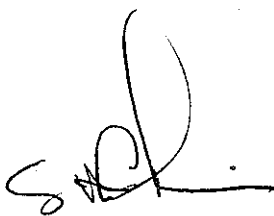


CLEANUP OPTIONS & ENDPOINTS


T/V DUBAI STAR Oil Spill Response

03 NOVEMBER 2009




Federal On-Scene Coordinator

11/3/09
Date

 *Sose*

State On-Scene Coordinator

11/3/09 1800
Date

 *RPIC*

Responsible Party Incident Commander

11/3/09
Date

CLEANUP OVERVIEW & ENDPOINTS *T/V DUBAI STAR* OIL SPILL RESPONSE

Introduction

This document has been prepared by the Planning Section's Environmental Unit (EU) for use by Shoreline Cleanup Assessment Teams (SCAT) in developing shoreline cleanup recommendations, use by the Operations Section as shoreline cleanup goals, and for determining conclusion of oil spill cleanup activities for the *T/V Dubai Star* oil spill response. It is based on standard spill response guidance and practices, oil spill cleanup documents, experiences from recent oil spills in and near San Francisco Bay and was developed by numerous federal, state, local and industry partners involved in cleanup activities related to the *T/V Dubai Star* oil spill that occurred on 30OCT2009. These cleanup endpoints apply only to oil residues and tar balls from the *T/V Dubai Star* oil spill and not to other potential sources of contamination.

As a result of the *T/V Dubai Star* oil spill, impacts to shorelines within San Francisco Bay have occurred. The majority of impacts were along eastern shorelines of southern San Francisco Bay, generally from the Oakland Bay Bridge to the Oakland International Airport and perhaps a few outlying areas. Predominant shoreline types affected in the impact area include rip-rap and other manmade structures, sand & gravel beaches, marsh and mudflats.

Light winds and lack of shoreline turbulence (e.g. surf conditions) in the early days of this incident have limited the potential for buried oil layers along impacted shorelines. Because some high public-use shorelines may be susceptible to re-oiling during/following subsequent heavier weather events, some segments may require maintenance and monitoring prior to final sign-off. Maintenance and monitoring, if needed, will be coordinated by the EU and approved by the Unified Command.

***T/V Dubai Star* Cleanup Options**

The following are cleanup strategies that may be used for the purpose of reducing shoreline contamination resulting from the *T/V Dubai Star* oil spill. These strategies are commonly used in oil spill responses throughout the country and are consistent with NOAA's "Characteristic Coastal Habitats: Choosing Spill Response Alternatives" job aid (available at: <http://response.restoration.noaa.gov>) for specific shoreline types:

- Natural recovery – All shoreline types.
- Manual oil removal/cleaning – Sand & gravel beaches, riprap, sheltered solid man-made structures. Cleanup personnel are not authorized to enter marshes/wetlands, tidal flats or any other soft-substrate shoreline types without special approval and possible oversight by the EU.
- Sorbents – Sand & gravel beaches, riprap, exposed tidal flats, sheltered solid man-made structures, sheltered tidal flats.

- Oiled debris removal – Sand & gravel beaches, riprap, exposed tidal flats, sheltered solid man-made structures, sheltered tidal flats. Cleanup personnel are not authorized to enter marshes/wetlands, tidal flats or any other soft-substrate shoreline types without special approval and possible oversight by the EU.
- Vegetation cutting/removal – Marshes only under special conditions and only with special instructions and oversight by the EU and approval by Land Owner/Manager.
- Flooding (ambient water deluge) – Sand & gravel beaches, riprap.

T/V Dubai Star Cleanup Endpoints

Given the nature of this heavy fuel product (IFO380), qualitative assessment and analysis is scientifically appropriate for establishing cleanup endpoints for the reasons described above. Sampling and analysis of oil on man-made structures, weathered and discrete tarballs on beaches, and sediments in sensitive areas is not considered appropriate in this case and is not expected to provide data that would confirm the need for additional cleanup activities, nor further define the extent of the visible contamination.

In all cases, the proposed endpoints were carefully selected based on key considerations including, but not limited to:

- Whether the impacted shoreline segment was safely accessible for cleanup;
- Whether the endpoint was practicably and technologically achievable;
- Whether the stranded oil is mobile and may be remobilized during subsequent high tide events
- Whether additional removal would cause more damage to the habitats and/or wildlife than leaving the residual oil in place for natural weathering and biodegradation;
- Whether the remaining oil represents either an environmental hazard, historical/cultural property threat, or human use nuisance;
- Whether background data are available for comparison.

In every instance, human health and safety is of primary importance and is not to be jeopardized for any treatment operations. The final determination as to the safety of a treatment operation is made by the Unified Command, the Operations Supervisors and the Site Safety Officer. In areas that are inaccessible because of these worker safety concerns, it is realized that some oil will remain for removal by natural processes.

General Endpoints for all Shoreline Types:

The following endpoints for all shoreline types:

- No accessible oiled debris
- In public access areas, no oil on surfaces that rubs off on contact
- Oil that no longer generates petrogenic sheens that can affect sensitive resources under any weather conditions

Additional Habitat-specific Endpoints:**Sheltered, Solid Man-made Structures including seawalls, groins, revetments, piers, and port facilities, constructed of concrete, wood, or metal (excluding historic properties):**

- No surface oil greater than Stain or Coat on solid surfaces >20% distribution
- In high public use or high public visibility areas, no surface oil greater than Stain or Coat >10% distribution on solid surfaces

Sand, Mixed Sand & Gravel, and Gravel/Small Cobble Beaches:

- No surface oil on sand, gravel or cobble greater than Stain or Coat >10% distribution
- No surface oil or subsurface oil in the form of tar balls >1cm diameter at a frequency greater than 5 tarballs per 100 linear m of shoreline
- For high public use bay beaches, no surface oil in the form of tar balls >1cm diameter at a frequency of 1 tarball per 100 linear m of shoreline and no visible subsurface oil

Rip Rap (excluding historic properties):

- No surface oil greater than Stain or Coat >20% distribution
- In high public use or high visibility areas, no surface oil greater than Stain or Coat >10% distribution on solid surfaces

Tidal Flats:

- No surface oil in the form of tar balls >2cm diameter at a frequency >5 tarballs per 100 linear m of shoreline

Wetlands / Marsh:

- No sticky oil on vegetation that could be transferred to wildlife. An example of one determination method: sorbent pad wrapped in a ball attached to a length of rope, thrown into marsh vegetation and retrieved (e.g. "sorbent duck").
- No surface oil in the form of tar balls >2cm diameter at a frequency >5 tarballs per 100 linear m of shoreline