



Environmental and Social Quarterly Monitoring Report

Project Number: 43903 (Loan 2722)
December 2012

PAKISTAN: Uch-II Power Project Environmental and Social Development Quarterly Monitoring Report (Q4 2012)

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Asian Development Bank

ENVIRONMENTAL AND SOCIAL MONITORING REPORT

Q4 - 2012

| 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. Based on current rate of progress Project COD is expected by end of December 2013 |
| (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, Construction Manager 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 Q4-2012 |
| (ii) | <i>Nature of non-compliance</i> | No reportable incident to authorities recorded during Q4-2012. |
| (iii) | <i>Violation or non-compliance based on what environmental standards and regulations</i> | N/A |
| (iv) | <i>Recorded dates and authorities</i> | During Q4-2012, 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 Q4-2012 |
| (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 Q4-2012 |
| D | Incidents of Environmental and Safety Accidents | |
| (i) | <i>Incident recorded dates and responsible agencies,</i> | None in Q4-2012 |
| (ii) | <i>Scale of damage and injury (if any)</i> | None in Q4-2012 |
| (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 Q4-2012 |
| (v) | <i>Corrective actions, deadlines, identification of responsible parties</i> | None in Q4-2012 |
| | <i>(a) short-term: remedial action</i> | None in Q4-2012 |
| | <i>(b) long-term: preventative measures</i> | None in Q4-2012 |
| E | Labour Relations and Conditions | |
| (i) | <i>Nature of labour dispute or grievance</i> | None reported by EPC in Q4-2012 |
| (ii) | <i>Legal requirements, Permit conditions and renewal requirements</i> | None in Q4-2012 |
| (iii) | <i>Authorities in charge of investigation/recording</i> | EPC contractor responsible for managing its labour relations and conditions |

| | | |
|----------|---|--|
| (iv) | <i>Media or community reactions (if any)</i> | None |
| (v) | <i>Corrective actions, deadlines, identification of responsible parties</i> | N/A |
| (vi) | <i>Labour relations and living conditions for construction labour force</i> | <p>No Labor related issues recorded during Q4-2012. Majority of labour 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 "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 in labour 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>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 HSE Engineer has not been engaged, yet. Hiring of HSE engineer is expected to be completed by mid of 2013.</p> |
| (ii) | <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. |
| (iii) | <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, work at height protocols, heavy lifting, fire fighting, first aid, hot work, safe driving, scaffolding protocols, JSA / RA, incident investigation and other relevant topics carried out by EPC Health & Safety management team. Altogether a total of 1792 workers trained on different EHS topics during the reporting quarter.</p> <p>HIV/AIDS/STD orientation is not covered yet under the In-house HSE Training program.</p> <p>Appendix C (<i>EPC In house Training Statistics Q4- 2012</i>)</p> |
| (iv) | <i>Needs assessment of environmental management capacity (as relevant)</i> | EPC, EHS staff capacity monitored regularly for effective implementation of EHS Program. Uch-II hiring of additional HSE Engineer (Tentative up to COD) is expected to be completed by mid of 2013. |
| (v) | <i>Compliance audits carried out</i> | <p>Uch-II third party mid project HSE audit finalized to perform in first week of January-2013.</p> <p>Appendix D (Corrective Action Plan Matrix) EMP June-2012 Biannual Audit - updated December 2012)</p> |
| G | Stakeholder Consultation/CSR Activities | |
| (i) | <i>Details of consultations, if any, with local communities, nongovernmental organizations, civil society groups, and other stakeholders, including affected people</i> | None has been conducted in Q4-2012 |
| (ii) | <i>Describe efforts to promote community relations and local development for</i> | <p>Local manpower employed in project by EPC contractor and subsequently trained unskilled workers.</p> <p>EPC contractor assisted community and flood victims by providing food stuff,</p> |

