSELS

Decontamination of the hull of the T/V _____ is to occur at anchor within _____. The affected area will be placed inside standard contractor containment boom (8x12) during the decontamination process. If weather conditions permit, smaller vessels will be used as platforms to facilitate cleanup operations. The hull of the vessel will be wiped by hand with cotton rags. A cleaning solution will be used to remove residue oil from the hull. All oil will be wiped from the hull in this manner. Personnel involved in this operation will wear modified PPE Level D including raingear, gloves, eye protection and floatation work vest. Preplanning for protection of adjacent areas shall be accomplished in order to minimize cross

contamination. Floating oil from sheen-emanating vessels will be minimized with sorbents as necessary to reduce potential loss outside the containment boom. Floating sorbent materials shall be utilized in natural collection points as needed to retain free-floating oil. These sorbents will be tended daily.

OIL SPILL RESPONSE VESSELS

Decontamination of spill response vessels is to occur at _____. The following vessels have been identified for decontamination _____.

Each vessel will be placed inside standard contractor containment boom (8x12) during the decontamination process. This decontamination zone area may utilize a boom anchoring system to prevent the collapse of the perimeter protection during tidal changes and surges.

A decontamination work plan will be created for each OSRV. These plans may be added as appendices to this document. Preplanning for protection of adjacent areas shall be accomplished in order to minimize cross contamination.

If required, vessels with significant oil may be hauled from the water. The vessel will be transferred to a bermed area. The vessel will be blocked using jack stands and wood cribbing. A decontamination team will be assigned to the bermed area. Most vessels require the hull to be washed / wiped to remove residual oil.

RECREATIONAL VESSELS

Recreational vessels which were oiled during the response will be sent to the _____. They will be stored in a designated area. When the vessel is to be cleaned it will be moved into a containment berm. The hull and affected areas will be cleaned with a marine cleaner. All efforts will be made to remove residual oil from the hull and machinery. The vessel will be released from the decon area following an inspection by the USCG and the P & I Club representative.

CONTAINMENT BOOM AND PORTABLE EQUIPMENT

A separate decontamination area has been identified for containment boom and small equipment. The site is located at _____. _____ has positioned a Shoreline Cleanup Trailer at this location to provide a support zone to be used for consumable supplies.

EQUIPMENT PRIORITY

A priority assessment will be attached to each piece of equipment to ensure a timely flow of equipment through the cleaning process. The Decon team leader will work with the appropriate OSRO representative to prioritize the vessels to be cleaned. Information will be recorded on a Resource Tracking Form.

CONFINED SPACE

There are no confined space entries required as part of this decontamination project.

CERTIFICATE OF DECONTAMINATION

For this project, the equipment owner's representative will certify that equipment has been decontaminated. The FOSC shall provide final certification of decontamination in a form he or she deems appropriate. A tracking form will be used to document cleaning and acceptance by the equipment advisor.

3260 Dispersants

The most commonly considered alternative to mechanical recovery and/or in-situ burning, and one not as limited by weather or advanced sea states, is the use of dispersants. Aerial dispersant applications can quickly treat large oil slick areas and significantly increase the "encounter rate" for oil spill treatment. While an oil slick will undergo natural physical degradation, the ability to add a dispersing agent more rapidly and more effectively breaks a surface slick into small droplets for movement into the water column where they can be more effectively biodegraded. The RRT IX Dispersant Use Plan (DUP) for California (see complete DUP posted here: https://www.wildlife.ca.gov/OSPR/Contingency and supporting Job Aids provide key information that will guide the FOSC in a dispersant-use decision for both the preauthorized dispersant use areas in federal offshore waters, as well as dispersant use in areas requiring RRT IX Incident-Specific authorization. It includes:

1. A Federal On-Scene Coordinator (FOSC) flowchart;
2. A decision support checklist, incorporating conditions of approval and Best Management Practices (BMPs);
3. Appendices of key planning and consultation results, and;
4. A series of supporting job aids, including decision-support and approval forms.

The DUP authorizes and provides guidelines for the pre-designated USCG FOSC to use dispersants in a timely manner to: 1) prevent or substantially reduce a hazard to human life; 2) minimize the adverse environmental impact of the spilled oil; and 3) reduce or eliminate the economic or aesthetic losses of recreational areas. Dispersants can also in some cases be considered for use in conjunction with mechanical skimming (and/or in-situ burning) to increase the rate of surface oil removal.

Before a decision is made to use dispersants, the FOSC and trustee agencies should consider if timely, physical containment, collection, and removal of the oil will not be possible, and if the use of dispersants, alone or in conjunction with other removal methods, is the appropriate response to minimize a substantial threat to public health or welfare, or to minimize serious environmental damage that would occur if the oil was left on the surface, and/or where it would drift and strand on the shoreline. Oil spill trajectories, as well as baseline and real-time wildlife observations, can be used in a net environmental benefit analysis to assess the risk from untreated versus treated surface oil slicks.

3260.1 RRT IX Dispersant Authorization Zones

The DUP addresses the use of dispersants in each of two geographic zones:

- RRT IX Dispersant Pre-Authorization Zone; and,
- RRT IX Incident-Specific Authorization Zones.

