



Environmental and Social Quarterly Monitoring Report

Project Number: 43903 (Loan 2722)
June 2013

PAKISTAN: Uch-II Power Project Environmental and Social Development Quarterly Monitoring Report (Q2 2013)

This report has been submitted to ADB by the Uch II Power (Private) Limited and is made publicly available in accordance with ADB's public communications policy (2011). It does not necessarily reflect the views of ADB.

Asian Development Bank

ENVIRONMENTAL AND SOCIAL MONITORING REPORT

Q2 - 2013

A Project/Business Name and Summary Information		
Development of 404 MW Gas Fired Combined Cycle Power Plant by Uch-II Power (Private) Limited		
(i)	<i>Location of project/business</i>	Dera Murad Jamali, Baluchistan, Pakistan
(ii)	<i>Nature</i>	Construction, commissioning and operation of gas fired combined cycle power plant
(iii)	<i>Scale/size</i>	404 MW (ISO Gross Rating) 2 Gas Turbines x 01 Steam Turbine
(iv)	<i>Date of construction/operation commencement</i>	Construction activities commenced in July 2011. Overall project progress at end of Q2 FY2013 is 95.78% against the baseline planned progress of 97.40%. Based on current rate of progress Project COD is expected by end of January 2014.
(v)	<i>Name, designation and signature of person responsible for preparing/reviewing the report</i>	Fida Muhammad Khan, Manager HSE Uch-II / Babar Saeed Khan, Deputy General Manager Construction Uch-II
B Relevant Environmental Permits or Compliance Certificates		
(i)	<i>Summary of permit conditions & media(s) covered</i>	"No Objection Certificate issued by BEPA"
(ii)	<i>Issue by which government Agency</i>	Baluchistan Environmental Protection Agency (BEPA)
(iii)	<i>Issuance date and duration of validity</i>	December 9, 2010 (Extension required before Operational Phase)
(iv)	<i>Renewal requirements</i>	None
C Incidents of Violations or Non-Compliance		
(i)	<i>Recorded date and responsible agencies</i>	None in Q2-2013
(ii)	<i>Nature of non-compliance</i>	No reportable incident to authorities recorded during Q2-2013.
(iii)	<i>Violation or non-compliance based on what environmental standards and regulations</i>	N/A
(iv)	<i>Recorded dates and authorities</i>	During Q2-2013, EHS related observations of minor nature recorded during routine site monitoring. Log with corrective actions attached as Appendix A.
(v)	<i>Media or community reactions (if any)</i>	None in Q2-2013
(vi)	<i>Corrective actions, deadlines, identification of responsible parties</i>	Short term corrective actions identified thru regular site walks. Please refer to Appendix-A.
	<i>(a) short-term: remedial action</i>	Please refer to Appendix A
	<i>(b) long-term: preventative measures</i>	None in Q2-2013
D Incidents of Environmental and Safety Accidents		
(i)	<i>Incident recorded dates and responsible agencies,</i>	On June 20, 2013, an unfortunate incident occurred in which EPC Contractor's worker fell from the height of nearly 40 feet resulting in severe head injury. Injured patient (IP) was taken to site first aid clinic, then to nearby hospital but he expired on his way to Sukkur city. The insurance for the deceased was in place in accordance to the National Laws and Standards by the employer (EPC Contractor). In addition to the insurance coverage the employer is making further monetary support to the deceased family.
(ii)	<i>Scale of damage and injury (if any)</i>	Fatality
(iii)	<i>Authorities in charge of investigation/recording</i>	EPC contractors site management and HSE team is responsible for reporting and investigating the incidents
(iv)	<i>Media or community reactions (if any)</i>	None in Q2-2013
(v)	<i>Corrective actions, deadlines, identification of responsible parties</i>	Reference to fatal accident, several immediate measures and corrective actions were taken including but not limited to suspension of all works at height and confined spaces during night time, removal of all single hook harness from site, re induction and training of scaffolds, usage of only chin strap helmet for works at height, and deployment of additional resources for continuous EHS supervision by Owner Engineer and O&M personnel during the night time.
	<i>(a) short-term: remedial action</i>	As mentioned above

