

COMMENTS TO BE RETURNED TO:  
 COMPANY/PMC

FAX NO.:

FAX NO.:

BY DATE:

BY DATE:

Contractor Transmittal No.	T-DH-5578-E4-1587	Recd. Date	29 Oct 2010
Document No.	5578-E4-HSE-HU-00041	Rev. Date	27 Oct 2010
Document Title	HSE Training Procedure	Rev	0

**COMMENTS:**

By:

Signed

Date

**Review Code:**

- |                      |   |                          |
|----------------------|---|--------------------------|
| 1. REJECTED          | : REVISE AND SUBMIT   | <input type="checkbox"/> |
| 2. COMMENTS AS NOTED | : WORK MAY PROCEED SUBJECT TO COMPLIANCE WITH AND INCORPORATION OF COMMENTS | <input type="checkbox"/> |
| 3. NO COMMENTS       | : WORK MAY PROCEED  | <input type="checkbox"/> |
| 4. INFORMATION ONLY. | : ACCEPTED FOR INFORMATION ONLY   | <input type="checkbox"/> |

**No. of Pages attached to this form :**



**RUWAIS REFINERY  
EXPANSION PROJECT**

**EPC-4 TANKAGE AND ASSOCIATED  
INTERCONNECTING PIPING**

**AGREEMENT No. 09-5578-E-4**

**DAEWOO E&C**

PROJECT No. 5578

Doc. No. 5578-E4-HSE-HU-00041

Rev. 0

Page 1 / 13

## **HSE TRAINING PROCEDURE**

**AGREEMENT NO. : 09-5578-E-4**

**PROJECT NAME : Ruwais Refinery Expansion Project  
EPC-4: Tankage & Associated  
Interconnecting Piping**

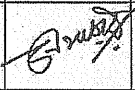
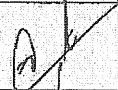


**COMPANY : Abu Dhabi Oil Refining Company (TAKREER)**

**PMC : Mott MacDonald Ltd.**

**CONTRACTOR : Daewoo Engineering & Construction Co., Ltd.**

<b>TAKREER</b>	<b>RUWAIS REFINERY EXPANSION PROJECT</b>		
	<b>EPC-4 TANKAGE AND ASSOCIATED INTERCONNECTING PIPING</b>	<b>DAEWOO E&amp;C</b>	
	<b>AGREEMENT No. 09-5578-E-4</b>		
PROJECT No. 5578	Doc. No. 5578-E4-HSE-HU-00041	Rev. 0	Page 2 / 13

This page is a record of all revisions of this document. All previous issues are hereby superseded and are to be destroyed.

Proprietary Information: This document contains proprietary information and may not be partly or wholly reproduced without prior written permission from TAKREER and/or Daewoo Engineering & Construction Co., Ltd.						<b>DOC. CLASS</b>	<b>T/1</b>
						<b>DIST. CODE</b>	<b>18/19</b>
0	27 Oct 2010	Issued For Construction	D. Bhandari	A. Mesquita	DY Kim	M Heo	
A	16 August 10	For Review and Comment	S Wardman	DY Kim	C Wardman	M Heo	
<b>REV</b>	<b>DATE</b>	<b>REASON FOR ISSUE</b>	<b>PREP</b>	<b>CHKD</b>	<b>REVD</b>	<b>APP'D</b>	<b>COMPANY</b>
<b>SIGNED (Initials)</b>							

**NOTES:**

- (a) Revisions are denoted by a vertical line placed in the right-hand margin against the revised text.
- (b) PREP = Prepared by, CHKD = Checked by, REVD = Reviewed by, APP'D = Approved by.
- (c) In case of conflict between any requirements stipulated in this document with the contractual requirements, the contractual requirements shall prevail.



