# TABLE OF CONTENT

A  LIST OF FIGURES  
   VI

B  LIST OF TABLES  
   VI

C  NOMENCLATURE  
   VII

D  EXECUTIVE SUMMARY  
   I

1  INTRODUCTION  
   1
   1.1  PROJECT BACKGROUND  
       1
       1.1.1  PROJECT PROMOTER  
           1
       1.1.2  PROJECT TEAM  
           2
       1.1.3  PROJECT BRIEF  
           3
       1.1.4  NEED FOR AN ENVIRONMENT IMPACT ASSESSMENT  
           4
           1.1.4.1  METHODOLOGY  
               4
           1.1.5  PROJECT JUSTIFICATION  
               5

2  SITE DESCRIPTION  
   7
   2.1  PROJECT SITE LOCATION  
       7
   2.2  LEGAL, REGULATORY AND ADMINISTRATIVE FRAMEWORK  
       7
       2.2.1  LAND OWNERSHIP  
           7
       2.2.2  LEGAL REQUIREMENTS, PLANNING & POLICIES  
           7
           2.2.2.1  NATIONAL DEVELOPMENT STRATEGY  
               8
           2.2.2.2  ENVIRONMENT PROTECTION ACT 2002  
               9
           2.2.2.3  NATIONAL AND PORT LOUIS HARBOUR OIL SPILL CONTINGENCY PLAN  
               9
           2.2.2.4  PORTS ACT 1998  
               10
           2.2.2.5  INTERNATIONAL CONVENTIONS  
               11
       2.2.3  ZONING  
           13
   2.3  SITE CHARACTERISITICS  
       13
       2.3.1  GEOLOGICAL AND TOPOGRAPHICAL CHARACTERISTICS  
           13
       2.3.1.1  SITE HYDROLOGY AND HYDROGEOLOGY  
           16
       2.3.2  CLIMATE  
           17
# 2.3.2.1 SUNSHINE REGIME

# 2.3.2.2 SITE TEMPERATURE REGIME

# 2.3.2.3 SITE RAINFALL REGIME

# 2.3.2.4 SITE WIND REGIME

# 2.3.3 COASTAL CHARACTERISTICS

# 2.3.4 MARINE CHARACTERISTICS

## 2.3.4.1 BIOTIC FEATURES

## 2.3.4.2 TIDES AND CURRENTS

## 2.3.4.3 SEAWATER QUALITY

# 2.3.5 ECOLOGICAL SENSITIVITY

## 2.3.5.1 FAUNA AND FLORA

## 2.3.5.2 WATERBODIES AND WATERCOURSES

## 2.3.5.3 CLASSIFIED ENVIRONMENTALLY SENSITIVE AREAS (ESAs)

# 2.3.6 EXISTING LAND USE

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>PROJECT DESCRIPTION</td>
<td>24</td>
</tr>
<tr>
<td>3.1</td>
<td>PROJECT DESCRIPTION</td>
<td>24</td>
</tr>
<tr>
<td>3.1.1</td>
<td>ORGANISATION STRUCTURE</td>
<td>25</td>
</tr>
<tr>
<td>3.2</td>
<td>CHARACTERISTICS OF CLASS C OR III PRODUCTS</td>
<td>26</td>
</tr>
<tr>
<td>3.3</td>
<td>PRODUCT STORAGE TANKS</td>
<td>26</td>
</tr>
<tr>
<td>3.3.1</td>
<td>SETBACKS</td>
<td>27</td>
</tr>
<tr>
<td>3.3.2</td>
<td>SECONDARY CONTAINMENT</td>
<td>28</td>
</tr>
<tr>
<td>3.3.3</td>
<td>TANK ACCESSORIES</td>
<td>28</td>
</tr>
<tr>
<td>3.3.4</td>
<td>TANK FOUNDATIONS</td>
<td>29</td>
</tr>
<tr>
<td>3.3.5</td>
<td>EARTHING AND LIGHTNING PROTECTION FOR TANKS</td>
<td>29</td>
</tr>
<tr>
<td>3.4</td>
<td>PRODUCT PUMPING STATION</td>
<td>29</td>
</tr>
<tr>
<td>3.5</td>
<td>HEAVY FUEL OIL HEATING</td>
<td>30</td>
</tr>
<tr>
<td>3.6</td>
<td>PROPOSED PIPING SYSTEM</td>
<td>30</td>
</tr>
<tr>
<td>3.7</td>
<td>BLENDING UNIT</td>
<td>31</td>
</tr>
<tr>
<td>3.8</td>
<td>INFRASTRUCTURES</td>
<td>31</td>
</tr>
<tr>
<td>3.8.1</td>
<td>SITE OFFiced AND AMENITIES</td>
<td>31</td>
</tr>
<tr>
<td>3.8.2</td>
<td>ACCESS STAIRWAYS AND WALKWAYS</td>
<td>32</td>
</tr>
<tr>
<td>3.8.3</td>
<td>SECURITY</td>
<td>32</td>
</tr>
<tr>
<td>3.9</td>
<td>FIREFIGHTING SYSTEM</td>
<td>32</td>
</tr>
<tr>
<td>3.10</td>
<td>WASTEWATER DISPOSAL</td>
<td>33</td>
</tr>
</tbody>
</table>
3.11 DRAINAGE SYSTEM
  3.11.1 STORM RUN-OFF
  3.11.2 WASTEWATER
3.12 ELECTRICAL
  3.12.1 POWER SUPPLY
  3.12.2 SITE LIGHTING
3.13 CONTROL AND INSTRUMENTATION
  3.13.1 CONTROL AND REMOTE MONITORING OF ALARMS & TRIPS
  3.13.2 CCTV
3.14 ACCESS TO SITE