	<i>(b) long-term: preventative measures</i>	As mentioned above
E	Labour Relations and Conditions	
<i>(i)</i>	<i>Nature of labour dispute or grievance</i>	None reported by EPC in Q2-2013
<i>(ii)</i>	<i>Legal requirements, Permit conditions and renewal requirements</i>	None in Q2-2013
<i>(iii)</i>	<i>Authorities in charge of investigation/recording</i>	EPC contractor responsible for managing its labour relations and conditions
<i>(iv)</i>	<i>Media or community reactions (if any)</i>	None in Q2-2013
<i>(v)</i>	<i>Corrective actions, deadlines, identification of responsible parties</i>	N/A
<i>(vi)</i>	<i>Labour relations and living conditions for construction labour force</i>	<p>No Labor related issues recorded during Q2-2013. Majority of labor residing at site in dormitories with satisfactory living conditions. Basic Medical facility with a qualified Doctor and nurse also available at site.</p> <p>EPC contractor's labour policies are in compliance with ILO core labour standards.</p> <p>EPC contractor use to revisit payrolls of labour as per requirement of Government policies (GOP minimum wages applicable in each cadre and local market). EPC workers also insured (group life insurance) as per national law.</p> <p>As per contractor's procedure for "Camp and Security Management" In-charge Personal & Administration dept. at project site is responsible for maintenance of working and living conditions at site. Regular housekeeping inspections, hygiene inspections for messing facilities, toilet facilities of labor housing compound are performed by site HSE team.</p> <p>A mechanism for registering of complaints is available for labour. Workers complaint register and complaint drop boxes available at site and camp. No labour union exists at project site.</p>
F	Environmental Capacity	
<i>(i)</i>	<i>Staff capacities in environmental management (as relevant)</i>	<p>Please find the EHS Organogram indicating Uch-II, Owners Engineer and EPC team attached as Appendix B.</p> <p>Uch-II HSE Manager and HSE Officer are already at site whereas hiring of additional HSE Engineer is in progress and is expected to be completed by July 2013.</p>
<i>(ii)</i>	<i>Degree of awareness of: (i) environmental management, (ii) health and safety, (iii) environmental laws and regulations</i>	Relevant EPC, OE and Uch-II staff aware about the Project EMP & H&S Mgt plan and all other Environmental applicable & relevant Laws and regulations.
<i>(iii)</i>	<i>Training programs carried out</i>	<p>EPC contractor carrying out regular site HSE induction as per their procedure for its entire staff as well as subcontractors. Specific in house trainings regarding environmental awareness, safety during commissioning, work at height protocols, confined space entry, heavy lifting, manual handling, fire fighting, first aid, hot work, safe driving, scaffolding protocols, JSA / RA and other relevant topics carried out by EPC Health & Safety management team. Altogether a total of 1986 workers trained on different EHS topics in Q2-2013.</p> <p>HIV/AIDs/STD awareness trainings have been included in Project HSE training plan and awareness sessions with workforce shall be started from July-2013.</p> <p>Appendix C (<i>EPC In house Training Statistics Q2- 2013</i>)</p>
<i>(iv)</i>	<i>Needs assessment of environmental management capacity (as relevant)</i>	EPC, EHS staff capacity monitored regularly for effective implementation of EHS Program. Project EHS Organogram attached as Appendix B.
<i>(v)</i>	<i>Compliance audits carried out</i>	<p>Uch-II first biannual HSE audit FY-2013 performed in March-2013.</p> <p>Appendix D (Corrective Action Plan Matrix) EMP March-2013 Biannual Audit - updated July 2013)</p>
G	Stakeholder Consultation/CSR Activities	