<b>TAKREER</b>	<b>RUWAIS REFINERY EXPANSION PROJECT</b>	<b>DAEWOO E&amp;C</b>	
	<b>EPC-4 TANKAGE AND ASSOCIATED INTERCONNECTING PIPING</b>	<b>AGREEMENT No. 09-5578-E-4</b>	
PROJECT No. 5578	Doc. No. 5578-E4-HSE-HU-00041	Rev. 0	Page 4 / 13

## CONTENTS

1.	INTRODUCTION.....	5
	1.1 Purpose.....	5
	1.2 Scope.....	5
2.	DEFINITIONS.....	6
3.	RESPONSIBILITIES.....	7
	3.1 Project Manager.....	7
	3.2 Section Manager.....	7
	3.3 HSE Manager.....	7
	3.4 HSE Trainer.....	7
	3.5 HSE Supervisor.....	7
4.	IMPLEMENTATION.....	8
	4.1 Visitors Induction.....	8
	4.2 Site HSE Induction.....	8
	4.3 On the Job HSE Orientation.....	8
	4.4 Refresher Orientation.....	9
	4.5 Daily Tool Box Meeting (TBM) .....	9
	4.6 Tool Box Talk (TBT) .....	9
	4.7 Specific HSE Training.....	9
5.	TRAINING FACILITY.....	11
6.	TRAINING EVALUATION.....	11
7.	TRAINING METHOD.....	12
8.	TRAINING RECORD.....	12
9.	ATTACHMENTS.....	13
	Attachment 1: HSE Training Attendance Record.....	13
	Attachment 2: HSE Training Matrix	

<b>TAKREER</b>	<b>RUWAIS REFINERY EXPANSION PROJECT</b>	<b>DAEWOO E&amp;C</b>	
	<b>EPC-4 TANKAGE AND ASSOCIATED INTERCONNECTING PIPING</b>		
	<b>AGREEMENT No. 09-5578-E-4</b>		
PROJECT No. 5578	Doc. No. 5578-E4-HSE-HU-00041	Rev. 0	Page 5 / 13

## 1. INTRODUCTION

### 1.1 Purpose

The purpose of this procedure is to provide HSE Training that will be presented in an interactive manner with practical applications and exercises. It shall also outline training to be attended by CONTRACTOR and its Subcontractor's employees prior to starting their work and throughout their employment during the project.

The objective of this procedure is to:

Educate all employees on their HSE responsibilities and site requirements.

Establish a procedure for the education of CONTRACTOR and Subcontractor employees as follows:

1. Visitors induction
2. Project HSE induction for new employees to the project site
3. On the job HSE Orientation by employees front line supervisors

Refresher orientation for:

1. Returnees to project site after long periods of time
2. Safety violators and incident-prone individuals

Daily Tool Box Meeting (TBM)

Tool Box Talk (TBT)

Specific HSE Training

Supervisor's HSE Training

### 1.2 Scope

This procedure covers the training in relation to construction work for CONTRACTOR and its subcontractors during the project.

As part of our commitment to incident free environment CONTRACTOR will conduct training to all his personnel in site. All employees will be trained and be well informed of existing Guidelines in Health, Environmental, Safety, and Security Jurisdiction. The training procedures shall define the following:

1. The type and scope of facilities required.
2. The range and depth of training to be provided.
3. Register of personnel who will receive training within each category.
4. Timing/period of training.
5. Training requirement for personnel and visitors.
6. Downstream monitoring of understanding and effectiveness training.

<b>TAKREER</b>	<b>RUWAIS REFINERY EXPANSION PROJECT</b>	<b>DAEWOO E&amp;C</b>	
	<b>EPC-4 TANKAGE AND ASSOCIATED INTERCONNECTING PIPING</b>	<b>AGREEMENT No. 09-5578-E-4</b>	
PROJECT No. 5578	Doc. No. 5578-E4-HSE-HU-00041	Rev. 0	Page 6 / 13