| | | | |
|-------|--|--|---|
| | <i>inhabitants of the project area.</i> | tents, blankets and clean drinking water during devastated flood in year 2012. No migration / movement of communities residing in the vicinity of project site. | |
| (iii) | <i>Project procedures for (a) hiring and (b) acquisition of goods and services</i> | EPC labour hiring procedure in place. Historical data of the labor hired in construction activities is presented in attached Appendix-G. | |
| (iv) | <i>Provide List of grievances and status of grievance resolution</i> | None in Q-4 2012. 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 | <i>Air</i> | None | Dust monitoring and suppression with water sprinkling on-going on the vehicles movement tracks / roads both on & offsite. |
| 2 | <i>Water (surface and ground water)</i> | None | Overall compliance with EMP (as applicable against specific parameters) in place. Attached is Appendix E, indicating waste water analysis and water consumption record Q4-2012. |
| 3 | <i>Waste generation and management</i> | 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 Q4-2012. |
| 4 | <i>Noise and vibration</i> | None | EPC contractor monitoring ambient & occupational noise levels on monthly basis. Attached is Appendix E indicating occupational and ambient noise monitoring results. |
| 5 | <i>Occupational health and safety</i> | None | Monitoring of Health & Safety Key performance Indicators done by EPC. Site medical Centre / officer maintaining workers health records for reported cases. |
| 6 | <i>Community safety and security</i> | 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 | <i>CO₂ emissions by the Project</i> | | 953.4 tons of CO ₂ for site Diesel Gens sets and vehicular CO ₂ emissions for construction site reported during Q-4 year 2012 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> | | Project H&S plan and EMP implementation and monitoring in place by EPC contractor. Attached Appendix H summarizes the compliance status of mitigation measures for E&S plan (Ref Appendix A Table 4-1 of EIA) |

| | | | |
|---|--|--|---|
| | | | ESAP Update: OGDCL and NTDC's EIA has been completed. OGDCL public consultation expected in mid-March 2013 for obtaining NOC from BEPA. |
| I | Summary Assessment of Client Performance and Recommendations | | |
| <p>The construction activities comprising cooling towers concrete & plaster work, laying of raw water pond geo-membrane, installation of disconnectors & circuit breakers at 220 KV switchyards, erection of HRSG modules, transformers, steam turbine & gas turbine generators have been completed in the period under review.</p> <p>Since the inception of Uch-II project, EPC successfully completed a total of 3.9 million man hours without Lost Time Incident by end of Q4 2012. HSE routine site monitoring, joint safety walks and housekeeping inspections carried out at project site as per plan. No significant safety incidents occurred during the period under review. HSE trainings provided to workforce and supervisors at site as per training plan.</p> <p>EPC contractors' activities were closely monitored by Uch-II HSE management to ensure compliance with Project EMP and H&S procedures. Areas of weaknesses, mainly non-compliance of work at height protocols & confined space protocols, PPEs non-compliance and issues related to housekeeping highlighted and corrective actions suggested for compliance.</p> <p>No other significant Environmental & Social issues to report.</p> | | | |