The 2008/2014 RRT IX Dispersant Use Plan describes two dispersant use zones for California offshore waters:

1) Dispersant Preauthorization Zone
   All waters 3-200 nm from any shoreline (mainland or island) except those within a National Marine Sanctuary, or within 3 nm of the CA-MX border (and in a 3nm wide band running out to the 200 nm offshore contour). Preauthorization is granted by the RRT IX only to the FOSC. The FOSC for offshore California is the US Coast Guard.

2) RRT IX Incident-Specific Authorization Zone
   Required for all other waters (e.g., within state waters, including bays and estuaries, and within 3 nm of the CA/MX border.

   Subsea use requires RRT IX Incident-Specific Authorization, regardless of dispersant zone type.

   Surface use of dispersants from more than 4 days requires additional RRT IX authorization, regardless of dispersant zone type.

3260.2 RRT IX Policy Regarding Which Dispersants May Be Used

Past policy of the RRT IX has been to only consider use of the dispersant products listed on the NCP Product Schedule AND licensed by the State of California. This is also a condition of the USFWS ESA Section 7 consultation. Baseline Criteria, Special Considerations, and Best Management Practices.

3260.3 Baseline Criteria, Special Considerations, and Best Management Practices for Dispersant Use

The following discussions describe the conditions for and the prohibitions for dispersant use zones as well as best management practices relevant to decision making as to the suitability of a situation for the use of dispersant.

Baseline Criteria for Use in Preauthorized Dispersant Zones

- ✓ Dispersant application in federal waters 3 to 200 nautical miles from the nearest (mainland or island) shoreline (year-round preauthorization), with the exception of:
  - The area 3-5 miles from the shorelines of Del Norte, Humboldt and Mendocino Counties during the marbled murrelet breeding season (March 24 – September 15), when dispersant use in this area instead requires RRT IX Incident-Specific Authorization. (Other marbled murrelet offshore breeding areas are already within a NMS and Incident-Specific Authorization area).
- ✓ Application is not within 3 miles of the CA/Mexico border (and extending offshore to 200 nm)
- ✓ Application is not within the boundaries of a National Marine Sanctuary
- ✓ Application is not for surface use extending more than 4 days. All dispersant use lasting more than 4 days requires additional RRT IX authorization (regardless of dispersant zone type)
- ✓ Application is not for subsea use. All subsea dispersant use requires Incident Specific RRT IX authorization (regardless of dispersant zone type)

Baseline Criteria for Use in Incident Specific Dispersant Zones

- ✓ Incident Specific authorization required for use within 3 miles of shore or within 3 miles of the CA/Mexico border (and extending offshore to 200 nm)

- ✓ Incident Specific authorization required for surface use extending more than 4 days.
- ✓ Incident Specific authorization required for subsea dispersant use

Situations Not Recommended for Dispersant Use

- Not recommended for spills of gasoline, diesel, jet fuel, kerosene or similar light distillate (Type I) oils
- Not recommended for water less than 60-feet deep (water may be insufficient for mixing and/or dispersed oil droplets may bind to sediment and sink, rather than dispersing and spreading through the water column as intended)
- Not recommended for sheens
- Not recommended for non-petroleum oils
- Not recommended for natural seep oil
- Not recommended for shorelines (per CA Government Code Section 8670.13.1)
- Not recommended for applications after dark or during periods of low visibility
- Not recommended for relatively small volume, limited areal extent spills, or those that can be adequately recovered through mechanical means

Situations In Which Dispersant Use Could Provide Best Environmental Advantage

- ✓ Immediate response to large spills of dispersible oil far from shore or in areas more distant from stockpiles of recovery and containment equipment, when weather and ocean conditions preclude the use of other options, or when weather conditions are predicted to become more severe.

Best Management Practices (Preauthorized and Incident Specific Zones)

The following best practice information may be used to develop Special Instructions for inclusion on the ICS 204 forms for dispersant application. Please note, this information is provided to assist in the decision-making and authorization process regarding the use of dispersants, and is not intended to serve as a dispersant application guide or protocol addressing the specifics of dispersant use (e.g., aircraft/vessel type, application strategy, treatment rate, etc.).

- Dispersant application aircraft should not fly directly over offshore islands or rocks with significant numbers of roosting birds or hauled-out marine mammals (whether or not the plane is releasing dispersant at the time)
- Caution should be taken to avoid spraying within NMFS-determined buffer areas near congregations of marine mammals, sea turtles, or rafting flocks of birds
- The SMART controller/observer should survey the spray site before the start of the operation. If possible, a DOI/DOC-approved marine mammal/turtle and pelagic/migratory bird observation specialist should accompany the SMART observer, scan the area for wildlife in advance of application, help direct the operation to the spray zone with no sighted wildlife, and continue to monitor the application for wildlife in the spray zone after spraying has begun. However, the operation will not be delayed for these functions
- The marine wildlife observer is strongly encouraged to use the Wildlife Spotting Protocols (or comparable forms, protocols and job aids within this DUP). However, the operation will not be delayed for this function
- Personal protective equipment for personnel on-site will conform to the appropriate dispersant Safety Data Sheet (SDS), the incident specific safety plan (ICS 208 or equivalent), and all other applicable incident specific safety measures

- Additional safety and resource protection considerations apply if the dispersant spray platform is a vessel, including vessel speed limits, stand-off distances from various whale species, and a requirement to have wildlife monitors on board each spray vessel.

The use of dispersants may trigger fishery closure or tainting issues.