## 2. DEFINITIONS

ALARP	As Low As Reasonably Practicable (ALARP). Refer to section 3.4 for explanation of ALARP.
Aspect	Element of an organisations activities products or services that can interact with the environment
Audit	An independent, systematic and documented process of objectively obtaining and evaluating verifiable evidence to determine that business controls: <ul style="list-style-type: none"> <li>• Are complete and consistent.</li> <li>• Are (cost) effective and efficient.</li> <li>• Safeguard DEC's resources and promote their effective use.</li> <li>• Provide, and protect the integrity of, required records and information.</li> </ul> Allow for compliance with policies, chosen standards, laws and regulations.
Barriers	Elimination and prevention measures that remove or reduce the likelihood of realising a hazards potential for harm. Barriers may be physical (materials, protective devices, segregation, etc.) or non-physical (procedures, inspection, training, drills, etc.)
Company	Mott Macdonald
Continuous improvement	Process of enhancing the (HSE) management system to achieve improvements in overall (HSE) performance in line with the organisations (HSE) policy.
CONTRACTOR	Daewoo Engineering & Construction Co., Ltd. or DAEWOO
DEC	Daewoo Engineering and Construction Company Limited
Effect	An adverse impact on people, the environment, DEC's assets or reputation.
Hazard	The <i>potential</i> to cause harm , including ill health and injury, damage to property, products or the environment; production losses or increased liabilities
HSE Management System (HSE MS).	The company structure, responsibilities, practices, procedures, processes and resources for implementing health, safety and environmental management.
HSE Policy	A public statement of the intentions and principles of action of the company regarding its health, safety and environmental effects, giving rise to its strategic and detailed objectives.
Incident	An event or chain of events which has caused or could have caused fatality, injury, illness and/or damage (loss) to assets, the environment, company reputation or third parties.
Inspection	A scheduled, structured examination of a work site with a specific focus on physical conditions and working practices in addition to normal supervisory duties.
Near Miss	An event or chain of events which could have caused injury, illness and/or damage (loss) to assets, the environment, company reputation or third parties.
PPE	Personal Protective Equipment
PPS	Microsoft PowerPoint Show/Slide
Risk	The product of the measure of the likelihood of an occurrence of an undesired event and the potential adverse effects that this event may have on people, the environment, TAKREER's assets or reputation.
RRE	Ruwais Refinery Expansion

<b>TAKREER</b>	<b>RUWAIS REFINERY EXPANSION PROJECT</b>	<b>DAEWOO E&amp;C</b>	
	<b>EPC-4 TANKAGE AND ASSOCIATED INTERCONNECTING PIPING</b>	<b>AGREEMENT No. 09-5578-E-4</b>	
PROJECT No. 5578	Doc. No. 5578-E4-HSE-HU-00041	Rev. 0	Page 7 / 13

### 3. RESPONSIBILITIES

#### **3.1 Project Manager**

1. Should ensure that the requirements of this procedure are adhered strictly to during execution of the project.
2. Work with the client to ensure that the training program meets the intention of the Project requirements.
3. Shall ensure, through the HSE Manager that all personnel have received the training required.
4. Shall make arrangements through the Site/Construction Managers that adequate facilities are planned and provided for conducting the training, as defined by the HSE Manager.

#### **3.2 Section Manager**

The Section Manager is responsible for supporting its application and ensuring that all entities at the site actively participate.

The Administration Manager is responsible for issuing site I.D. card after confirming the training record, and giving information on new comer's employment for HSE induction.

#### **3.3 HSE Manager**

1. Shall arrange for the administration and recording of all training that takes place.
2. Shall review the training program against Project needs and revise accordingly.
3. Prepares and develops the syllabus of each training component

#### **3.4 HSE Trainer**

1. Shall be overall responsible for the training programs implemented on site.
2. Shall ensure that all attendees understood the training, and taking into account language barrier difficulties. A translator shall be engaged where language difficulties are encountered.
3. Giving the training to all employees at site according to the HSE training plan.
4. Reporting HSE training status to the HSE Manager.
5. Preparing and upgrading the training materials.
6. Developing the project HSE training matrix
7. Developing the project HSE training schedule

#### **3.5 HSE Supervisor**

1. Assist Construction Supervisor to preside daily at Tool Box Meeting (TBM) every morning before the commencement of work.
2. Collect training report after confirming attendant's signature after TBM.
3. Check all workers participate in HSE induction training and also job specific training according to his job activities. If they are not trained, he shall arrange their training before the commencement of work.
4. Arrange refresher training for safety violators after they make work stop at the site if they find workers who make a serious violation.