Uch-II Site Monitoring Summary Q4-2012
Corrective Actions

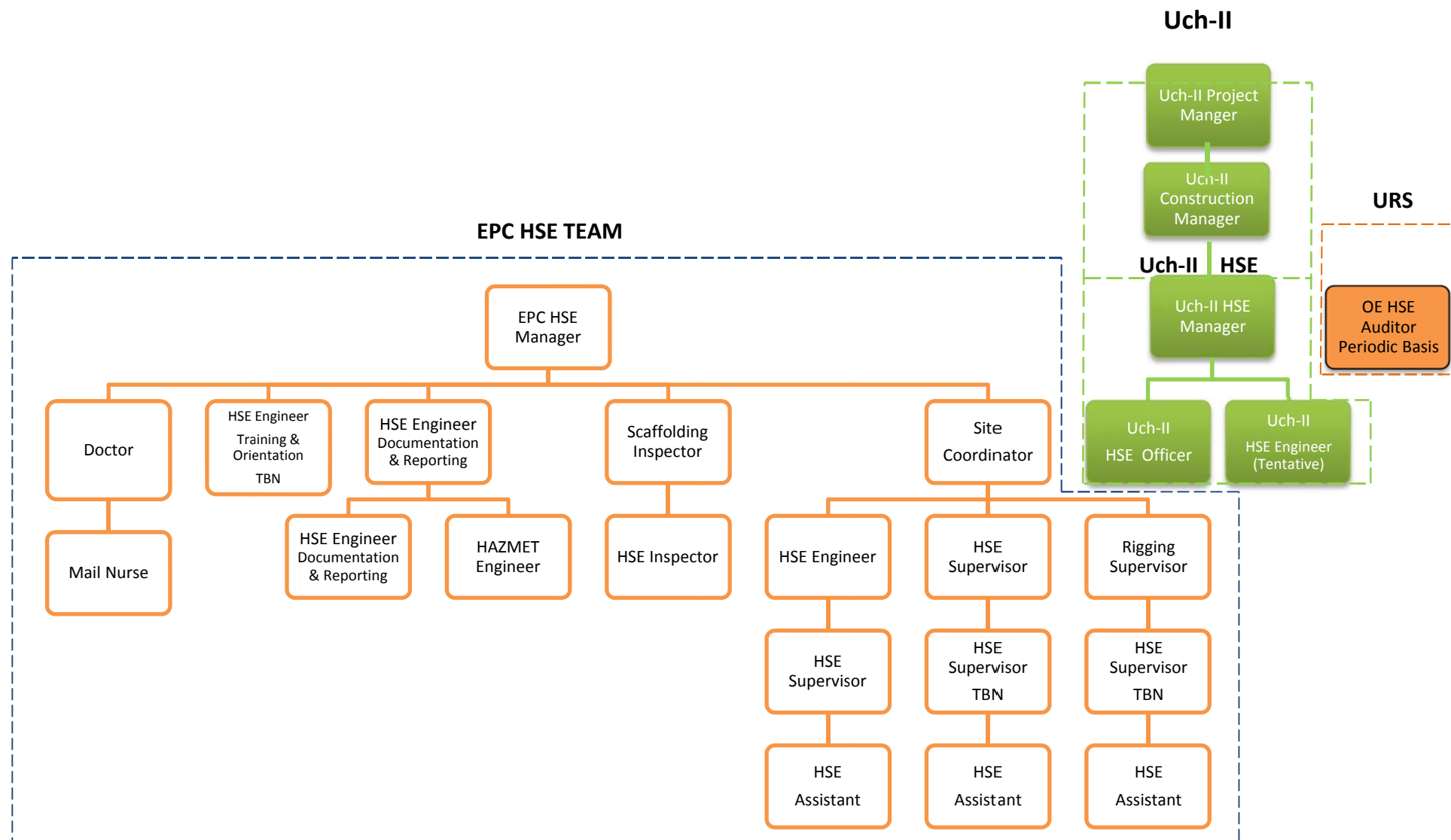
Appendix-A

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

| S. No | Findings | Corrective Actions |
|-------|---|--|
| 1 | No safe guard/railing installed at open end at the top of HRSG module-I <ul style="list-style-type: none"> Falling Hazard | Hard barrier / safe guard installed at the pointed location to avoid risk of falling |
| 2 | A crane found engaged in lifting activities near CCR building. No bank man/flag man was deputed for crane's movement <ul style="list-style-type: none"> Non-compliance of TMP | Counseling of crane operator carried out and E&P dept. is advised to ensure the availability of signal man |
| 3 | At switch yard , an electrical distribution panel found in damaged condition without cover/shed over it <ul style="list-style-type: none"> Unsafe Condition Electrical Hazard | Damaged DB has been replaced and shed provided over it |
| 4 | A junk of paper waste observed outside site first aid center. <ul style="list-style-type: none"> Housekeeping Issue | Paper waste removed from subject location & Admin dept. is addressed to ensure the collection and disposal of waste as per waste management plan |
| 5 | A worker observed standing at height over foundation of gas turbine generator without wearing safety harness <ul style="list-style-type: none"> Non Compliance of work at height protocols | Counseling with the worker carried out to communicate the falling hazards |
| 6 | Waste material (wooden pieces, shuttering material, debris etc.) found scattered at back side of cooling tower <ul style="list-style-type: none"> Housekeeping Issue | Housekeeping of the area carried out |
| 7 | Water puddle created around a water tank due to continuous leakage from tap <ul style="list-style-type: none"> Housekeeping Issue | Water leakage issue has been rectified. |
| 8 | While performing coating work inside Demin water tank, confined space protocols not followed <ul style="list-style-type: none"> Non-compliance of confined space protocols | Confined space protocols ensured at site by EPC |
| 9 | A worker observed performing grinding work without wearing safety shoes <ul style="list-style-type: none"> PPEs non compliance | Counseling with worker carried out and area supervisor advised to ensure the PPEs compliance |
| 10 | A grinder was used at admin building area without grounding <ul style="list-style-type: none"> Electrical Hazard | Grounding provided |

