



Lusail Real Estate Development Company

Health, Safety, Security, Environment, Logistics & Quality Department

Lusail Operation Safety Management Procedure – Marine Oil Spill Response Plan-Lusail Boat Show (November 11-15, 2014)

Document No LUS-HSE-WG3-446-059.01 Rev 1
Uncontrolled Copy Controlled Copy Date 01-Apr-2015

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1.0 PURPOSE OF THE PLAN

- To guide the response personnel through the process of managing a spill originating from Event Organiser operations.
- To mitigate the consequences of oil pollution incidents.
- To allow those involved in the response to a pollution incident to rapidly disseminate information to the parties involved and to ensure the optimum deployment of available equipment.

2.0 ENVIRONMENTAL POLICY

For the purposes of marine oil spill response, the Event Organiser will endeavour to:

- Take all reasonable steps to ensure that where an oil spill occurs that pollution is avoided or if this is not possible, to be kept to a minimum.
- Dispose of waste oiled material with least impact on the environment.
- Set standards that comply with all environmental legislation.

3.0 SEVERITY

3.1. Risk identification

Possible operations/incidents on water or near the waterline within the event area that could result in pollution have been identified as follows:

- Collision, capsizing, breaking, sinking, rapture of oil tanks of a boat or other marine vessel
- Spillage following a grounding incident
- Oily bilge water inadvertently pumped into the water
- Fuel oil or waste oil transfer operations between a vessel and a storage tanker.
- An incident at a berth / bund / embankment where oil is spilt subsequently entering the surface water.
- Contact between a vessel and a underwater object
- Car or Truck accidentally being driven into the water at a bund or shoreline
- Wilful discharge of oil into the water by vandals

3.2. Characteristics of Oil and Oil Spills

3.2.1. Properties of Oil

Oil contains a variety of different types of hydrocarbons. The actual composition is dependent upon its origins. Oil may also contain a variety of impurities such as sulphur and nitrogen products. Generally, oil is of relatively low toxicity, however this is dependent upon the properties of the source oil. The route of human exposure is via inhalation and skin absorption.

3.2.2. Behavior of Oil on Water

Oil spilt onto a water surface will spread and evaporate at varying rates and to varying degrees, dependent upon the oil characteristics and weather conditions. This process, known as weathering, may bring about a number of chemical and physical processes, which change the compounds that make up oil.

The type of oil spilt has a major effect on the outcome of a spill incident, very light oils will naturally disperse and evaporate quickly reducing the level of pollutant, whilst heavier oils will persist and in some cases may form emulsions which are very resistant to biodegradation.

Studies have shown that 75% of diesel can be lost by evaporation within 24 to 48 hours, compared with only 10% from a heavy or residual fuel oil.

The effect of wind on an oil patch is to move the oil at 2.5 to 3.5% of wind velocity.

3.3 Spill Prevention

The Event Organizer shall take all reasonable steps to prevent contamination of land and soils and/or pollution of water from spills of fuel or other hazardous liquid. This involves:

- a) Maintaining absorbent materials and spill kits with all fuel transfer facilities, maintenance vehicles, boats or vehicles designated for emergency response;
- b) All personnel involved in fuel storage must be familiar with the response procedures in the event of a spill, including use of the spill clean-up kit;
- c) Ensuring that once items from a spill kit have been used (and cannot be cleaned and re-used) they must be disposed of properly and replaced with like;
- d) Regular inspections of all refuelling / maintenance areas to ensure that the secondary containment is adequate.

3.4 Spill Kits

Spill kits shall be made available at strategic locations across the event area (including berths, refueling locations, bulk storage areas) and be present all fuel transfer vehicles, maintenance vehicles, boats or vehicles designated for emergency response.

- a) The spill clean-up kit must be labelled and have appropriate signage indicating its normal location when not in use, and instructions for use must be kept within the kit;
- b) The spill kit must be suitable for the volume and type of fuel being stored.
- c) The contents of the spill clean-up kit must be restocked after use, and contents must be checked for adequacy on a regular basis; and
- d) A site plan, showing the locations of spill kits shall be displayed in the event area.
- e) Spill kits should contain the following should be the minimum contents:
 - i. Personal protective equipment (goggles, chemical resistant gloves; plastic, vinyl or rubber shoe covers; disposable lab coats, aprons, or coveralls);
 - ii. Clean up Tools and materials (e.g. thick, heavy duty waste bags, sealing tape);
 - iii. Booms (or sand bags);
 - a. Booms are 'sausage' shaped items that are flexible enough to bend around and contain a spill and are placed down-current from the spill; and
 - b. Booms are used to contain oil spills for recovery or to divert it to areas that are less sensitive where it can be collected.
 - iv. Universal absorbents such as commercial spill pads, pillows, spill socks, and loose absorbents:
 - a. Sorbents are absorbent materials (pads or rolls) that attract and hold oils, like a sponge; and
 - b. Sorbents are placed on top of the spill (on land or in water) and soak it up. They are used once and then disposed of as hazardous materials.
 - v. Marine floating booms (only required in marine environment)
 - a. Floating booms contain spills in the water and concentrate it into thicker surface layers, making recovery more effective by a combination of sorbents, vacuums or skimmers; and

