



# Environmental & Social Monitoring Report (July to September 2013)

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Project Number: 44914

## PAK: Patrind Hydropower Project

Prepared by Star Hydro Power Limited

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Asian Development Bank



# **STAR HYDROPOWER LIMITED**

**147 MW PATRIND HYDRO POWER PROJECT**

**ENVIRONMENTAL & SOCIAL MONITORING REPORT**

**(JULY-SEPTEMBER 2013)**



HEAD OFFICE: House No. 534, Margalla road, Sector F10/2, Islamabad - Pakistan  
Tel: +92 51 2212610-1 Fax: +92 51 2212616  
E-mail: [patrind@patrind.com](mailto:patrind@patrind.com)

**A COMPANY OF KOREA WATER RESOURCES CORPORATION**

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## **Acronyms**

ADB	Asian Development Bank
AJK-EPA	Azad Jammu & Kashmir Environmental Protection Agency
KPK	Khyber Pakhtunkhwa
CDP	Community Development Plan
EH&S	Environmental Health & Safety
EPCC	Engineering Procurement Contracts Contractor
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
GRC	Grievance Redress Committee
IEE	Initial Environmental Examination
IDB	Islamic Development Bank
IFC	International Finance Corporation
ILO	International Labour Organization
KEXIM	Export Import Bank of Korea
NEQS	National Environmental Quality Standards
NTP	Notice To Proceed
PAPs	Project Affected Persons
PS	Performance Standard
RAP	Resettlement Action Plan
SHPL	Star Hydropower Limited



## **Introduction**

### **i. Background**

The Patrind Hydropower Project is run of river project located on the boundary of Khyber-Pakhtunkhwa and Azad Jammu & Kashmir. The purpose of the Project is to provide zero-emissions renewable electricity to the grid and also provide local and global environmental benefits as well as strong local socioeconomic benefits. The project has the total capacity of 147 MW. The project is being financed by multilaterals like IFC, ADB, IDB and KEXIM.

### **ii. Objectives:**

The purpose of this Quarterly Environmental & Social Performance Report is to describe EPC contractor's compliance with the environmental and social performance requirements of IFC/ADB (including implementation of the Environmental Management Plan) and to assess any corrective actions implemented/proposed. This includes:

- A description of all significant health, safety, environmental and social activities and events that occurred during the reporting period.
- Provision of additional information about activities (i.e., status of permits or other approvals, ongoing public consultation etc.).
- Quantitative performance monitoring data summaries in comparison to appropriate ADB and IFC policies, guidelines and national requirements.
- An explanation of any cases of non-compliance with lender's guidelines or applicable regulatory limits that have occurred, identifying the cause and the corresponding corrective measures planned or underway to prevent future occurrences.
- Resettlement Action Plan activities and progress on the implementation of project within the Sustainable Development Strategy Framework

**A. Project Name and Summary Information**

**i. Project/Business Name**

Patrind Hydropower Project

**ii. Status of Construction**

The Notice to Proceed (NTP) for main works was issued by the Company to EPC Contractor on December 26, 2012. However the preliminary works under Preliminary Contract were initiated in October 2010 and were dovetailed in to the main contract. As of September 2013 the physical progress achieved is 25.82%.

**i. Location of project**

Village Patrind, District Muzaffarabad, Azad Jammu and Kashmir

**ii. Nature**

Run of river Hydropower Project.

**iii. Scale/size**

147 MW

**iv. Date of construction/operation commencement**

Preliminary works commencement: September 2011

Main works start after issuance of NTP: December 2012

**v. Name, designation and signature of person responsible for preparing/reviewing the report**

 Prepared By: Syed Atif Ali Shah Designation: Manager HSE	 Reviewed By: No Hyuk Park Designation: Deputy Chief Executive Officer
 Approved By: Waqar Ahmad Khan Designation: Chief Executive Officer	

**B. Relevant Environmental Permits or Compliance Certificates****a) Summary of permit conditions and media covered:**

As per NOC Issued by AJK-EPA, SHPL/EPC is bound to:

<b>Condition</b>	<b>Status of compliance</b>
Ensure compliance to NEQS and undertake mitigation measures suggested in the EIA report & EMP. Constitute Environmental/Post EIA Monitoring Committee and submit monitoring reports on quarterly basis and provide the copy of this approval and EIA report to the contractor for information and compliance activities.	Environmental Monitoring Unit has been established and mobilized on site after the issuance of Notice to Proceed to the EPC Contractor. Quarterly E&S monitoring report has been submitted to EPA AJ&K
Compensate PAPs for loss of agricultural land, crops, property, and usage right etc. in accordance with the rates that agreed upon and adopt appropriate mechanism for RAP grievance redress. Employ local peoples for all unskilled jobs and implement CDP sooner than later. Ensure all public utilities such as water supply pipes, power phone line be not disturbed by the execution of the project.	<p>Owners are compensated for the loss of agricultural land, trees and property as per the market rates/replacement cost.</p> <p>Although no formal trainings have yet been started for unskilled workers, PAPs including those who lost agricultural land were hired as unskilled workers. All these persons have improved their skills, as they were assigned to assist heavy equipment operations, using survey tools and various mechanical and technical activities such as welding works, rock bolt installation, shotcrete and surveys. Furthermore, internship opportunities have also been provided to local students.</p> <p>Care is being taken not to disturb any of the public utilities.</p>
Ensure occupational and community health and safety backed by a comprehensive emergency response plan. Adopt controlled techniques in accordance with Pakistan explosive act and also make sure the safety & security of wild animals and their habitats at the project site and in its environs with the prior consultation and adhering to the guidelines of forestry and wild life departments strictly.	<p>Local community is being informed prior to the blasting activities through pre-blast notices and precautionary measures were communicated to each household.</p> <p>Road safety and environmental education sessions were held for adjacent school children.</p> <p>Community safety sign boards have been erected on various locations.</p>



	Emergency response drills have also been conducted.
For compliance of regulation 13, 14, 17 & 18 of IEE/EIA regulations 2000 which enunciate the conditions for approval. Confirmation of compliance, entry, inspection and monitoring of the proposed project. The site to install the asphalt plant and other machinery would be selected in consultation with the agency (AJK-EPA). The findings of quality analysis on regular basis should positively be shared. Also, the spoil should be dumped at pre identified location.	Being complied in letter and spirit. Selection of batching plant and dumping locations have been finalized in consultation with EPA-AJ&K.
Communicate any change in the approved project to AJK-EPA and that would be commenced after obtaining the approval. The approval shall stand null and void if the conditions mentioned herein before are not fully complied with. It does not absolve the proponent of the duty to obtain any other approval or clearance that maybe required and can be withdrawn at any time with any prior notice if deem necessary in the public interest.	Shall be done if required.

Most of the conditions are common in both approvals with exception of following issued by EPA KPK:

<b>Condition</b>	<b>Status of compliance</b>
Water in the pond created by construction of Patrind weir should be maintained at EI765m.amsl.Safety zone/adequate engineering measures should be provided to overcome fears of the residents regarding effects of pond to their houses. The level difference of 2 meter from765m.amsl to 767m will act safety zone so the owner of the land and housing structures falling within the zone should be compensated as per laid down procedure of compensation of the government.	The Company has fulfilled the condition in letter and spirit as the operation level of the Project is at 765 masl. The Company acquired the land at the level of 767 masl as per the condition of the EPA. The additional 2 meters shall act as safety zone and the owners were compensated as per the procedure.
The project management should contribute towards the repair of the road to be used during construction and operation activities of the project. The trees supposed to be	The owners have been compensated for the trees supposed to be acquired due to the land acquisition. The trees were counted in the

submerged should be counted in the presence of all stake holders i.e. owners land collectors /patwari representing revenue department representative of EPA and forest/agriculture department. After the determination of exact number type and ownership of the trees be finalized and paid as per laid down procedure of the government	presence of all stake holders i.e. owners land collectors /patwari representing revenue department representative of EPA and forest/agriculture department.  The roads near the project area are being maintained by the EPC contractor.
Minimum flow of 2 cumecs in the downstream of weir in Kunhar River should be kept and provision for 10% extra of this amount of water for emergency in downstream should also be kept in plan. No extension would be permitted in the future in existing hydropower project without prior approval of the EPA /government of Khyber Pakhtunkhwa	Shall be applicable during the operation phase of the Project.
Separate NOC is required for batching/crushing plant.	NOC has been obtained from EPA KP for installation of batching plant near the weir site.

**b) Relevant Government Agencies**

Since the Project is located on the boundary of Khyber Pakhtunkhwa and Azad Jammu & Kashmir Star Hydro Power Limited (the “Company”) had to seek approval of EIA from following two Environmental Protection Agencies (EPAs).

- i. EPA Azad Jammu and Kashmir
- ii. EPA Khyber Pakhtunkhwa

**c) Issuance dates and duration of validity**

<b>NOC Issuing Authority</b>	<b>Issuance Date</b>	<b>Duration of Validity</b>
EPA-AJK	10-08-2010	3 years
EPA-KPK	14-04-2011	Project construction phase

**d) Renewal Requirements:**

Renewal is subject to compliance with aforementioned conditions.