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

HSE Management Organization Structure



| | |
|---------------------|--|
| Uch-II | 02 (Uch-II HSE Manager and HSE Officer are already at site whereas HSE Engineer has not been engaged, yet. Hiring of HSE engineer is expected to be completed by mid of 2013.) |
| EPC Total Strength | 19 |
| EPC Position Vacant | 03 |
| TBN | To be nominated |

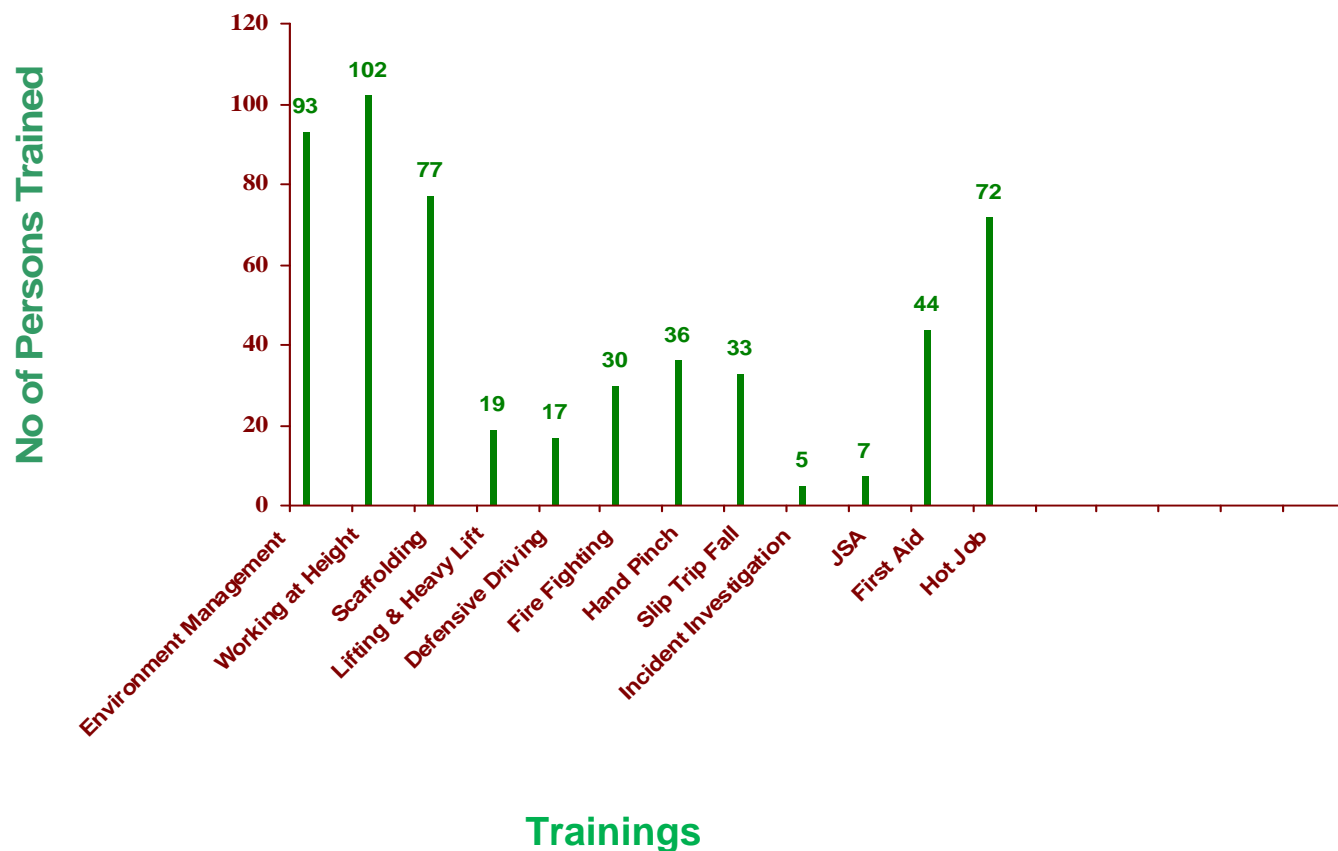
EPC (Descon) In house HSE Training Record