3260.4 Dispersant Response Plan Worksheet

Refer to the RRT IX Dispersant Use Plan for California found on the OSPR website: https://www.wildlife.ca.gov/OSPR/Contingency

3260.5 SMART Protocol

Information on SMART can be obtained at the NOAA website: http://response.restoration.noaa.gov/oilaids/SMART/SMART.html and is also addressed as part of the DUP: https://www.wildlife.ca.gov/OSPR/Contingency

3270 In-Situ Burning (ISB)

Another alternative to mechanical recovery or the use of dispersants is in-situ burning (ISB). Oil floating on the water surface is collected into slicks and ignited. The oil can be contained in fire-resistant booms, or by natural barriers such as the shoreline. In some situations (e.g., oiled marshes, or when the spilled oil is highly volatile), supplemental collection to ensure adequate oil thickness for a sustained burn is not required. On land, oil can be burned when it is on a combustible substrate such as vegetation, logs, and other debris. Oil can be burned from non-flammable substrates using a burn promoter. On sedimentary substrates, it may be necessary to dig trenches for oil to accumulate in pools to a thickness that will sustain burning. Heavy oils are difficult to ignite but can sustain a burn. Emulsified oils may not ignite nor sustain a burn when the water content is greater than 30 to 50 percent. See RCP Appendix XIII In Situ Burn guidance.

ISB is implemented to eliminate surface oil by converting it into its primary combustion products (gases and soot) released into the atmosphere, with a small percentage of other unburned or residual byproducts. The environmental impacts of on-water spills are lessened but at the cost of increasing the potential threat posed by an airborne smoke and particulate plume. A distinct advantage of ISB is that it permanently removes oil from the water surface, with little or no impacts to potentially sensitive resources outside the burn and smoke plume area. Disadvantages are that successful burns create a very dark and visible soot plume, which will need to be monitored to ensure particulate matter within the plume does not exceed allowed standards and that it is not drifting toward human populated areas or occurring within the minimal distances from shore established by local air districts.

Decision makers and the trustee agencies will evaluate the effects of burning versus not burning the oil, and choose the option that provides the greatest overall benefit to the environment without causing undue public health impacts. In-situ burning can in some cases be used in conjunction with other response techniques to increase the rate of surface oil removal. Refer to Sections 4534 and 4800 of the RRT IX Regional Contingency Plan.

3270.1 RRT IX ISB Zones and Policies

The RRT IX has authorized two types of On-Water ISB use zones in California:

1. RRT In-Situ Burn Pre-Authorization Zone

All waters 35-200 nm from any California shoreline. This pre-authorization is only extended by the RRT to the FOSC. This Pre-Authorization is conveyed in a Letter of Agreement among the Coast Guard, EPA NOAA and DOI, and may be found in its entirety in the RRT IX ISB Plan.

2. RRT Incident-Specific Authorization
Required for all other California waters: 3-35 nm from any shoreline, within state waters (including bays and estuaries), and on land. A case-by-case checklist for RRT ISB authorization, as well as other decision support material, is available in the RRT IX ISB Plan available on the OSPR Contingency and Response Plans web page: https://www.wildlife.ca.gov/OSPR/Contingency.

Air District Quick Approval Zones

Within the Incident-Specific Zone are also coastal Air District "Quick Approval" zones. These were established by informal agreement between OSPR and the Air Districts 20 years ago. Those Quick Approval Zones state that if winds are blowing offshore or parallel to shore, ISB can be approved by the FOSC/RRT/OSPR without requiring additional Air District approval. Those offshore Air District Quick Approval distances from shore are:

North Coast AQMD	≥ .5 miles from shore
Mendocino AQMD	≥ .5 miles from shore
Bay Area AQMD	≥ 5 miles from shore
N. Sonoma AQMD	≥ .5 miles from shore
Monterey Bay Unified	No QA zones (winds too variable)
San Luis Obispo County	≥ 3 miles from shore
Santa Barbara County	≥ 3 miles from shore
Ventura County APCD	≥ .5 miles from shore
South Coast AQMD	≥ 8 miles from shore
San Diego AQMD	≥ .5 miles from shore

This informal agreement was reached many years ago and should be revisited by the RRT (especially the EPA member) and the California Air Resources Board (CARB) and/or individual coastal Air Districts. Until then, the RRT/EPA should reach out to the affected Air District(s) for advice prior to any ISB near or on shore. Air Districts can often provide air monitoring resources and personnel and help with public messaging. The EPA will also need to assure Air Districts that during the course of the burn, the Air District will not be held responsible for meeting their routine air quality attainment thresholds.

3270.2 ISB Best Management Practices

- ✓ The oil must be flammable enough, thick enough, and not too emulsified to burn
- ✓ Specialized fire boom should be used to contain the on-water oil slicks within a thick layer
- ✓ Winds must be favorable, and the burn needs to be quenched if winds turn toward large populations of people or wildlife
- ✓ The RRT may need to approve the use of certain types of accelerants
- ✓ The EPA and affected Air Districts must reach agreement on permitting or waiver issues
- ✓ Trained burn teams and monitors (wildlife, SMART, air) should be available before and during most burn operations

- ✓ Burning of oiled vegetation in marshes and wetlands should occur when enough water is covering the base of the plants in order to protect roots and rhizomes
- ✓ Burning on dry land may change and harden soils; crusts should be scraped, tilled or removed to allow regrowth to occur
- ✓ Collection of burn residue left on water should be as complete as possible

The NOAA SSC and/or OSPR ART Lead Technical Specialist can work with the FOSC and RRT in providing ISB recommendations and assisting with ISB Plan implementation.