(i)	Details of consultations, if any, with local communities, nongovernmental organizations, civil society groups, and other stakeholders, including affected people	None has been conducted in Q2-2013	
(ii)	Describe efforts to promote community relations and local development for inhabitants of the project area.	Local manpower employed in project by EPC contractor and subsequently trained unskilled workers. Please find attached Appendix-I narrating nature of trainings provided to unskilled work force in Q-2, 2013. EPC contractor distributed stationary and books among the students of a school situated in Dera Murad Jamali, Baluchistan. No migration / movement of communities residing in the vicinity of project site.	
(iii)	Project procedures for (a) hiring and (b) acquisition of goods and services	EPC labour hiring procedure in place. Historical data of the labor hired in construction activities is presented in attached Appendix-G.	
(iv)	Provide List of grievances and status of grievance resolution	None in Q-2 2013. Grievance redress mechanism and LPU & GRTG available and in place.	
H	Issues, Status of Implementation of Mitigating Measures in the Environmental and Social Management Plan and Compliance with Environmental Qualities and Standards (national and international, as relevant) and Environmental and Social Requirements		
	Parameter	Issue	Status
1	Air	None	Dust monitoring and suppression with water sprinkling on-going on the vehicles movement tracks / roads both on & offsite.
2	Water (surface and ground water)	None	Overall compliance with EMP (as applicable against specific parameters) in place. Attached is Appendix E, indicating waste water analysis and water consumption record Q2-2013.
3	Waste generation and management	None	Waste generated at site is being collected, segregated and quantified. Construction site sewage water disposal arranged to DMJ municipal area. Attached is Appendix E indicating waste generation record for Q2-2013.
4	Noise and vibration	None	EPC contractor monitoring ambient & occupational noise levels on monthly basis. Attached is Appendix E indicating occupational and ambient noise monitoring results.
5	Occupational health and safety	None	Monitoring of Health & Safety Key performance Indicators done by EPC. Site medical center / officer maintaining workers health records for reported cases.
6	Community safety and security	None	Community safety and security are ensured at project site through effective implementation of mitigation measures proposed by project environmental management plan. The mitigation measures include; development of traffic management plan to minimize disturbances to local communities, established a grievance redress management system to handle and resolve any community complaints that arise during construction and operation phase, limiting the non-local staff within the boundary wall of power plant to avoid project workforce and community interaction. EPC contractors SOP for security arrangements is also in place.
7	CO ₂ emissions by the Project		1094.8 tons of CO ₂ for site Diesel Gens sets and vehicular CO ₂ emissions for construction site reported during Q-2 2013 by EPC

		contractor. Calculations based upon total Diesel fuel used for the same purpose by EPC and its subcontractors.
		Assumptions used in total calculating CO2 emissions provided in Appendix F.
8	<i>Environmental and Social Management Plan, including IFC E&S Action Plan (September 29, 2010)</i>	<p>Project H&S plan and EMP implementation and monitoring in place by EPC contractor.</p> <p>Attached Appendix H summarizes the compliance status of mitigation measures for E&S plan (Ref Appendix A Table 4-1 of EIA)</p> <p>ESAP Update: OGDCL and NTDC's EIA has been completed. After public hearing BEPA issued NOC to OGDCL in May 2013.</p>

I**Summary Assessment of Client Performance and Recommendations**

GTGs mechanical erection activities are in final stages. Lube oil flushing (pre-commissioning activity) on both the GTGs has been completed and first fire expected in the start of September 2013. HRSG(s) mechanical erection is also in final stages with main module inside insulation, liner plate's installation and IP & HP drum interconnecting piping fabrication and erection is in progress.

Steam turbine and generator installation has been completed and currently acoustic enclosure erection is underway. 220 kV Switchyard installation has been completed with testing and pre-commissioning currently underway.

Cooling tower mechanical erection activities in final stages with completion of cell stack assembly and cooling tower fan motors installation. Service Fire, demineralised and potable water storage tanks finishing works are in progress.

Fatality

On 20th June 2013 around 23:20 hrs., Muhammad Mumtaz Khan Scaffolder (age 22 years) of Descon Engineering Limited (EPC Contractor), while dismantling scaffolding inside Service / Fire water tank fell down from a height of nearly 40 feet. He sustained severe injuries on head (forehead) and right arm. His co-workers immediately called Site First Aid center for ambulance and rescued / evacuated the Injured Patient (IP) out of the tank. He was moved to site first aid Centre. Site doctor after providing first aid and considering severity of injury / nose bleeding instructed to move IP to Civil Hospital Jacobabad (~ 40km from the site). On reaching Jacobabad Civil hospital, Doctors considering criticality of head injury, further referred IP to Hira Hospital Sukkur (~ 79 Km from Jacobabad) for treatment by Neurosurgeon. However, IP expired while on his way to Sukkur around 03:00 hrs (21st June 2013).

After evacuating the IP from the accident location, the accident site was closed and barricaded to preserve the evidences on the location. The local police was informed who visited early in the morning (09:00 hrs. on 21st June 2013) to inspect accident location and collection of evidences. All site works were suspended by EPC Contractor from time of incident to 12:00 hrs next day.

Incident was independently investigated and usage of single hook harness rather than double hook that required unlatching from movement from one place to another was identified as basic causal factor for this incident. In addition, weak control of harness at Site was identified as the root cause of this incident.

Several immediate measures and corrective actions were taken including but not limited to suspension of all works at height and confined spaces during night time, removal of all single hook harness from site, re induction and training of scaffolds, usage of only chin strap helmet for works at height, and deployment of additional resources for continuous EHS supervision by Owner Engineer and O&M personnel during the night time.

Details of incident, investigation, findings and corrective actions are available in separate report.

H&S Activities

Permit to work procedure for commissioning phase finalized and its implementation currently underway by EPC contractor.