Q-4 2012

| Training Topics | Oct-12 | Nov-12 | Dec-12 | Total |
|--------------------------|--------|--------|--------|-------|
| HSE induction | 168 | 685 | 404 | 1257 |
| Environmental Management | 15 | 8 | 70 | 93 |
| Working at Height | 10 | 70 | 22 | 102 |
| Scaffolding | 13 | 64 | | 77 |
| Lifting And Heavy Lift | 4 | | 15 | 19 |
| Defensive Driving | | | 17 | 17 |
| Fire Fighting | 30 | | | 30 |
| Hand Pinch | 13 | 12 | 11 | 36 |
| Slip Trip Fall | | 28 | 5 | 33 |
| Incident Investigation | 5 | | | 5 |
| JSA | 6 | | 1 | 7 |
| First Aid | 15 | 17 | 12 | 44 |
| Hot Job | 15 | 36 | 21 | 72 |

| | |
|----------|------|
| Q-4 2012 | 1792 |
|----------|------|

* HIV/AIDS/STD orientation is not covered yet under the In-house HSE Training program.



Appendix D

Corrective Action Plan Matrix (EMP Biannual Audit June 2012)

| No | EMP Action Item | Responsibility | Planned Finish Date | Status 08 August 2012 | Remarks | Status 31 December 2012 |
|----------|--|----------------|---------------------|-----------------------|---|-------------------------|
| 1 | Environment Management system | | | | | |
| 1.1 | <u>Environmental Policy Uch II Project construction site</u> | | | | | |
| | Environmental policy Uch-II to be communicated to all personnel approaching the site | EPC | 15-08-2012 | COMPL | Environmental policy is a part of HSE induction | Compliant |
| 1.2 | <u>Adequacy of HSE Induction in line with EMP</u> | | | | | |
| | All aspects of EMP must be part of HSE induction | EPC | 15-08-2012 | COMPL | All important features of EMP are included in induction along with visual effects | Compliant |
| 2 | Environmental KPIs | | | | | |
| 2.1 | <u>Environmental Incidents record since mobilization.</u> | | | | | |
| | Quality of incident investigations to be improved | EPC | 20-09-2012 | Action Awaited | Incident investigation techniques training of EPC HSE Engineers carried out | Compliant |
| 3 | Emergency Planning and Preparedness | | | | | |
| 3.1 | <u>Oil & Chemical Spill control plan</u> | | | | | |
| | Oil & chemical spill recovery drills to be carried out on regular basis | EPC | 30-08-2012 | COMPL | Spill response exercises are being performed on monthly basis | Compliant |
| 4 | Solid Waste management | | | | | |
| 4.1 | <u>Solid waste management, inspection, segregation and disposal.</u> | | | | | |
| | Additional land fill area required for disposal of kitchen / food waste | EPC | 05-09-2012 | COMPL | Land fill area for food waste disposal is available | Compliant |
| 5 | Machinery | | | | | |
| 5.1 | <u>Machinery inspection certificates upon arrival for use.</u> | | | | | |
| | Vehicle Inspection certificates to be provided by EPC. | EPC | 30-08-2012 | COMPL | Third party certificates available. In-house inspection of cranes at site is in practice on monthly basis | Compliant |
| 6 | Fuel and chemical handling | | | | | |

| | | | | | | |
|----------|---|-----|------------|-------|--|-----------|
| 6.1 | <u>MSDS of chemicals and notices at storage facility</u> | | | | | |
| | Simplified MSDS in Urdu language to be prepared and posted at respective locations | EPC | 25-08-2012 | COMPL | MSDS of all stored chemicals / oils are made available at storage area | Compliant |
| 6.2 | <u>Hazmat awareness TBTs</u> | | | | | |
| | Hazmat awareness TBTs to be provided to store staff | EPC | 25-08-2012 | COMPL | TBTs Provided to store staff | Compliant |
| 7 | Housekeeping | | | | | |
| 7.1 | <u>Waste collection, storage and disposal at site</u> | | | | | |
| | Hazardous waste generated from workshop needs to be recorded in monthly waste generation report | EPC | 30-08-2012 | COMPL | Hazardous Waste from workshop is being recorded | Compliant |

Appendix-E

Uch-II Waste Generation Statistics

| Waste Type | Unit | Oct-12 | Nov-12 | Dec-12 |
|-------------------------|----------------|--------|--------|--------|
| Used oil | Ltr | 875 | 560 | 764 |
| Metal | Tons | 2.7 | 10 | 8 |
| Paper/ Plastic/ Glass | Kg | 946 | 1339 | 1784 |
| Empty Cement Bags | Tons | 2.09 | 3.78 | 4.5 |
| Food Waste | Tons | 3.55 | 5.02 | 6.7 |
| Waste Water | m ³ | 3412 | 3600 | 3672 |
| Oil Filters & Oily Rags | Kg | 20 | 17 | 20 |
| Used Batteries | Nos | 0 | 0 | 0 |
| Old Tyres | Nos | 0 | 0 | 4 |