### **C. Incidents of Violations or Non-Compliance**

During reporting period, both external and internal monitoring is being undertaken to comply with recommended policies & procedures. Non conformities were recorded and reported on daily, weekly and monthly bases. HSE reports and their record have appropriately been maintained. Retrofitting and remedial actions were undertaken to mitigate impacts and hazards. In response to Non Conformity Reports, Letters and site notes issued by the OE, suggested corrective measures have been undertaken and considerable improvement was made during the reporting quarter:

Owner Engineer's Non-Conformity Reports			Engineering Procurement and Construction Contractor's Response		Status
Date	Reference	Subject	Date	Letter No.	
27/02/2013	NCR-003	Weather proof structure should be provided to security personnel. Chemical and fuel tanks should be stored in proper manner	16/05/2013	Patrind-13-131	Remedial action inspected by OE and closed with condition that more appropriate actions would be taken on part of EPCC.
20/08/2013	NCR-007	HRT Air Quality	04/09/2013	Patrind-13-296 & Patrind-13-258	Detail of remedial actions submitted to OE for further decision and directions.
25/08/2013	NCR-009	Dumping of excavated material on surge shaft access road	10/07/2013	Patrind-13-205	Material disposal plan has been submitted to OE and disposal of materials from slopes to left bank of Jhelum river is in progress. NCR will be closed after completion of excavated material transportation to designated area.
17/07/2013	NCR-010	Excess of dumped material across the storm gully	02/09/2013	Patrind-13-280	Removal of Material being carried out by construction department

Owner Engineer's Non-Conformity Reports			Engineering Procurement and Construction Contractor's Response		Status
Date	Reference	Subject	Date	Letter No.	
24/08/2013	NCR-0012	Dumping of excavated material in River Kunhar	29/08/2013	Patrind-13-277	NCR will be closed after completion of excavated material transportation to designated disposal area.
25/07/2013	NCR-014	Bathing in River Kunhar Adjacent to the Access Bridge	31/08/2013	Patrind-13-276	All suggested measures undertaken by EPCC and after inspection NCR was closed

OE's Letters			EPCC's Response		
Date	Reference	Subject	Date	Letter No.	Action Taken
07/07/2013	LET/PES.ST-EPCC/081	Fire Incident at Weir Site	03/09/2013	Patrind-13-292	Fire prevention plan prepared and implemented.
16/07/2013	LET/PES.ST-EPCC/087	Dumping of excavated materials to the left of access bridge	03/09/2013	Patrind-13-283	Dumping on approved site ensured.
16/07/2013	LET/PES.ST-EPCC/088	Explosive Store (follow-up letter)	30/07/2013	Patrind-13-235	Mitigation measures plan made as per direction of OE and measures are being undertaken
16/07/2013	LET/PES.ST-EPCC/089	NCR 007 follow-up letter (HRT Air Quality)	04/09/2013	Patrind-13-296	All suggested remedial measures undertaken
16/07/2013	LET/PES.ST-EPCC/091	Labour Conditions during Ramadan	03/09/2013	Patrind-13-293	Working time shortened and awareness session on occupational health in Ramadan

OE's Letters			EPCC's Response		
Date	Reference	Subject	Date	Letter No.	Action Taken
16/07/2013	LET/PES.ST-EPCC/092	Site Housekeeping	04/09/2013	Patrind-13-294	Corrective action regarding housekeeping undertaken.
17/07/2013	LET/PES.ST-EPCC/095	Water Supply on the Powerhouse Site	31/08/2013	Patrind-13-278	Water treated prior to use and ensured clean water availability for workers
03/08/2013	LET/PES.ST-EPCC/117	Unsafe Practices on site	03/09/2013	Patrind-13-295	Warning letter issued to violators and training session arranged for awareness.
30/08/2013	LET/PES.ST-EPCC/144	Use of Motor Bikes on the project	04/09/2013	Patrind-13-297	Suggested measures undertaken and education session arranged for bike riders.



### **Unsafe Act & Unsafe Condition:**

As most of the accidents are the results of unsafe acts and unsafe conditions. To sensitize all staff/workers, UA/UC Observation Card System has been introduced. UA/UC cards have been placed to get information and feedback regarding HSE. Best observer is awarded a prize to encourage and promote safety culture at project sites.