Additional HSE monitoring put in place for night work site activities in order to identify work / area hazards and taking corrective actions. An extensive site monitoring performed by Uch-II and OE team in order to improve HSE compliance level. Message of “Zero Tolerance” on safety reinforced by Uch-II management against even minor safety violations at site. EPC contractor re-inducted all scaffolders for work at height protocols and developed a standard operating procedure for “working at height”. HSE trainings provided to workers and supervisory staff as per training plan. Joint safety walks, hygiene and housekeeping inspections carried out as per plan.

No other significant Environmental & Social issues to report.

Uch-II Site Monitoring Summary Q2-2013
Corrective Actions

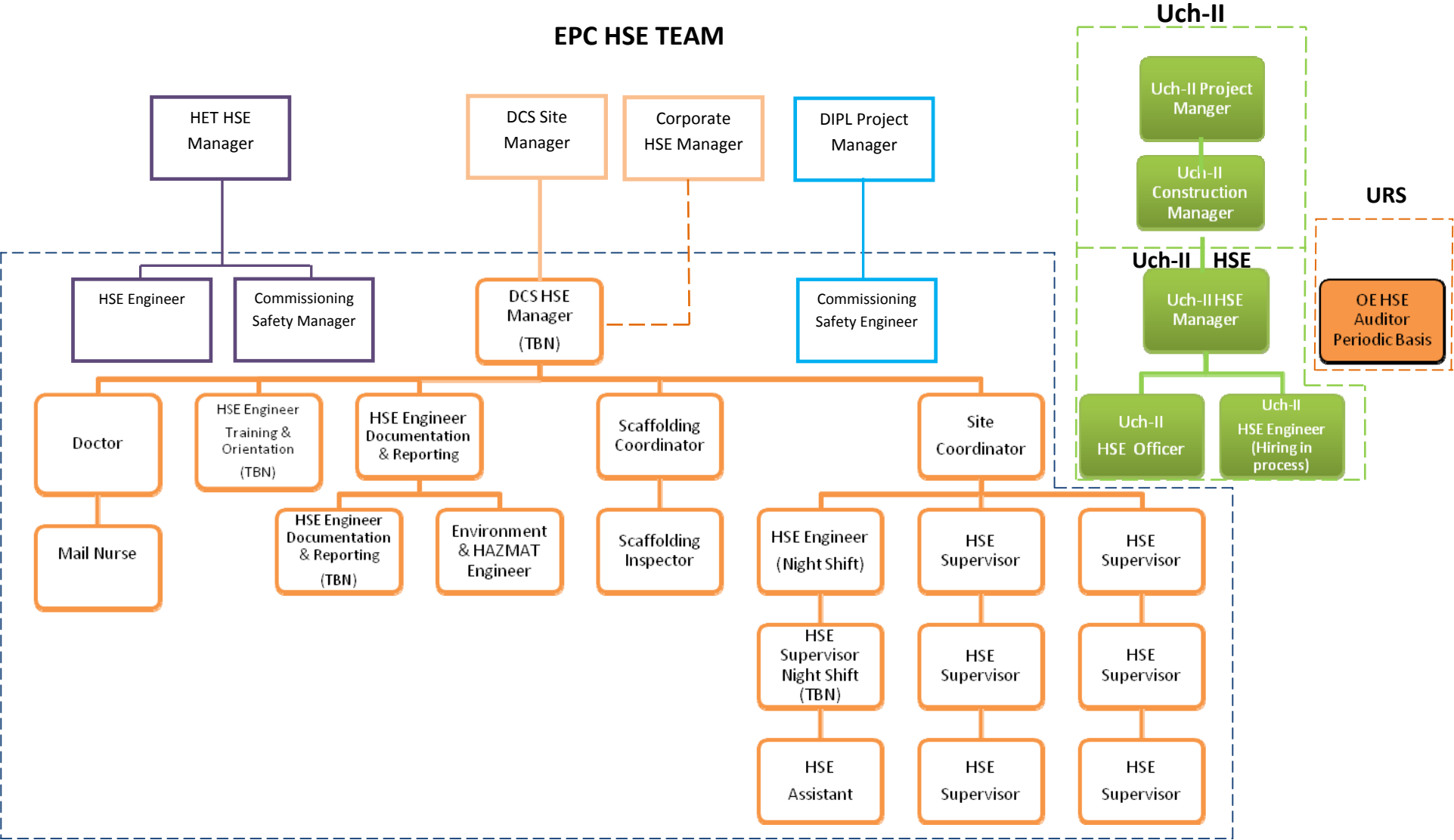
Appendix-A

Monitoring Conducted by	HSE Uch-II
Corrective Actions By	EPC Descon

S. No	Findings	Corrective Actions
1	A scaffolder observed not wearing safety harness while dismantling scaffolding pipes at a height of approx. 08 feet. According to him, safety harness is not provided to him. <ul style="list-style-type: none"> PPEs Non compliance Falling Hazard 	On the spot counseling carried out with scaffolder. Work supervisor is instructed to arrange safety harness and ensure the availability of harness for every work at height job in his jurisdiction.
2	At power island area, a very unsafe crossing observed over a cable trench. Iron planks are used for purpose which is neither balanced nor properly clamped. Worker frequently used this crossing and there is a risk of imminent fall. <ul style="list-style-type: none"> Unsafe Condition / Falling Hazard 	DCS mechanical team in coordination with site scaffolding In-charge installed proper scaffold bridge for secure crossing.