- b. The flotation blocks and vinyl-coated skirting of the booms create a non-absorbent barrier above and below the water line
- vi. Watertight Containment tanks
 - a. Chemical-resistant container to hold the kit contents. It is recommended that container be on hand that has a sealable lid;
 - b. Will be used to contain: any waste oil/chemicals that are brought out of the water or collected from the ground; any contaminated water; and any used spill kit equipment that cannot be reused (such as sorbents) until appropriate disposal can be arranged:
 - c. A spill kit checklist must be maintained with each spill kits on site. The spill kit checklist must be completed monthly. All checklists must be maintained as records.

3.5 Spill Response

Spillages or leakage resulting in soil/water contamination will be considered as an environmental incident and must be cleaned up immediately to prevent it from reaching the environment (including unsealed ground, drains, lakes, marine waters and other uncontained areas).

If a spill does occur, an orderly response procedure will be followed and a contaminated land cleanup strategy will be implemented as follows:

- a) Assess the risk (safety, severity and area of impact)
- b) Call PMCM/LREDC Environmental Representative immediately, relaying the following information:
 - i. Location of incident;
 - ii. Type of incident (Contamination or Pollution) and severity; and
 - iii. Whether Emergency Services needed.
- c) Select appropriate PPE. If the spilled substance cannot be identified, treat it as hazardous and utilise the most appropriate form of protective clothing
- d) Contain the spill:
 - i. Use booms or pool to contain spill and stop it spreading; and
- e) Stop product flow;
- f) Absorb contained fluids (with sorbents);
- g) Dispose of contaminated materials (be it soil, water or spill kit materials) initially into containment tanks, and then off-site as per CEMP using the Event Organiser appointed and approved waste contractors (obtaining a Waste Transfer Note and any other receipts);
- h) Complete final Incident Report and submit to LREDC within 72 hours of the incident occurring
 - i. Attach relevant photos and records; and
 - ii. If desired, Event Organiser can attach own Incident Report as well (though not in place of the LREDC Incident Report)

The need for remedial work (on land) in any specific area will be determined on the basis of the observed contaminants, sampling and analysis to determine their concentrations and the risks that they may pose to local receptors (social and environmental).

4.0 APPENDICES

Appendix 1 - Murjan Marine Spill Response Procedure

Appendix 2 - Marine Oil Spill Report Form

Appendix 1 - Murjan Marine Spill Response Procedure

<u>Action</u>	<u>Description</u>	<u>Tick when done</u>
Action 1	Inspect effected site and surrounding area and if there is a risk of fire EVACUATE the area	<input type="checkbox"/>
Action 2	Identify the source of the leak/spill and: <ul style="list-style-type: none"> • determine cause, type and severity of pollution • isolate the source of the pollution if safe to do so • turn off electrical power and equipment 	<input type="checkbox"/>
Action 3	Contact Marina Manager and/or Operations Manager to report incident	<input type="checkbox"/>
Action 4	If safe to do so: <ul style="list-style-type: none"> • deploy the “catchment boom” and absorption pads to reduce further pollution and/or attempt to contain leakage • begin to clean up the spill 	<input type="checkbox"/>
Action 5	If the spill is classified as a large spill also: <ul style="list-style-type: none"> • contact the Fire Service on 999 and describe the pollution • evacuate all persons ,except the response team from the area, the response team is evacuate if there is a chance of injury harm • Prepare to meet emergency services, ensuring all security gates and vehicle barriers can be opened upon arrival of emergency services in order for them to be speedily escorted to the affected area 	<input type="checkbox"/>
Action 6	Proceed to the follow-up action checklist (Form 6.15 ERP – Follow up Actions)	<input type="checkbox"/>
Manager:		Date:

Appendix 2 – Marine Oil Spill Report Form**Oil Spill Reporting Form**

Subject:	
Name (reporter)	
Company	
Location / position	
Name or ID Vessel / Boat / unit / Equipment	
Quantity	
Type of spill	
Wind	
If on Water: Waves	
If on water : Current	
Contained	
Actions taken	
Contact numbers	
If major spill : Authorities informed	
Third parties informed	
Report taken by	
Time	