3270.3 ISB Checklists

1) The FOSC contacts the proper agency representatives on the RRT, refer to Sections 4534 and 4800 in the RRT IX Regional Contingency Plan, and informs them that a request to utilize in-situ burning may be forthcoming. The FOSC will have the RRT remain on standby for the conference call in step 3.

2) The NOAA SSC and/or ART Lead Technical Specialist, working with the ART Unit in the Planning Section, completes the In-Situ Burning Decision-Making Process submits summary of findings and information to UC on Case-by-Case Checklist Form and Supplemental Information Form.

3) If the FOSC, based on information submitted by the NOAA SSC and ART Technical Specialists, decides that a request for in-situ burning is appropriate, the FOSC schedules conference call with RRT representatives or alternates at first reasonable opportunity.

4) A conference call is conducted and Yes/No decision made based on information provided on FOSC Checklist, Supplemental Information Form or any other sources requested by the RRT, including information from the local air district.

5) The ART Unit of the Planning Section will commence with operations if a YES Decision is forthcoming. A Liaison position between Planning and Operations will be established to facilitate some operational aspects of that decision, with a focus on ensuring that all conditions of ISB use are being met, and all Best Management Practices, effectiveness monitoring, air and water sampling, wildlife monitoring, etc., are incorporated and used, as appropriate to each incident

3280 Non-Dispersant Oil Spill Cleanup Agents (OSCAs)

Oil Spill Cleanup Agents (OSCAs) are generally defined by the State of California as:

" …a chemical, or any other substance, used for removing, dispersing, or otherwise cleaning up oil or any residual products of petroleum in, or on, any waters of the state. This category of substances would include surface washing agents, dispersants, gelling agents, herding agents, emulsifiers and de-emulsifiers, chemical booms, sorbents and bioremediants."

Dispersants are addressed in Section 3260 above, and although dispersants fall in the OSCA category, they are not re-addressed in this Section. This section addresses OSCAs other than dispersants.

To be considered for use in California, OSCAs must be <u>both:</u>

1) Listed on the federal EPA NCP Product Schedule (http://www.epa.gov/emergencies/content/ncp/index.htm), *and*

2) Licensed by the California Department of Fish and Game, Office of Spill Prevention and Response (http://www.dfg.ca.gov/ospr).

Once an OSCA is appropriately listed and licensed, it must still be approved for use by the RRT. If the use is in state waters, approval must also be granted by the OSPR Administrator.

The types of OSCAs considered here include sorbents, surface washing agents, solidifiers (and related oil modifying agents), herding agents, de-emulsifiers, and bioremediants. Each of these may have a discrete response utility, or niche, in which it may best match an incident-specific need that mechanical recovery, natural recovery, dispersant, or ISB cannot adequately address. Some are better known and more frequently used than others, and some currently have limited use or utility. Future research and subsequent response policy changes may elevate some of these to being more relevant response tools. Bioremediants, discussed at the end of this section, are included in this category but are not considered a "first response" tool because of their need for a long action time.

3280.1 Non-Dispersant OSCA Categories

3280.11 Sorbents

Sorbent materials may be organic, inorganic, or synthetic and can come in many forms including sheets, pillows, socks, sweeps, clusters (pom-poms), booms, and loose particulates. Several specific properties are considered advantageous for sorbent materials. Sorbents are oleophilic and hydrophobic, and should pick-up oil quickly, retain it without significant "re-sheening," and should sorb a large amount per unit weight of sorbent. Sorbents are generally easy to apply and recover. Most sorbents are not reusable, and the extensive use of sorbents results in the generation of a large amount of oiled waste material for temporary storage and appropriate disposal. For this reason, sorbents tend to be used for oil recovery where the oil covers a relatively small surface area.

The EPA exempts all sorbent and sorbent-type products from listing procedures. Sorbents are not automatically exempted from the State licensing process – they must first prove they are "inert" according to definitions in State Government Code Section 8670.13.1(b) before a state license exemption will be granted.

3280.12 Surface Washing Agents

The principal use of surface washing agents (also sometimes referred to as beach cleaners or shoreline cleaning agents) is to lift stranded oil from surfaces (primarily oil stranded in intertidal areas or on constructed surfaces) and to float or refloat the oil where it can be recovered using on-water recovery methods (e.g., skimmers, sorbents, vacuum trucks). These agents should not act to disperse the oil into the water. They can potentially be used for cleanup of sand and gravel, shorelines and other hard surfaces (e.g., sand, cobble, rocky rip rap, pier pilings, ship hulls), as well as in sensitive habitats (e.g., wetlands and marshes) when seeking to release and recover spilled oil without removal of the oiled vegetation. In such cases, a net environmental benefit analysis and consideration of aesthetic and other criteria would typically be employed to consider the relative impact or residual oil remaining in the environment.