3	At power island, 02 safety sign boards found dismantled and in deteriorated condition. <ul style="list-style-type: none"> Unsafe Condition 	Site safety coordinator is instructed to arrange for proper installation of safety sign boards at power island and replace the damaged sign boards with healthy one.
4	At piping fabrication work shop, a gas cylinder found without safety cap. <ul style="list-style-type: none"> Unsafe Condition 	Fabrication workshop supervisor to ensure the availability of cap for gas cylinders.
5	Unbounded waste material found near gas cylinder storage at mechanical workshop (structure). <ul style="list-style-type: none"> Housekeeping Issue 	Site safety coordinator is informed to arrange for immediate waste removal.
6	At clarifier area, 02 gas cylinders placed in an unsafe condition posing obstruction and strike hazard. <ul style="list-style-type: none"> Unsafe Condition 	Area supervisor is instructed to ensure the cylinder storage in safe position and to use cylinder stand/trolley.
7	Iron rods, cables, wooden material found scattered in area between cooling tower suction basin and piping fabrication workshop. <ul style="list-style-type: none"> Tripping Hazard Housekeeping Issue 	Site safety coordinator is informed to arrange for immediate waste removal.
8	At mechanical workshop (structure), a worker observed without gloves while performing the job. <ul style="list-style-type: none"> PPEs non compliance 	Workshop supervisor is advised to ensure PPEs compliance at his area.

Uch-II (404 MW – ISO) CCGT Power Project

HSE Management Organization Structure



Uch-II	02
EPC Total Strength	24
EPC Position Vacant	4
TBN	To be nominated

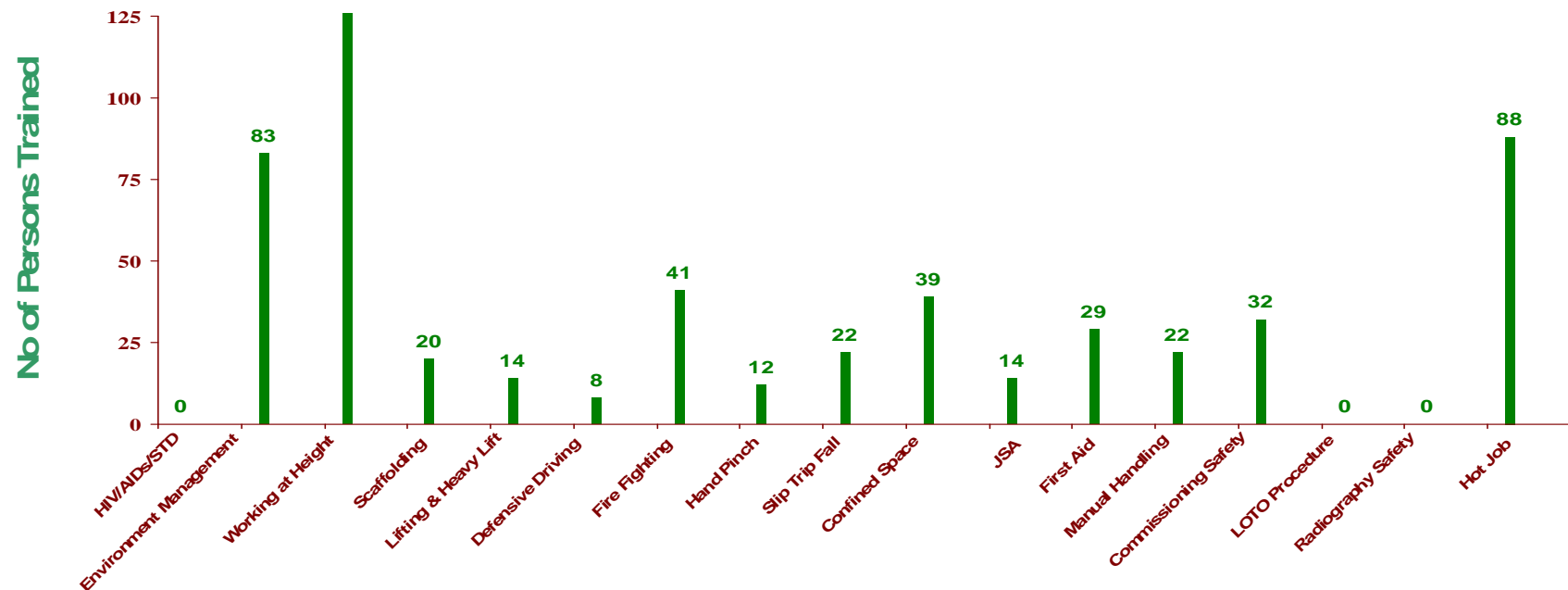
EPC (Descon) In house HSE Training Record