Uch-II Waste Water Analysis

| Parameters | NEQS Limit | Oct-12 | Nov-12 | Dec-12 |
|------------|------------|--------|--------|--------|
| pH | 6--9 | 7.8 | 7.5 | 8 |
| COD (ppm) | 150 | 14.4 | 88 | 37 |
| BOD (ppm) | 80 | 55.1 | 49 | 41 |

Uch-II Water Consumption Record

| Water Type | Unit | Oct-12 | Nov-12 | Dec-12 |
|-------------------|----------------|--------|--------|--------|
| Raw Water | m ³ | 3633 | 4545 | 5885 |
| Potable Water | m ³ | 301 | 1010 | 1308 |
| Total Consumption | m ³ | 3934 | 5555 | 7193 |

| Ambient Noise Levels (Decibels) | | | | |
|---------------------------------|---------------|--------|--------|--------|
| Location / Area | Unit | Oct-12 | Nov-12 | Dec-12 |
| North East Corner | Decibels (dB) | 49 | 55 | 57 |
| North West Corner | dB | 49.5 | 50 | 60 |
| South East Corner | dB | 51 | 49 | 47 |
| South West Corner | dB | 63 | 70 | 48 |
| Community West | dB | 45 | 42.7 | 44 |
| Community South West | dB | 44 | 49 | 51 |
| Pat Feeder (Pipeline Area) | dB | 49 | 54 | 55 |

| Occupational Noise Levels (Decibels) | | | | |
|--------------------------------------|--------------|--------|--------|--------|
| Location / Equipment | Unit | Oct-12 | Nov-12 | Dec-12 |
| Raw Water Pond | Decibel (dB) | 51 | 49 | 55 |
| Batching Plant | dB | 82 | 88 | 81 |
| Generator (Fabrication Shop) | dB | 88 | 92 | 90 |
| Tractor (Belarus) | dB | 85 | 81 | 85 |
| Transit Mixer | dB | 84 | 85 | 91 |
| Mechanical Crane (450 Ton) | dB | 87 | 83 | 85 |
| Grader | dB | 85 | 91 | 88 |
| Excavator | dB | 80 | 83 | 78 |

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 Q4, 2012 = 359769 liters

Total CO₂ produced = $359769 \times 2.65 = 953389$ Kg

Equivalent Tons of CO₂ produced = 953.4 tons

Appendix-G

Number of Workers Engaged in UCH II Construction Activities

| Q1-2012 | | | | | | Q2-2012 | | | | |
|-----------|------------------------------------|-----------------------------|------------|------------------|-------|------------------------------------|-----------------------------|------------|------------------|-------|
| | Local (Baluchistan Province) | Local (Rest of Pakistan) | Expatriate | Female Wokers | Total | Local (Baluchistan Province) | Local (Rest of Pakistan) | Expatriate | Female Wokers | Total |
| Skilled | 8 | 616 | 17 | 0 | 641 | 12 | 703 | 17 | 0 | 732 |
| Unskilled | 71 | 35 | 0 | 0 | 106 | 102 | 99 | 0 | 0 | 201 |
| Total | 79 | 651 | 17 | 0 | 747 | 114 | 802 | 17 | 0 | 933 |

| Q3-2012 | | | | | | Q4-2012 | | | | |
|-----------|------------------------------------|-----------------------------|------------|------------------|-------|------------------------------------|-----------------------------|------------|------------------|-------|
| | Local (Baluchistan Province) | Local (Rest of Pakistan) | Expatriate | Female Wokers | Total | Local (Baluchistan Province) | Local (Rest of Pakistan) | Expatriate | Female Wokers | Total |
| Skilled | 19 | 648 | 17 | 0 | 684 | 27 | 942 | 17 | 0 | 986 |
| Unskilled | 130 | 138 | 0 | 0 | 268 | 157 | 290 | 0 | 0 | 447 |
| Total | 149 | 786 | 17 | 0 | 952 | 184 | 1232 | 17 | 0 | 1433 |

Compliance Status of EMP Control Measures Q4-2012

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 |