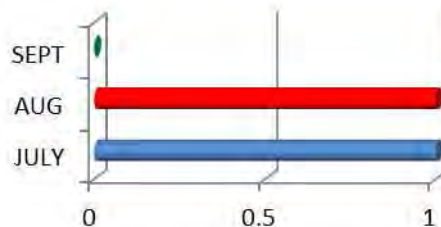
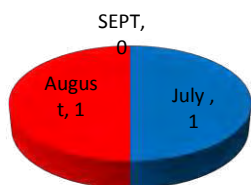
During quarter only a few observations were received through different staff/workers which were subsequently addressed by EPC HSE Department.



### UA/UC CARDS

1.	<b>Date:</b> 25/08/2013 <b>Location:</b> Surge Shaft Access Road			
	Observation	Corrective Action	Action Party	Close Out Date
	Dust has been observed at surge shaft access road due to heavy equipment movement. This kind of dust can cause lungs disorder, dust allergy and asthma.	Water sprinkling on daily basis was ensured. Additional sprinkler has also been made available on site.	EPCC & Kyung Dong	10/09/2013
2.	<b>Date:</b> 30/07/2013 <b>Location:</b> Powerhouse			
	Observation	Corrective Action	Action Party	Close Out Date
	It has been observed that Kyung Dong (sub-contractor) crawler operators who are busy in drilling at power house are not using safety mask. The dust spread over in the result on drilling is very harmful for health and especially for lungs.	Warning letters were issued to the employees who did not wear proper PPEs.	EPCC & Kyung Dong	31/07/2013

### UA/UC OBSERVATION 3<sup>RD</sup> QUARTER



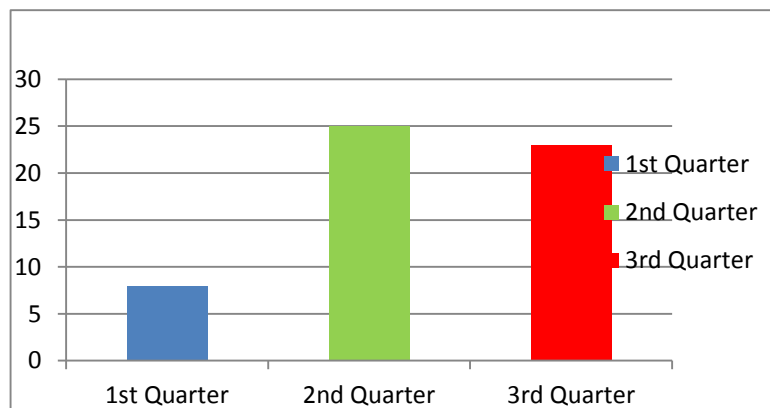
## Warning Letters for Non-Compliances:

Warning letters were issued for incident of violations and non-compliances with HSE procedures and EMP observed/ noted by EPC HSE team. It is a standard procedure that after issuing three warning letters to an employee, he cannot be able to continue the job. Sample warning letter is attached as Annexure- C-1:

**WARNING LETTERS PIE CHART 3<sup>RD</sup> QUARTER**



**WARNING LETTERS (ALL THREE QUARTERS)**



### WARNING LETTERS

SR.	NAME	STATUS	DATE			COMPANY	DESIGNATION
			DAY	MONTH	YEAR		
JULY-2013							
1.	Muhammad Irshad	First	7	7	2013	Kyung Dong	Chain Excavator Helper
2.	Haq Nawaz	First	10	7	2013	Daewoo	TM Operator
3.	Muhammad Junaid	First	16	7	2013	Kyung Dong	Labour
4.	Imtiaz Khan	First	28	7	2013	Daewoo	Labour
5.	Zameer Hussain	First	28	7	2013	Daewoo	Labour
6.	Tanveer Ahmed Mughal	First	28	7	2013	Daewoo	Labour
7.	Muhammad Khursheed	Second	28	7	2013	Daewoo	Labour
8.	Tahir Waheed	First	31	7	2013	Daewoo	Workshop Supervisor
AUGUST-2013							
9.	Raja Akhtar Nawaz	First	20	8	2013	Kyung Dong	Wheel Loader Operator
10.	Ahmed Ashwaq	First	22	8	2013	EJ Tech	Surveyor Assistant
11.	Faisal Abbasi	First	22	8	2013	Kyung Dong	Excavator Helper
12.	Zeeshan Qadeer	First	23	8	2013	PES	Engineer
13.	Zubair Ahmed	First	23	8	2013	PES	Site Inspector
14.	Tanveer Ahmed	First	23	8	2013	Kyung Dong	Excavator Operator
SEPTEMBER-2013							
15.	Naeem Qureshi	First	3	9	2013	Daewoo	S. Electrician