Q-2 2013

Training Topics	Apr-13	May-13	Jun-13	Total
HSE induction	280	313	247	840
HIV / AIDS / STD	0	0	0	0
Environmental Management	73	10	0	83
Working at Height	30	43	649	722
Scaffolding	8		12	20
Lifting And Heavy Lift	14			14
Defensive Driving		8		8
Fire Fighting	12	27	2	41
Hand Pinch		10	2	12
Slip Trip Fall		10	12	22
Confined Spaces	10	16	13	39
JSA	8		6	14
First Aid	15	14		29
Manual Handling	11	9	2	22
HAZMAT				
Commissioning Safety		30	2	32
Radiography Safety				
Hot Job	45	43		88

Q-2 2013

1986



Appendix D

Corrective Action Plan Matrix (EMP Biannual Audit March2013)

No	EMP Action Item	Responsibility	Planned Finish Date	Status 05 May 2013	Remarks	Status 31 July 2013
1	Environment Management System					
1.1	<u>Environmental Policy Uch II Project Construction Site</u>					
	Environmental policy Uch-II is required to be signed by current site manager	EPC	25-04-2013	COMPL	Environmental policy is updated	Compliant
2	Environmental KPIs					
2.1	<u>HSE Inductions</u>					
	A mechanism to be established to ensure that all subcontractors of Hyundai & DIPL approaching at site for commissioning activities shall go thru safety induction program	EPC	05-05-2013	Action Awaited	A meeting carried out between EPC Contractor and Uch-II / O.E to finalize induction mechanism of commissioning team	Compliant
3	Dust Control at Construction Site					
3.1	<u>Water Sprinkling at Site</u>					
	More regular water sprinkling is required at dusty locations and tracks to minimize dust dispersion	EPC	30-04-2013	COMPL	Water sprinkling performed twice a day (morning and evening)	Compliant
4	Equipment and Machinery / Vehicle Exhaust					
4.1	<u>Exhaust Emission Testing</u>					
	Third party emission testing of vehicles and construction machinery / equipment is due	EPC	10-05-2013	Action Awaited	Third party emission testing is in progress	In Progress
5	Solid Waste Management					
5.1	<u>Kitchen waste & Recyclable material</u>					
	EPC contractor to make arrangements for offsite disposal of waste through a certified waste contractor	EPC	10-05-2013	Action Awaited	Waste is being disposed offsite by EPC Contractor	Compliant
6	Machinery					
6.1	<u>Machinery Inspection</u>					
	In-house inspection of subcontractors' heavy machinery and cranes to be performed on monthly basis	EPC	10-05-2013	COMPL	Machinery inspection at E&P workshop is regularized on monthly basis	Compliant

7	Fuel and Chemical Handling					
7.1	<u>Storage Facility</u>					
	Paints and thinners to be stored at proper designated storage area with availability of fire detection system	EPC	10-05-2013	Action Awaited	Combustibles (paints / thinners) shifted to proper designated store. Fire detectors has been installed as per recommendations	Compliant
7.2	<u>Safety Signage</u>					
	Safety signs / posters needs to be enhanced at fuel / chemical storage area	EPC	05-05-2013	COMPL	Safety signage is increased at storage facility	Compliant
8	Housekeeping					
8.1	<u>Waste Collection</u>					
	Regular collection of hazardous and non-hazardous waste generated to be ensured at work areas	EPC	05-05-2013	COMPL	Regular housekeeping on daily basis is ensured at site	Compliant