3280.13 Solidifiers

Solidifiers turn oil into a more cohesive or solid mass to ease recovery. They are usually available in dry granular form for use either in a loose and broadcast application, or as a more easily recoverable self-contained product (e.g., boom, sock, pillow, pad). Unlike sorbents that physically soak-up liquid, the solidifiers bond the liquid into a mass with minimal volume increase. When the product is used in a self-contained form, the oiled mass is easily recovered. The bonded material also eliminates dripping (common with sorbents) and thereby minimizes re-sheening, residue, or cross-contamination of otherwise unoiled areas. Some types of solidifiers can convert the oil to a rubber-like substance. The reaction of these and some other types of solidifiers is not reversible. There is minimal change in the specific gravity of the treated oil when solidified.

Use of solidifiers in self-contained form may provide advantages over the use of conventional sorbent products and, if so, should be more broadly considered and used in marine and inland spill response environments. They are claimed to be more effective than many conventional sorbents, do not allow dripping or re-sheening of oil, can be reused, work in a variety of otherwise sensitive or hard-to-reach environments, and help minimize the considerable amount of sorbents that become part of the oil spill response waste stream.

Although several limitations to use of loose particulate solidifiers have been identified, there may be certain instances where they could fill specific on-water response functions. Because they react with the first oil they contact, they could potentially be used as a self-creating barrier, although the integrity and recoverability of this solidifier-based barrier has not yet been demonstrated.

Gelling agents, a sub-class of solidifiers, are usually two or more compounds applied as separate products that react with each other and the oil to form a gel-like structure. Products are composed of polymerization catalysts and cross-linking agents and must be mixed uniformly for gelling to occur. The mechanical strength of gels is weak, thus they can be broken down and the oil returned to its original liquid state.

3280.14 Herding Agents

Spilled oil spreads out very quickly to form thin films or slicks several microns to tenths of a millimeter thick. This thinning makes it difficult to contain and collect the oil by mechanical means or to support ISB.

Chemical herding agents work by exerting a spreading pressure on the water surface greater than the oil slick. When used in conjunction with conventional containment and recovery devices, herding agents help prevent oil from spreading. Optimal uses of herding agents include controlling slicks under docks or piers where conventional equipment cannot reach, and in harbors where the equipment can be pre-staged and ready to use early in the spill. Also, herders may be effective in keeping shallow water slicks pushed away from contacting sensitive marshes. Herding agents are not a substitute for booms but may be used for short-term protection and enhanced recovery where deploying booms could cause more damage or be of limited effectiveness.

3280.15 De-Emulsifiers

One potential approach to extending the window of opportunity for the use of dispersants or ISB is through the application of de-emulsifying agents. The application of these agents would be intended to slow or reduce the formation of water-in-oil emulsion, or break an existing emulsion,

allowing for the application of dispersants or other response strategies that are less effective on emulsified oil. Though de-emulsifying agents have been used in oil production for many years, there is little information on their use during on-water oil spill response.

3280.16 Bioremediants

When oil enters the environment, hydrocarbon degrading bacteria and other microorganisms begin to naturally alter and break down the oil, ultimately converting it to carbon dioxide and water. Although bioremediation occurs naturally starting almost immediately when oil enters the environment, the breakdown of a large mass of oil is a slow process, requiring weeks or months, or perhaps longer depending on the weight and volume of the oil, the degree of weathering, and environmental factors including temperature, oxygen levels (in water), and available nutrients. The addition of bioremediants for spill response does not increase the ultimate extent of hydrocarbon degradation, but only the rate of biodegradation. Once the more easily degraded alkanes and lower-molecular-weight aromatics are removed from the oil through weathering or other degradation processes, the continuing biodegradation of the remaining oil residues slows considerably.

Commercial bioremediants are typically comprised of nutrients intended to stimulate the rate of hydrocarbon biodegradation, and sometimes include bacterial colonies or enzymes to promote enhanced degradation. The use of bioremediants is generally only considered for land-based bioremediation. Bioremediation is generally not considered as a first response tool, but rather for later stages of an oil spill response when continuing active recovery measures may result in higher impacts than allowing residual material to remain in the environment and to naturally break down.

Bioremediation products currently proposed for on-water use were originally designed for terrestrial application. Some of these products include a surfactant, which would move the treated oil into the water column. Other bioremediation products that have been specifically designed for on-water application, contain ingredients such as clay or other material that attach to or encapsulate the oil. This process ensures oleophilic microbes and nutrients maintain contact with the spilled oil, but may also sink the oil particles and potentially reduce microbe effectiveness depending on how deep the particle sinks.

The primary use of bioremediation in the rocky and sandy intertidal habitat is generally focused on light to medium oiled areas or as a polishing or finishing step in areas previously cleaned by mechanical means. Bioremediation is not effective in addressing pooled oil, tar balls, mousse, or other heavy concentrations of beached oil. Bioremediation is also less effective in addressing buried oil in dense, fine-grained sediment (e.g., tidal mudflats) where anaerobic conditions exist in the subsurface. However, marshes and mudflats are sensitive environments which are easily impacted by mechanical oil spill cleanup techniques otherwise used on spills in the intertidal region. For this reason, the less intrusive bioremediation process is a potentially important cleanup tool for surficial (not buried) oil spilled in these sensitive areas.

3300 Emergency Response

Refer to Section 3003.01 of the Region 9 RCP.

3310 Search and Rescue (SAR)

SAR efforts focus primarily on finding and assisting person in actual or apparent distress and are carried out within a well-defined SAR response system. When an emergency warrants responses in addition to SAR, the National Incident Management System (NIMS) Incident Command System (ICS) organizational structure shall be used for overall response management.