<b>TAKREER</b>	<b>RUWAIS REFINERY EXPANSION PROJECT</b>	<b>DAEWOO E&amp;C</b>	
	<b>EPC-4 TANKAGE AND ASSOCIATED INTERCONNECTING PIPING</b>	<b>AGREEMENT No. 09-5578-E-4</b>	
PROJECT No. 5578	Doc. No. 5578-E4-HSE-HU-00041	Rev. 0	Page 8 / 13

#### **4. IMPLEMENTATION**

##### **4.1 Visitors Induction**

All visitors to site shall be given an outline briefing of their responsibilities as contained in the formal induction which includes the site specific Emergency Response Plan.

Such visitors shall be given information stating the site rules.

Visitors shall be provided with safety equipment-hard hat, safety shoes, safety glasses etc. and accompanied at all times while on site.

##### **4.2 Site HSE Induction**

All employees shall attend Site HSE induction briefing conducted by HSE Trainer or a relevant person nominated by HSE Manager. The purpose of HSE induction training is as follows;

- Introduction
- Project Overview
- Project HSE Policy & Target
- HSE Responsibilities
- Safety Management
- Health Management
- Environment Management
- Reward & Disciplinary Procedures
- Emergency Response Procedures
- Site Tour

Only an employee who attends the Site HSE Induction will be issued with project ID Badge which can allow him to access the project site.

##### **4.3 On the Job HSE Orientation**

After completing the Project HSE Induction the new employee should wear all mandatory PPEs for site and will report to his supervisor. The supervisor will impart him the Job Specific Orientation to ensure his safety. The main aim of this orientation is:

- Testing worker's competency and experience in its field
- To communicate the site specific rules, familiarization of area, muster points, welfare facilities and medical aids.
- To share important safety practices and programs
- To remind site HSE Policy

<b>TAKREER</b>	<b>RUWAIS REFINERY EXPANSION PROJECT</b>	<b>DAEWOO E&amp;C</b>	
	<b>EPC-4 TANKAGE AND ASSOCIATED INTERCONNECTING PIPING</b>	<b>AGREEMENT No. 09-5578-E-4</b>	
PROJECT No. 5578	Doc. No. 5578-E4-HSE-HU-00041	Rev. 0	Page 9 / 13

#### **4.4 Refresher Orientation**

Person(s) returning to project

This program will include:

- Current site situations
- New instructions, memos and procedures
- Any other changes in location of facilities like muster points and emergency response personnel
- Emergency response, fire fighting, handling of hazardous substances, and first aid, etc.

Safety Violators

The scope of orientation will include:

- Relevant project procedures relating to the violation.
- Hazard analysis of the unsafe act to establish its potential effects.
- Reminder of the disciplinary action procedures.
- Test to ensure understanding of the requirements.

#### **4.5 Daily Tool Box Meeting (TBM)**

- It will be held by each work group by supervisors or foremen prior to starting each task.
- It will be done at the exact location where the job is to be carried out.
- It will point out the hazards considering the job location.

#### **4.6 Tool Box Talk (TBT)**

“Tool Box Talk” on a special topic prepared by the HSE department, in coordination with other disciplines should be conducted weekly along with lessons learned through incidents experienced during the week, any other safety activity or announcement i.e. safety campaigns, special instructions received by client, safety incentive program etc., if necessary an interpreter should be assigned to translate it in the local language.

#### **4.7 Specific HSE Training**

To ensure understanding of site HSE requirements by various crafts, the following program will be continuous for already qualified and experienced crafts men.