Appendix-E

Uch-II Waste Generation Statistics

Waste Type	Unit	Apr-13	May-13	Jun-13
Used oil	Ltr	530	540	450
Metal	Tons	1	0.8	1
Paper/ Plastic/ Glass	Kg	1840	1889	1942
Empty Cement Bags	Tons	3.5	2.34	1.27
Food Waste	Tons	6.9	7.1	7.3
Waste Water	m ³	3472	3550	3775
Oil Filters & Oily Rags	Kg	45	40	38
Used Batteries	Nos	0	0	0
Old Tyres	Nos	0	0	0

Uch-II Waste Water Analysis

Parameters	NEQS Limit	Apr-13	May-13	Jun-13
pH	6--9	7.24	7.9	7.2
COD (ppm)	150	182	139	148
BOD (ppm)	80	61.3	67	52

Uch-II Water Consumption Record

Water Type	Unit	Apr-13	May-13	Jun-13
Raw Water	m ³	2402	4899	5000
Potable Water	m ³	3172	3645	3000
Total Consumption	m ³	5574	8544	8000

Ambient Noise Levels (Decibels)				
Location / Area	Unit	Apr-13	May-13	Jun-13
North East Corner	Decibels (dB)	44	44	48
North West Corner	dB	43	47	49
South East Corner	dB	46	46	42
South West Corner	dB	43	40	45

Occupational Noise Levels (Decibels)				
Location / Equipment	Unit	Apr-13	May-13	Jun-13
Concrete Pump	Decibel (dB)	77	79	82
Genset. (Batching Plant)	dB	85	87	85
Tractor (HRSG Area)	dB	79	81	76
Transit Mixer	dB	80	78	81
Genset. (Fabrication workshop)	dB	81	85	86
Structure Workshop	dB	70	77	82
HRSG-II Area	dB	73	70	68
Mechanical Crane-1 (450 Ton)	dB	71	76	75

Appendix-F

Diesel to CO₂ conversion Methodology

Standard diesel fuels generally contain around 87% carbon by weight, the rest being hydrogen and other very minor components. The amount of carbon in a liter of diesel fuel varies, but this only affects the total CO₂ production slightly.

- 1 liter of diesel typically weighs 0.83kg (the density is 830 kg/m³)
- about 87% of this is carbon, so one liter of diesel contains $0.83 \times 87\%$
= 0.722 kg of Carbon.
- Each atom of carbon weighs 12 atomic units. When it combines with two atoms of Oxygen in the combustion process it becomes CO₂, which weighs 44 atomic units.

The 0.722 kg of carbon in the original fuel then becomes $0.722 \times 44/12$
= 2.65 kg of CO₂.

- So 01 liter of diesel fuel produces about 2.65 kg of CO₂.

Actual diesel consumed at site in Q2, 2013 = 413133 liters

Total CO₂ produced = $413133 \times 2.65 = 1094802$ Kg

Equivalent Tons of CO₂ produced = 1094.8 tons

Appendix-G**Number of Workers Engaged in UCH II Construction Activities**

Q1-2012						Q2-2012					Q3-2012				
	Local (Baluchistan)	Local (Rest of Pakistan)	Expatriate	Female Workers	Total	Local (Baluchistan)	Local (Rest of Pakistan)	Expatriate	Female Workers	Total	Local (Baluchistan)	Local (Rest of Pakistan)	Expatriate	Female Workers	Total
Skilled	8	616	17	0	641	12	703	17	0	732	19	648	17	0	684
Unskilled	71	35	0	0	106	102	99	0	0	201	130	138	0	0	268
Total	79	651	17	0	747	114	802	17	0	933	149	786	17	0	952

Q4-2012						Q1-2013					Q2-2013				
	Local (Baluchistan)	Local (Rest of Pakistan)	Expatriate	Female Workers	Total	Local (Baluchistan)	Local (Rest of Pakistan)	Expatriate	Female Workers	Total	Local (Baluchistan)	Local (Rest of Pakistan)	Expatriate	Female Workers	Total
Skilled	27	942	17	0	986	34	1358	28	0	1420	25	1446	28	0	1499
Unskilled	157	290	0	0	447	177	377	0	0	554	108	392	0	0	500
Total	184	1232	17	0	1433	211	1735	28	0	1974	133	1838	28	0	1999