Examples of other activities that are not SAR, but are often closely associated with a SAR incident, include search and recovery, salvage, investigation, fire-fighting, pollution response, etc.

For more information on SAR and its use in ICS, refer to Chapter 18 of the Incident Management Handbook (IMH).

Section 8132 of the Region 9 RCP also contains helpful information on various aspects of SAR.

3310.1 SAR Area Resources

For information on San Diego Area SAR Resources, contact Coast Guard Sector San Diego's Joint Harbor Operation Center (JHOC) at (619) 278-7033 or the San Diego Regional Aquatic Lifesaving Emergency Response Task Force (SDRAlert) at (619) 980-1576.

3320 Salvage/Source Control

Refer to Section 8200 of the Region 9 RCP.

3320.1 Assessment and Survey

Refer to Section 8200 of the Region 9 RCP.

3320.2 Stabilization

Refer to Section 8200of the Region 9 RCP.

3320.3 Specialized Salvage Operations

Refer to Section 8200 of the Region 9 RCP.

3320.4 Types of Equipment Required

Refer to Section 8200 of the Region 9 RCP.

3320.5 Salvage Guidelines

Refer to Section 8200 of the Region 9 RCP.

3330 Marine Fire Fighting

Refer to Section 8100 of the Region 9 RCP and Section 8000 of this Plan.

3340 Hazmat

Refer to Section 7000 of this Plan or to Section 7220 of the Region 9 RCP.

3340.1 Initial Emergency Response Procedures

Refer to Section 7000 of this Plan for more information.

3340.2 Evacuation Procedures

Refer to Section 7000 of this Plan for more information.

3340.3 Hazmat POC's

Refer to Section 7000 of this Plan for more information.

3340.4 Types of Equipment Required

Refer to Section 7000 of this Plan for more information.

3350 Emergency Medical Services (EMS)

Refer to Section 7940 of the Region 9 RCP.

3350.1 Emergency Medical Services

In 1997, the San Diego Fire Department partnered with Rural/Metro Ambulance of San Diego to form San Diego Medical Services Enterprise LLC, the nation's first public-private partnership to provide 911 paramedic services.

Emergency Medical Services are now coordinated between the City's first responders and the transporting ambulance crews. Both fire and ambulance crews use the same equipment and work under the same medical guidelines. San Diego Medical Services Enterprise crews are on the front lines of EMS technology and are currently participating in several clinical programs designed to improve emergency medical services.

Refer to Section 9250, "Medical/Ambulance/EMS Services," of this Plan for more information.

3360 Law Enforcement

Refer to Section 4330 and 4340 of the Region 9 RCP.

3360.1 Perimeter/Crowd/Traffic/Beach Control

Refer to Section 8122 of the Region 9 RCP.

3360.2 Safety/Security Zones

For information on safety/security zones, see the United States Coast Pilot, a series of nautical books that cover information important to navigators. Chapter 4 of the Coast Pilot contains San Diego-specific information.

3400 Air Operations

Air Operations will ensure that agency directives, flight manuals, unit restrictions, and other regulations will not be violated by incident aircraft (e.g., flight hours, hoist limitations, night flying, etc.). Individual air crews retain primary responsibility to ensure their aircraft are operated in accordance with their own agency's restrictions and directives. It is also the responsibility of individual aircrews to keep the Air Operations Branch Director informed of their agency's restrictions and directives that may affect their ability to execute incident assignments.

Refer to Chapter 7 of the Incident Management Handbook (IMH), COMDTPUB P3120.17 for more information.

3410 Air Tactical

The Air Tactical Group Supervisor (ATGS) is primarily responsible for tactical operations of aircraft and aircrews. This includes: 1) providing fuel and other supplies; 2) providing maintenance and repair of aircraft; 3) keeping records of aircraft activity, and 4) providing enforcement of safety regulations.

Refer to Chapter 7 of the Incident Management Handbook (IMH), COMDTPUB P3120.17 for more information.

3410.1 Aerial Surveillance

Aerial surveillance can be used during pollution response to gather information about the size and nature of an oil spill. Coast Guard rotary-wing (R/W) aircraft are highly maneuverable and well-suited to surveillance in crowded or congested areas, such as ports and harbors. Information on the spill may be gathered through visual observation of the spill or photography by the aircrew, or by a subject matter expert carried on board the aircraft. Coast Guard fixed-wing (F/W) aircraft are better suited to long-range or off-shore aerial surveillance. Information on the spill may be gathered through visual observation, photography, or the aircraft may be configured with Side Looking Airborne RADAR (SLAR) that can be used to detect and map oil spills.

Sector San Diego has three MH-60J Jayhawk helicopters, suitable for aerial surveillance and photography. C-130 (F/W) support is located at AIRSTA Sacramento, and can be coordinated by Air Operations through District 11.

For more information on specific capabilities of Coast Guard aircraft, refer to Appendix B of the Coast Guard Air Operations Manual, COMDTINST M3710.1F.

3410.2 Aerial Dispersant Application

MSRC has a nationwide dispersant program utilizing C-130 aircraft based in Coolidge, Arizona that have a load capacity of 3,250 gallons. Planes and crews are available 24 hours per day, are required to be off the ground within four hours of notification, and can apply dispersant up to 200 nautical miles offshore. Spotter aircraft are sourced locally or through MSRC's contracted King Air aircraft based in Stennis, MS. MSRC can be reached at (562) 981-7600.

