



KAZ OIL TERMINAL PROJECT

Environmental and Social Impact Assessment

On behalf of:
Waterway Trading & Petroleum Services LLC

Project Reference:
014-1287

Revision:
REV 00

Date:
December 2014

Earth & Marine Environmental Consultants
2nd Floor,
Chelsea Business Centre
Al Corniche Street
Ashar District
Basra
Republic of Iraq

enquiry@eame.co.uk
www.eame.co.uk

Document Control Record

Revision	Date	Author(s)	Authorised by	Reason for Change
00	19/12/14	Various	SPR	First issue to Client

COMMERCIAL-IN-CONFIDENCE

This document and all the information contained within it are proprietary to Earth & Marine Environmental Consultants Ltd (hereinafter called EAME) and are supplied in confidence. This document is not to be reproduced in whole or in part nor disclosed to any third party without the prior written permission of EAME. Nor shall it be used otherwise than for the purpose for which it has been supplied.

Contents

	Page
1 Introduction	1-1
1.1 General	1-1
1.2 Background to the Iraq Oil Terminal Project	1-1
1.3 ESIA Process	1-3
1.4 Project Team	1-6
1.5 ESIA Structure	1-8
2 ESIA Approach and Methodology	2-1
2.1 Introduction	2-1
2.2 ESIA Process	2-1
2.3 Stakeholder Consultation and Disclosure	2-4
2.4 Screening Assessment	2-4
2.5 Scoping Assessment	2-4
2.6 Evaluation of Alternatives	2-5
2.7 Legislative Review	2-5
2.8 Baseline Assessment	2-6
2.9 Impact Assessment	2-7
3 Project Description	3-1
3.1 Introduction	3-1
3.2 Overview	3-1
3.3 Project Location	3-2
3.4 Site Description	3-3
3.5 Project Rationale	3-8
3.6 No Development Alternative	3-9
3.7 Location Alternatives	3-9
3.8 Feasibility Studies	3-11
3.9 Project Activities and Design	3-11
3.10 Footprint and Land Requirements	3-12
3.11 Construction Strategy	3-13
3.12 Temporary Facilities	3-15
3.13 Schedule	3-17

3.14	Logistics Alternatives	3-17
3.15	Commissioning	3-18
3.16	Operation and Maintenance	3-18
3.17	Decommissioning	3-19
4	Policy, Legal and Administrative Systems	4-1
4.1	Introduction	4-1
4.2	National Legislation	4-3
4.3	International Standards and Guidelines	4-53
4.4	Project Environmental Standards	4-59
5	Air	5-1
5.1	Introduction	5-1
5.2	Noise	5-1
5.3	Air Quality	5-21
6	Land	6-1
6.1	Introduction	6-1
6.2	Land Quality	6-1
6.3	Sediment Quality	6-27
6.4	Waste Management	6-38
7	Water Quality	7-1
7.1	Introduction	7-1
7.2	Assessment Methodology	7-1
7.3	Baseline Conditions – Desk-based Research	7-6
7.4	Baseline Conditions – Field Data	7-8
7.5	Baseline Conditions – Chemical Contamination	7-22
7.6	Impact Assessment	7-36
7.7	Mitigation	7-38
7.8	Residual Impacts	7-40
7.9	Flood Risk	7-41
8	Ecology	8-1
8.1	Introduction	8-1
8.2	Methodology	8-1

8.3	Terrestrial Ecology Baseline Conditions	8-5
8.4	Intertidal Ecology Baseline Conditions	8-9
8.5	Marine Ecology	8-20
8.6	Project Site Conservation Value Assessment	8-34
8.7	Impact Assessment	8-38
9	Socio Economic Conditions	9-1
9.1	Introduction	9-1
9.2	Methodology	9-1
9.3	Socio-Economic Conditions	9-2
9.4	Fishing Activity	9-4
9.5	Land Traffic and Transport	9-6
9.6	Marine Traffic	9-13
9.7	Summary and Conclusions	9-15
10	Hazard Analysis and Risk Assessment (Unplanned Events)	10-1
10.1	Introduction	10-1
10.2	Potential Accidents and Incidents	10-1
10.3	Summary	10-11
11	Summary and Conclusions	11-1
11.1	Introduction	11-1
11.2	Project Description	11-1
11.3	Current Site Conditions	11-2
11.4	Project Impacts Matrix	11-3
11.5	Conclusions	11-11

Appendix A: Contributors**Appendix B: Constraint Map****Appendix C: Public Consultation and Disclosure****Appendix D: Environmental and Social Management and Monitoring Plan****Appendix E: Commitments Register****Appendix F: Chapter 5 Technical Reports****Appendix F1: Baseline Noise Measurements****Appendix F2: Air Quality Laboratory Analytical Certificates****Appendix G: Chapter 6 Technical Reports****Appendix G1: Lithological Logs****Appendix G2: Soil Sample Laboratory Analytical Certificates****Appendix G3: Sediment Sample Laboratory Analytical Certificates****Appendix H: Chapter 7 Technical Reports****Appendix H1: Groundwater Laboratory Analytical Certificates****Appendix H2: Surface Water Laboratory Analytical Certificates**