Compliance Status of EMP Control Measures Q2-2013

Appendix-H

Uch-II Project

Environmental / Social Impacts	Control & Mitigation Measures	Monitoring Frequency	Responsibility	Compliance Status
Construction Noise	<ul style="list-style-type: none"> - Regular maintenance of machinery to reduce construction noise - Use acoustic panels around high noise machines - Monthly monitoring of Uch-II ambient & occupational noise 	Monthly	EPC Contractor	Complied
Dust Emissions	<ul style="list-style-type: none"> - Daily monitoring of dust on roads and excavation areas - Water sprinkling at dusty areas / roads on daily basis - Use of dust masks by labor working in the dusty areas 	Daily	EPC Contractor	Complied
Land Use	<ul style="list-style-type: none"> - Land update kept minimum required and restricted to existing compound area and within existing water supply pipeline 		EPC Contractor / Uch-II	Complied
Water Sourcing	<ul style="list-style-type: none"> - Water consumption monitoring on monthly basis - Water conservation 	Monthly	EPC Contractor / Uch-II	Complied
Vehicles & Equipment Emissions Testing	<ul style="list-style-type: none"> - Periodic maintenance / tuning of all vehicles used during project - Third party emissions testing as per defined frequency 	Baseline when vehicle / equipment inducted in pool & subsequently after every year	EPC Contractor	Complied
Soil and Land Contamination	<ul style="list-style-type: none"> - Fuel, lubricants and chemical storage in covered bunded areas - Regular inspection of work areas and storage areas to detect any leakages/ spillage - Safe movement of chemicals and fuels - Spill emergency response procedure 	Daily	EPC Contractor	Complied
Drainage & Storm Water Run-off	<ul style="list-style-type: none"> - Provision of proper drainage system at camp area and site area - Provision of storm water drainage system at entire site - Provision of following drainage system for power plant and all drains will discharge into evaporation pond after required treatment 	Ongoing (throughout the project phase)	EPC Contractor / Uch-II	Complied

	<ul style="list-style-type: none"> Cooling Tower blow down, Demin plant regenerated waste water, Sanitary wastewater, Oily wastewater and Sludge from clarifiers 			
Camp Effluent	- Provision of proper septic tanks for construction camp effluents	Ongoing (throughout the project phase)	EPC Contractor	Complied
Hazardous & Non Hazardous Waste Management	<ul style="list-style-type: none"> Segregation of hazardous & non hazardous waste Waste storage at designated areas Waste quantification on monthly basis Non-hazardous waste disposal to proper landfill Hazardous waste disposal through approved waste contractor 	Monthly	EPC Contractor	Complied
Disturbance to Wild Life	<ul style="list-style-type: none"> Preying and hunting is prohibited at Uch-II site for all kind of animals and birds Any incident reported shall be investigated & controlled. 	Ongoing (throughout the project phase)	EPC Contractor / Uch-II	Complied
Community & Power Plant Workers Safety	<ul style="list-style-type: none"> Following traffic and heavy load movement plan Monitoring safety hazards arising from traffic nuisance Taking corrective actions to prevent reoccurrence. 	Ongoing (throughout the project phase)	EPC Contractor / Uch-II	Complied
Traffic Disturbance	<ul style="list-style-type: none"> Use of national highway for transportation Traffic rush hours avoided for transportation of heavy loads Follow speed limit rules 	Ongoing (throughout the project phase)	EPC Contractor	Complied
Local Employment Conflicts	- Providing employment to labors, & semi-skilled local population	Ongoing (throughout the project phase)	EPC Contractor	Complied
Archaeological & Cultural Resources	<ul style="list-style-type: none"> Monitoring excavation activities carefully Upon discovering any remains of archeological significance immediately informing Uch-II and preserving them 	Ongoing (throughout the project phase)	EPC Contractor / Uch-II	Complied
Project/Community Interface	<ul style="list-style-type: none"> Non local project staff house in construction camp within boundary of power plant Grievance handling procedure developed to handle community social & environmental complaints 	Ongoing (throughout the project phase)	EPC Contractor / Uch-II	Complied

Appendix-I

Un-skilled Workers Training Record		
	No of workers Trained	Nature of Trainings Provided
Q1-2013	149	Work at Height, Confined Spaces, Manual Handling Techniques, Hand Injuries/Pinch Points, Slip Trip Fall Hazards, Chemical & Fuel Handling, Hot Job Safety, Fire Fighting
Q2-2013	272	Burns First Aid, Health & Hygiene, Work at Height / Use of Scaffold, Confined Spaces, Grinder Safety, Defensive Driving, Slip Trip Fall Hazards, Manual Handling Techniques