The Air Force Reserve's 910th Airlift Wing, located at Youngstown Air Reserve Station, Ohio has four specially modified C-130H aircraft with Modular Aerial Spray Systems (MASS) that can disperse oil spills. The Aerial Spray Squadron can be contacted at (330) 609-1412, (330) 609-1965, or (330) 609-1111.

3410.3 Procedures for Temporary Flight Restrictions

A Temporary Flight Restriction (TFR) is a type of Notice to Airmen (NOTAM) that informs pilots and aircrew of an area restricted to air travel due to a hazardous condition, a special event, or a general warning. A TFR may be requested by various entities, including military commands, Federal security/intelligence agencies, regional directors of the Office of Emergency Planning, etc. If it is determined that a TFR is required, the Air Operations Officer should make a written request through the FAA's Flight Standards District Office (see contact information below).

Situations that may warrant a TFR in accordance with 14 CFR 91.137 includes, but are not limited to, the following:

14CFR 91.137(a)(1): toxic gas leaks or spills; flammable agents, or fumes which, if fanned by rotor or propeller wash, could endanger persons or property on the surface, or if entered by an aircraft could endanger persons or property in the air; volcanic eruptions that could endanger airborne aircraft and occupants; nuclear accident or incident; and hijackings.

14CFR 91.137(a)(2): aviation or ground resources engaged in wildfire suppression; and aircraft relief activities following a disaster (e.g., earthquake, tidal wave, flood, etc.).

14CFR 91.137(a)(3): disaster/hazard incidents of limited duration that would attract an unsafe congestion of sightseeing aircraft.

San Diego Flight Standards District Office
8525 Gibbs Drive, Suite 120
San Diego, CA 92123
(858) 502-9882, (858) 502-9985 (fax)
http://www.faa.gov/about/office_org/field_offices/fsdo/san/contact/

3410.4 Permanent Area Restrictions

Restricted areas in San Diego County include: R-2503A, R-2503B, R-2503C, R02503D. All are associated with Camp Pendleton, but have varying altitudes and times of use. Refer to the San Diego VFR Terminal Area Chart for detailed information.

3420 Air Support

The Air Support Group Supervisor (ASGS) is primarily responsible for supporting aircraft and aircrews. This includes: 1) providing fuel and other supplies; 2) providing maintenance and repair of aircraft; 3) keeping records of aircraft activity, and 4) providing enforcement of safety regulations.

Refer to Chapter 7 of the Incident Management Handbook (IMH), COMDTPUB P3120.17 for more information.

3420.1 Airports/Helibases

There are many airports and helibases through the San Diego area. The runway, lighting, maintenance and fuel support vary greatly between the facilities, therefore detailed planning is required before using a facility to determine if it meets operational needs. Detailed information

about airports is contained in the Airport/Facility Directory, Southwest U.S, a Flight Information Publication (FLIP) of the FAA.

Refer to Section 9250 under “Airfields” for additional contact information.

3420.2 Helospots

Contact the Air Operations Division Officer of Sector San Diego at (619) 278-7651

3420.3 List of Certified Helo's/Aircraft Providers

Refer to the California Dispersant Plan Section 4600 of the RCP

3420.4 Fuel/Maintenance Sources

Contact the Air Operations Division Officer of Sector San Diego at (619) 278-7651

3420.5 Air Traffic Control Procedures

Contact the Air Operations Division Officer of Sector San Diego at (619) 278-7651.

3500 Staging Areas

3510 Pre-Identified Staging Areas

Refer to current Thomas Brothers Guide for locations. Published by RandMcNally, the Thomas Brothers Guides, or Thomas Guides, offer extensively detailed and highly accurate maps of most California Counties in either book or wall map formats.

The following locations have been identified as having potential to be utilized for the staging of equipment and personnel. Refer to Section 9800 of this Plan for beach/shoreline locations.

3510.1 Metropolitan Areas

These areas located throughout San Diego County have permanent parking space that can be utilized during a spill response.

- B Street Pier
- Belmont Parking Lot
- Dana Landing Parking Lot
- Dog Beach Parking Lot
- G Street Pier, Tuna Harbor Basin
- La Jolla Cove Parking Lot
- La Jolla Shores Parking Lot

- Lifeguard Headquarters, Quivira Basin Parking Lot
- Lifeguard Tower Parking Lot at Ventura (Mission Beach)
- Lifeguard Tower Parking Lot on Abbott (Ocean Beach)
- Marina Park Parking Lot (Behind the Convention Center)
- NAS North Island
- Ocean Beach Pier Parking Lot
- Scripps Institute of Oceanography Parking Lot
- South Mission Beach Jetty Parking Lot
- Shelter Island Parking Lot
- Vacation Isle Parking Lot (by Ingraham Street Boat Ramp)

3510.2 North County

Del Mar Fair Grounds

Oceanside Harbor Parking Lot

South Carlsbad State Beach Parking Lot

3510.3 South Bay

Border Field State Park

Silver Strand State Beach Parking Lot

Naval Amphibious Base Coronado

Naval Station

Naval Auxiliary Landing Field Imperial Beach

3520 Security

During an incident, refer to Chapter 16 of the Incident Management Handbook for guidance on maritime security and law enforcement.