4 ASSESSMENT OF ENVIRONMENTAL IMPACTS
  4.1 INTRODUCTION
  4.2 PREDICTED ENVIRONMENTAL IMPACTS
    4.2.1 IMPACT FROM OIL SPILLS
      4.2.1.1 ON MARINE ENVIRONMENT
      4.2.1.2 ON LAND
    4.2.2 IMPACT ON LAND
      4.2.2.1 GENERATION OF SOLID WASTE
        4.2.2.1.1 CONSTRUCTION WASTE
        4.2.2.1.2 DOMESTIC SOLID WASTE
      4.2.2.2 GENERATION OF DOMESTIC WASTEWATER
      4.2.2.3 OIL- CONTAMINATED WATER FROM BUND AREAS
      4.2.2.4 SLUDGE FROM OIL-WATER SEPARATOR & TANK BOTTOM
    4.2.3 IMPACTS ON AIR QUALITY
      4.2.3.1 DUST EMISSIONS DURING CONSTRUCTION PHASE
      4.2.3.2 ACCUMULATION OF VAPOUR IN STORAGE TANK AND ODOUR EMANATION
    4.2.4 IMPACTS ON NOISE QUALITY
    4.2.5 HAZARD RISKS

5 MITIGATION OF ENVIRONMENTAL IMPACTS
  5.1 INTRODUCTION
  5.2 IMPACT FROM OIL SPILL
    5.2.1 ON MARINE ENVIRONMENT
      5.2.1.1 AT OPERATIONAL QUAYS
5.2.1.2 THE SHORELINES

5.2.2 ON LAND

5.2.2.1 SPILLAGE FROM TANKS
5.2.2.2 SPILL FROM BUNDS
5.2.2.3 SPILL FROM FAILURE OF PIPELINE

5.3 IMPACT ON LAND

5.3.1 DISPOSAL OF PRODUCT WASTE & OIL-CONTAMINATED MATERIALS

5.3.1.1 OIL SPILLED AT SEA
5.3.1.2 OIL REACHING THE SHORELINE
5.3.1.3 RUPTURE OF PIPELINE
5.3.1.4 SPILLED OIL IN BUND

5.3.2 GENERATION OF SOLID WASTE

5.3.2.1 DEBRIS FROM SITE CLEARING ACTIVITIES
5.3.2.2 CONSTRUCTION WASTE
5.3.2.3 DOMESTIC WASTE

5.3.3 WASTEWATER

5.3.3.1 DOMESTIC WASTEWATER
5.3.3.2 STORM RUN-OFF AND OIL-CONTAMINATED WATER FROM BUND
5.3.3.3 SLUDGE FROM OIL-WATER SEPARATOR & TANK BOTTOM

