IMS Standard 3.01 Hydrocarbon Management

1 Purpose

To set OTML requirements for the management of hydrocarbons to control occurrences of spills, releases, leaks and uncontrolled overflows so that environmental impacts are avoided or minimised.

2 Scope

This standard applies to OTML managed facilities in PNG, including contractors and suppliers, whether at operations, towns or exploration sites. It applies to the selection, transportation, transfer, distribution, storage, use and disposal of fuels, oils and greases on site.

This standard does not apply to chlorinated hydrocarbons which are addressed in the Chemical Management Standard.

3 Standard

3.1 Legal Requirements

3.1.1 Hydrocarbons shall be managed in compliance with applicable laws, regulations and other obligations or requirements.

3.1.2 The Ok Tedi Permit under the Ok Tedi Environmental Management Act 2019 (OTEMA) requires OTML to ensure that:

- *all fuels, lubricants and/or hazardous materials are stored in accordance with the relevant requirements of AS1940:2004 The Storage and Handling of Flammable and Combustible Liquids (Condition 84)*
- *fuel storage facility and activities relating to vehicle and machinery workshop comply with the PNG Environmental Code of Practice for Vehicle and Machinery Workshop, Petroleum Storage, Resale and Usage Sites (DEC, 1997), as a minimum requirement (Condition 91)*
- *any drainage from an area where fuels, lubricants and/or hazardous materials are stored, and/or used is directed to a sump or interceptor trap. (Condition 92)*
- *all mobile plant and machinery including mobile fuel storages have immediate access to, and wherever practicable are fitted with, spill prevention and clean up equipment. (Condition 93)*
- *the storage building/shed is regularly inspected to check the integrity of each container and its content. (Condition 94)*
- *waste oil and other potentially hazardous materials from the fuel storage or machinery workshop activities are adequately treated and disposed of in accordance with the General Waste Management Plan for the work (Condition 95)*

3.2 Design / Construction

3.2.1 Where practical, all new installations should be self-bunded/ double skinned to reduce reliance on costly concrete bunds which are subject to rainwater ingress.

3.2.2 Hydrocarbon storage tanks and conveyance systems shall be constructed above ground level wherever possible.

3.2.3 Where it is necessary to install underground facilities (such as piping at road crossings) it shall only be done after a documented risk assessment has been undertaken and must include a passive or active system to detect leaks.

3.2.4 Where possible, hydrocarbon storage and conveyance facilities shall have a system to recover any product which has leaked.

3.2.5 Bulk hydrocarbon storage and transfer systems, including temporary systems, shall have a secondary containment. Where distribution piping is above ground and visible for inspection secondary containment is not required; however, the distribution piping shall be inspected and documented routinely to verify its integrity.

3.2.6 The capacity of secondary containment structures shall be capable of containing a minimum of 110% of the volume of the largest tank in the containment area.

3.2.7 A spillage containment compound shall be sufficiently impervious to retain spillage and to enable recovery of any such spillage.

3.2.8 Bulk tanks shall be equipped with engineered overfill protection systems, overpressure protection and vacuum breaking devices (conservation valves).

3.2.9 Hydrocarbon use, transfer, distribution and storage facilities shall be designed to reduce rainfall ingress and control drainage, within and around containment facilities.

3.2.10 The areas around fuel delivery pumps and vehicle refuelling points shall be protected against spills and releases using containment and collection systems.

3.2.11 Any activity that requires workshops or service areas (including contractors that service vehicles and / or heavy equipment) shall have treatment facilities for hydrocarbon contaminated water.

3.2.12 Where a containment bund contains a drainage valve, the valve must be designed so it is lockable, and management practices for the bund must provide for the valve to be locked at all times, apart from when it is being drained, at which time it must be supervised. The valve must have a sign that states “BUND VALVE DRAIN – TO BE KEPT CLOSED AND LOCKED”

3.3 Purchasing

3.3.1 The selection of hydrocarbon products used at OTML shall be reviewed and approved by the Environment Department and the Occupational Health and Safety Department prior to purchase.