The HSE trainer will facilitate the training through the assistance of competent & knowledgeable persons in every specific fields or third party for specialized training in the following training topics. The below training materials can be found in the web-based PDCS (Project Document Control System)

<b>TAKREER</b>	<b>RUWAIS REFINERY EXPANSION PROJECT</b>	<b>DAEWOO E&amp;C</b>	
	<b>EPC-4 TANKAGE AND ASSOCIATED INTERCONNECTING PIPING</b>	<b>AGREEMENT No. 09-5578-E-4</b>	
PROJECT No. 5578	Doc. No. 5578-E4-HSE-HU-00041	Rev. 0	Page 10 / 13

<u>No</u>	<u>Document No.</u>	<u>Description</u>
1	5578-E4-TM-HU-00001	Home Office HSE Induction
2	5578-E4-TM-HU-00002	Security Management
3	5578-E4-TM-HU-00003	Excavation Safety Training
4	5578-E4-TM-HU-00004	Nitrogen
5	5578-E4-TM-HU-00005	Pressure Testing
6	5578-E4-TM-HU-00006	MEWP's & Manbasket Safety Training
7	5578-E4-TM-HU-00007	Tyre Safety
8	5578-E4-TM-HU-00008	Site HSE Induction (Conflicting Doc Number)
9	5578-E4-TM-HU-00009	Effective tool box talks
10	5578-E4-TM-HU-00010	Hole Watch Training
11	5578-E4-TM-HU-00011	Sexually Transmitted Disease (STD)
12	5578-E4-TM-HU-00012	Cancer Causing Chemicals
13	5578-E4-TM-HU-00013	Safety Supervisor Leadership: Permit to Work
14	5578-E4-TM-HU-00014	Safety Supervisor: Injury and Illness Prevention
15	5578-E4-TM-HU-00015	Banks Man Training
16	5578-E4-TM-HU-00016	Drug and Alcohol Awareness
17	5578-E4-TM-HU-00017	Safety Supervisor Leadership: Incident Investigation & Reporting
18	5578-E4-TM-HU-00018	Hot Work Safety Training
19	5578-E4-TM-HU-00019	Welfare Management Training
20	5578-E4-TM-HU-00020	Safety Management Training
21	5578-E4-TM-HU-00021	Safety Supervisor Leadership: Job Safety Analysis - JSA
22	5578-E4-TM-HU-00022	Safety Supervisor: Risk Assessment and Management
23	5578-E4-TM-HU-00023	Safety Supervisor Training: HSE Auditing
24	5578-E4-TM-HU-00024	Emergency Response Training - ERP Team
25	5578-E4-TM-HU-00025	Safe lifting and rigging training
26	5578-E4-TM-HU-00026	Train the Trainer
27	5578-E4-TM-HU-00027	Crane & Lifting Safety (For Rigger & Operator)
28	5578-E4-TM-HU-00028	Lifting Inside FabShop (Using Overhead Crane)
29	5578-E4-TM-HU-00029	Safety Supervisor Leadership: Lockout & Tagout
30	5578-E4-TM-HU-00030	Safety Supervisor: Leading Indicator
31	5578-E4-TM-HU-00031	Heat Stress
32	5578-E4-TM-HU-00032	Safety Supervisor Training
33	5578-E4-TM-HU-00033	Safety Supervisor Leadership Training
34	5578-E4-TM-HU-00034	Fire Watch Training
35	5578-E4-TM-HU-00035	Safety Supervisor: Control Of Substance Hazardous to Health
36	5578-E4-TM-HU-00036	Power and Hand Tools Safety
37	5578-E4-TM-HU-00037	Manual Handling
38	5578-E4-TM-HU-00038	Safety Supervisor Leadership: Achieving Safety Culture
39	5578-E4-TM-HU-00039	Safety Supervisor Leadership: Behaviour Base Safety
40	5578-E4-TM-HU-00040	Radiography Safety Training
41	5578-E4-TM-HU-00041	Scaffolding Safety

<b>TAKREER</b>	<b>RUWAIS REFINERY EXPANSION PROJECT</b>	<b>DAEWOO E&amp;C</b>	
	<b>EPC-4 TANKAGE AND ASSOCIATED INTERCONNECTING PIPING</b>	<b>AGREEMENT No. 09-5578-E-4</b>	
PROJECT No. 5578	Doc. No. 5578-E4-HSE-HU-00041	Rev. 0	Page 11 / 13