3600 Wildlife

Following is a brief summary of the Wildlife Response Plan for oil spills in California (Wildlife Plan), RCP Section 3600.

Wildlife and habitats are put at risk or injured when oil is spilled into the environment. Both Federal and State statutes mandate protection, rescue and rehabilitation of oiled wildlife.

The Federal Spill Pollution Act of 1990 requires that a Fish and Wildlife and Sensitive Environments Plan be developed and include immediate and effective protection, rescue and rehabilitation of wildlife resources and habitat that are harmed by a spill.

The State of California's Lempert-Keene-Seastrand Oil Spill Prevention and Response Act requires:

- Development of contingency plans for the protection of fish and wildlife
- Establishment of rescue and rehabilitation facilities
- Establishment and funding of a network of rescue and rehabilitation facilities, known as the Oiled Wildlife Care Network
- Assessment of injuries to natural resources from a spill
- Development of restoration plans to compensate for adversely affected wildlife resources and habitats.

In 2014, Senate Bill 861 provided OSPR with regulatory authority and funding to expand the existing marine program to include all surface waters of the state at risk of oil spills from any source.

To address these statutory mandates, the Wildlife Plan has been developed by a group of federal and state agencies and other interested parties. The Wildlife Plan is part of the RCP/ACP for California, a joint document of U.S. Coast Guard (USCG) and OSPR.

The Wildlife Plan details the Wildlife Branch purposes, goals, objectives, responsibilities, and structure. The Wildlife Branch is in the Operations Section of the Incident Command System (ICS) for oil spill response. The Wildlife Branch structure is described in the USCG Incident Management Handbook (IMH) at the Group level. As is always true with ICS, the structure may be expanded or contracted to fit the need, but the mission remains unchanged.

In California, the principal objectives of the Wildlife Branch during a spill response are to:

- Protect wildlife and habitats from contamination;
- Minimize injuries to wildlife and habitats from the contamination;
- Minimize injuries to wildlife from the cleanup;
- Provide best achievable capture and care for injured wildlife; and
- Document adverse effects to wildlife that result from the spill and cleanup.

To ensure these objectives are achieved with maximum efficiency, the Wildlife Branch Director coordinates and manages the activities of all personnel in the Wildlife Branch who fall under the authority of the Unified Command during spill response. These include federal, state, and local agencies along with commercial and non-profit organizations performing wildlife protection and management.

Within the Wildlife Branch, there are four Groups who report to the Wildlife Branch Director:

- Wildlife Reconnaissance Group (aerial, ground, and on-water reconnaissance of wildlife in the spill area)
- Wildlife Hazing Group

- Wildlife Recovery and Transportation Group (search and collection)
- Wildlife Care and Processing Group (rehabilitation and logging in).

Even though the Wildlife Branch is integrated into the ICS, it is self-directed in many ways and self-contained with regard to wildlife response resources (both staff and equipment). The Wildlife Branch gathers much of its own spill information through wildlife reconnaissance, staffs its own Branch with pre-trained experts (e.g. veterinarians, rehabilitation staff, processing staff, capture experts, volunteers), and prepares its own sections of the Incident Action Plan for the Planning Section.

The Wildlife Plan is modified and expanded as needed to ensure the statutory requirements of best achievable treatment, protection, and restoration of wildlife is met. The 2016 revision clarifies the organizational structure and details the required duties of the different positions within the Wildlife Branch. It also introduces response for terrestrial and freshwater species that occur in and near surface waters of the state.

Per existing agreements with Federal wildlife trustees, The Wildlife Plan has been written with the view that OSPR staff will usually assume the role of Wildlife Branch Director during a spill response. This is a natural consequence of the pivotal position of the Department of Fish and Wildlife, because the Department:

- is the lead state trustee agency for California's fish and wildlife;
- has permits and agreements with other agencies, to care for special status species and other protected wildlife;
- has legal mandates to protect wildlife, beyond OPA 90 and OSPR; and
- has the needed expertise, training and experience

While the Wildlife Plan was originally designed to cover oil spills in marine waters as required by Federal and State law, it is applicable to inland oil and non-oil spills as well. The organizational structure, roles and responsibilities remain the same, although some functions may be altered, as appropriate

3610 Fish and Wildlife Protection Options

Refer to Wildlife Response Plan for Oil Spills in California, Section 3610 in the Region 9 Contingency Plan (RCP).

3620 Wildlife Recovery

Refer to Section 3610 of the Region 9 RCP.

3620.1 Wildlife Recovery Procedures

Refer to Wildlife Response Plan for California. Section 3610 in the Region 9 RCP..

3620.2 Recovery Processing

Refer to Wildlife Response Plan for California Section 3610 in the Region 9 RCP..

3620.3 Carcass Retrieval and Processing

Refer to Wildlife Response Plan for California Section 3610 in the Region 9 RCP..

3630 Wildlife Rehabilitation

Refer to Section 3610 of the Region 9 RCP.

3630.1 Wildlife Rehab Operations

Refer to Section 3610 of the Region 9 RCP.

3630.2 Rehab Facilities

Refer to Section 3610 of the Region 9 RCP.

3630.3 Rehab Procedures

Refer to Section 3610 of the Region 9 RCP.

3640 Essential Fish Habitat

Refer to Section 9802.2 of the San Diego ACP.

3700 Potential Places of Refuge

Refer to Section 8300 of the San Diego ACP.

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