3.4 Contractor management

3.4.1 OTML shall include in contract documents for contractors involved in hydrocarbon transportation the requirement for compliance with OTML Standards as well as to applicable laws and regulations. In addition, the contract document shall include requirements of the contractor in hydrocarbon management including emergency response, spill clean-up and reporting.

3.5 Transportation

3.5.1 OTML Transport Department and contractors involved with the transportation of hydrocarbons, whether by land, sea or air, shall carry out a detailed and documented risk assessment which includes a route evaluation and selection prior to establishing transportation activities.

3.5.2 Transportation of hydrocarbons shall utilise transportation vehicles and tanks suitable for the materials and transportation routes utilised and maintained in adequate conditions to ensure proper handling and safety of the contained product.

3.5.3 OTML shall conduct, or retain qualified third-party auditors to conduct, environmental audits of hydrocarbon transportation at least every three years or more frequently depending on risk.

3.5.4 Contractors and operators carrying out bulk transfers of hydrocarbons shall be audited internally by OTML personnel trained in hazard analysis to verify effective processes take place.

3.6 Inspections and maintenance

3.6.1 Areas of hydrocarbon storage, distribution, transfer and use, including on site contractor facilities, shall be inspected routinely to verify that hydrocarbon product management conforms to this standard. Records of the inspections shall be kept.

3.6.2 All hydrocarbon storage and handling facilities, include road tankers, shall be routinely maintained and records kept of that maintenance.

3.6.3 Standard operating procedures for hydrocarbon transportation, unloading, transfer, storage, handling, use and disposal shall be developed, kept current, effectively implemented and personnel trained.

3.6.4 Effluent treatment facilities shall be included on regular maintenance schedules to ensure that they are maintained in accordance with design and manufacturers standards.

3.6.5 OTML shall routinely check that off-site disposal of hydrocarbon waste and / or recycling of used hydrocarbons is appropriately licensed and is protective of human health and the environment.

3.6.6 Treatment facilities for hydrocarbon contaminated water shall be inspected routinely by the facility operator and records of inspections kept.

3.7 Monitoring

3.7.1 OTML shall conduct random risk-based testing of effluents from hydrocarbon treatment facilities.

3.8 Incident response

3.8.1 Hydrocarbon releases that occur on site shall be contained, cleaned-up, properly disposed and reported using OTML incident reporting system.

3.8.2 Larger Hydrocarbon releases that impact offsite shall prompt the Major Incident Management Team (MIMT) process specified in *OTML-IMS-STD-1.15 Emergency Preparedness and Incident Management Standard*.

3.8.3 Soils contaminated with hydrocarbons shall be excavated and remaining soils at the site of the spill shall be remediated.

3.8.4 Excavated soils retained on-site shall be remediated or disposed in an engineered facility.

3.9 Closure

3.9.1 An inventory reduction plan shall be implemented prior to the site closure phase to minimise stores of hydrocarbons on site that will require post-closure disposal.

3.9.2 Residual hydrocarbon contamination in soil shall be cleaned-up and remediated during closure activities.

3.9.3 Facilities used by contractors shall be inspected for the presence of hydrocarbons by representative from Environment Department prior to the completion of a third-party contract that includes release of any bond, holdbacks or final payment.

4 References:

Description	Author
Ok Tedi Environmental Management Act 2019	PNG Government
Ok Tedi Permit	PNG Government
AS1940:2004 The Storage and Handling of Flammable and Combustible Liquids	Australian Standards
PNG Environmental Code of Practice for Vehicle and Machinery Workshop, Petroleum Storage, Resale and Usage Sites (DEC, 1997)	PNG Government
OTML-IMS-STD-1.15 Emergency Preparedness and Incident Management Standard	OTML