42	5578-E4-TM-HU-00042	Defensive Driving Training Light Vehicles
43	5578-E4-TM-HU-00043	Defensive Driving Training Heavy Vehicles
44	5578-E4-TM-HU-00044	Machine Guarding
45	5578-E4-TM-HU-00045	Safety Supervisor: Hazard Identification Process
46	5578-E4-TM-HU-00046	Hypertension
47	5578-E4-TM-HU-00047	Lifting Equipment Training
48	5578-E4-TM-HU-00048	First Aid Training
49	5578-E4-TM-HU-00049	Gas Testing
50	5578-E4-TM-HU-00050	Rigging & Slings

#### **4.8 Supervisors' HSE Training**

Supervisors in direct disciplines shall be trained regularly by HSE manager or his designee to ensure their understanding of the project HSE requirements & responsibilities lessons learned and areas to be improved.

### **5. TRAINING FACILITY**

The minimum facilities required for training at this level are as follows:

1. Training room that can seat at least 30 personnel comfortably depending on a number of manpowers.
2. Room to be air conditioned.
3. Screen
4. Beam projector.
5. Whiteboard and flip board with paper.
6. PC for developing training programs.
7. Training videos.
8. Demonstration training apparatus.
9. Sample detectors and monitoring equipment.

### **6. TRAINING EVALUATION**

The measures for ensuring understanding and retention of the training given on site will be evaluated at the time of instruction, by way of a simple test.

In addition, the HSE department shall carry out follow up perception surveys in the field. These surveys will question and measure the effectiveness of training programs and be used to improve the programs.

The information shall be used to identify areas of concern and additional program requirements.

<b>TAKREER</b>	<b>RUWAIS REFINERY EXPANSION PROJECT</b>	<b>DAEWOO E&amp;C</b>	
	<b>EPC-4 TANKAGE AND ASSOCIATED INTERCONNECTING PIPING</b>		
	<b>AGREEMENT No. 09-5578-E-4</b>		
PROJECT No. 5578	Doc. No. 5578-E4-HSE-HU-00041	Rev. 0	Page 12 / 13

**7. TRAINING METHOD**

Each sectional head will use the training request form to indicate the training needs of employees in his section, after which it will be signed for confirmation before it is sent to the HSE department. The project HSE training matrix and schedule should be used to assess the needs of HSE training. Each section shall keep the training record to utilize them where they plan works. i.e. confined space entry work.

**8. TRAINING RECORD**

1. All training activities will have a sign-in form to acknowledge attendance.
2. The HSE Trainer will confirm and sign the sheet, and report and send the completed sheets to the HSE Manager.
3. A log of the training result attended by all employees will be maintained by the HSE department for easy tracking.

Administration department shall furnish the HSE department with the following data of new employees:

- Employees name
- ID card number
- Section
- Trade
- Date of employment
- Company
- Nationality
- Date of Birth

This will enable the HSE department to track the record of employees' training result. Any employee who passes the test or complete the course will be issued with badge.

<b>TAKREER</b>	<b>RUWAIS REFINERY EXPANSION PROJECT</b>	<b>DAEWOO E&amp;C</b>	
	<b>EPC-4 TANKAGE AND ASSOCIATED INTERCONNECTING PIPING</b>		
	<b>AGREEMENT No. 09-5578-E-4</b>		
PROJECT No. 5578	Doc. No. 5578-E4-HSE-HU-00041	Rev. 0	Page 13 / 13

**9. ATTACHMENT**

Attachment 1: HSE Training Attendance Record

Attachment 2: HSE Training Matrix

Attachment 1: HSE Training Attendance Record

**HSE TRAINING ATTENDANCE RECORD**

Course Title		Trainer's Name	
Training Location		Trainer's Signature	
Date		Time	
S/N	Name	Badge No.	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