5.4 IMPACT ON AIR QUALITY

5.4.1 DUST EMISSIONS DURING CONSTRUCTION PHASE
5.4.2 ACCUMULATION OF VAPOUR IN STORAGE TANK & ODOR EMANATION

5.5 IMPACT ON HUMAN HEALTH

5.6 IMPACT ON NOISE LEVEL

5.7 HAZARD RISKS

5.7.1 FIRE SUPPRESSION MEASURES
5.7.2 AWARENESS AND TRAINING

6 RESIDUAL IMPACT

6.1 INTRODUCTION

6.2 IMPACT FROM NATURAL DISASTER RISKS

6.2.1 OIL SPILL OCCURRING DURING CYCLONIC CONDITION/LIGHTNING
6.2.2 TSUNAMI

6.3 PERSISTENCE OF OIL

6.4 WASTE MATERIALS RECOVERED FROM SPILL CLEAN-UP ACTIVITIES
ANNEX II – PROJECT LOCATION PLAN
ANNEX III – CERTIFICATE OF INCORPORATION & BRN
ANNEX IV – LAND SURVEY PLAN
ANNEX V – LEASE AGREEMENT
ANNEX VI – CONTEXT PLAN
ANNEX VII – RESIDENTIAL ZONES
ANNEX VIII – GEOTECHNICAL INVESTIGATION EXTRACTS FOR PAST PROJECTS
ANNEX IX – TOPOGRAPHICAL PLAN
ANNEX X – WATERBODIES AND WATERCOURSES
ANNEX XI – ENVIRONMENTALLY SENSITIVE AREAS
ANNEX XII – PROPOSED SITE LAYOUT
ANNEX XIII – PROPOSED LEACHING FIELD DESIGN
ANNEX XIV – ACCESS ROUTES

A LIST OF FIGURES

FIGURE A: GEOLOGICAL MAP OF MAURITIUS ................................................................. 13
FIGURE B: SOIL MAP OF MAURITIUS ............................................................................. 14
FIGURE C: HYDROLOGY MAP FOR THE PORT LOUIS REGION (COURTESY OF HYDROLOGY DATA BOOK 2000-2005) ............. 16
FIGURE C: HYDROGEOLOGY MAP FOR THE PORT LOUIS REGION (COURTESY OF HYDROLOGY DATA BOOK 2000-2005) ............. 16
FIGURE E: ORGANISATION CHART FOR MANAGEMENT OF THE PROPOSED DEPOT ......................................................... 25

B LIST OF TABLES

TABLE I: PROJECT TEAM ........................................................................................................ 2
TABLE II: QUALIFICATIONS OF THE CONSULTING ENGINEERS .................................................... 2
TABLE III: MONTHLY TEMPERATURE RECORDED IN FORT WILLIAM .................................................... 18
TABLE IV: SUMMARY OF SEAWATER QUALITY FOR MARCH 2011-SEPTEMBER 2012 .................................................... 20
TABLE V: RESULTS OF SEAWATER QUALITY FOR THE NEW OIL JETTY .................................................... 20
TABLE VI: SPECIFICATIONS OF CLASS C/III PETROLEUM PRODUCT .................................................... 26
TABLE VII: TANK DIMENSIONS ............................................................................................. 26
TABLE VIII: SETBACKS BETWEEN TANKS AND SITE BOUNDARIES .................................................... 27
TABLE IX: REQUIREMENTS FOR SECONDARY CONTAINMENT .................................................... 28
TABLE X: MINIMUM SURFACE AREA OF THE AMENITIES ....................................................... 31
TABLE XI: NFPA REQUIREMENTS FOR WATER APPLICATION RATES .................................................... 32
TABLE XII: APPARENT LOUDNESS TO HUMAN EAR FOR DIFFERENT SOUND LEVEL ......................... 42

ENVIRONMENT IMPACT ASSESSMENT
161030-001
TABLE XIII: TIERED RESPONSE........................................................................................................................................................................45
TABLE XIV: LIST OF RESOURCES AND EQUIPMENT .............................................................................................................................................48
TABLE XV: CRITERIA FOR FLAMMABLE LIQUID ........................................................................................................................................54
TABLE XVI: FIGURES FOR IMPORT OF CLASS C/III PETROLEUM PRODUCTS ...........................................................................................................61
TABLE XVII: FIGURES FOR RE-EXPORT & BUNKERING OF CLASS C/III PETROLEUM PRODUCTS ...........................................................................61
TABLE XVIII: PROPOSED ENVIRONMENTAL MONITORING MATRIX .....................................................................................................................71

C NOMENCLATURE

EPA – Environmental Protection Act 2002
MPA – Mauritius Ports Authority
EMP – Environmental Monitoring Plan
PPE – Protective Personnel Equipment
MMS – Mauritius Metrological Services
HSEQ – Health, Safety, Environment & Quality