16.	Sohail Ahmed	First	3	9	2013	Daewoo	Assistant Camp Worker
17.	Muhammad Usman	First	4	9	2013	AJK Enterprises	Supervisor
18.	Murad Khan	First	20	9	2013	ZK Associates	Nozzle Man
19.	Zaffarullah Khan	First	20	9	2013	ZK Associates	Loader Helper
20.	Muhammad Sadique	First	20	9	2013	ZK Associates	Wheel Loader Operator
21.	Muhammad Irfan	First	20	9	2013	ZK Associates	Nozzle Man
22.	Syed Fahad	First	20	9	2013	ZK Associates	Cable Trolley Operator
23.	Rustam	First	23	9	2013	Daewoo E&C	Dump Truck Helper



**D. Incidents of Environmental and Safety Accidents**

**a) Environmental Accidents and Mitigation**

- Improvement is observed in status of compliance with EMP during the reporting quarter. No incident of oil spill had been reported. Fuel storage areas have been maintained appropriately and risks of contamination have been mitigated.
- OE has raised concerns over emissions from vehicles and heavy equipment which were subsequently examined by EPC's HSE and construction staff. Two rented vehicles with extra ordinary emissions were stopped to work and removed from site for further service and maintenance.
- Fuel handling has been improved to avoid contamination. For regular service of vehicles and heavy equipment, a mechanical workshop with service station has been established to ensure the fitness and enhance the efficiency of the mobile equipment.



**Newly established Mechanical  
Workshop**




**Direct fueling mitigates  
contamination**

- Gaseous concentration (CO, H<sub>2</sub>S, LEL, and O<sub>2</sub>) in adit and headrace tunnel is being monitored on daily basis using gas detector since March 2013(**Annex D-1**). Monitoring of CO<sub>2</sub>, N<sub>2</sub>O, NO<sub>2</sub> and dust has also been undertaken in compliance with the EPC Contract. Required equipments have been procured and available on site (**Annex D-2**).
- To enhance the performance of ventilator, sub-contractor was instructed to remove the mechanical fault or replace the ventilator in HRT that has subsequently been repaired. Furthermore, an additional ventilator has also been installed to mitigate concentration.
- Trenches for waste management at disposal area on lower site was partially filled. New trench has been constructed near the workshop area. Discussions have been undertaken with Municipal Corporation for collection of camp site garbage and MOU will be executed for the same.
- Wash room facility at upper site near adit tunnel is not appropriate, therefore, site construction team has been instructed to immediately improve the facility as per required standards stipulated in EMP.

**b) Health and Safety Accidents and Mitigation**

To manage and mitigate health and safety incidents following RPN (Risk Priority Number) calculator has been used to assess the severity and likelihood of risk of accidents/incidents ((**Annex D-3**))

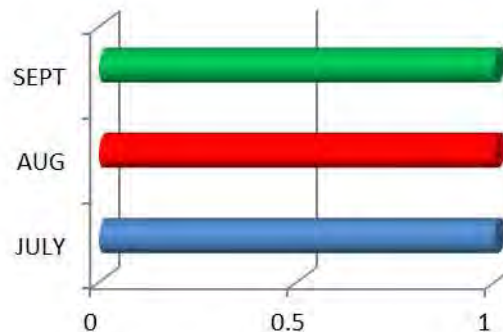
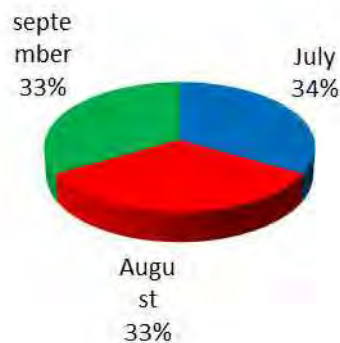
Incidents recording extend to all workers/staff working for sub-contractors and on rented vehicles/machinery. All incident/accidents related to work are reportable. The summary of accidents/incidents encountered during the reporting period is given below:

Incident	Frequency	Description	Media or Community Reaction
Fatality	None		N/A
First Aid Case	None	No work related injury or illness has been reported during the quarter.	None
Occupational Injury	None	<p>No LTI ( Lost Time Injury/Incident)</p> <p>Almost 750,000 Safe Man Hours have been completed till 30<sup>th</sup> September 2013 without any Loss Time Injury (LTI) / fatality.</p>	None
Near Miss	4	<ol style="list-style-type: none"> <li>Based on the gathered information of the incident at the work shop area, some steel structure was to be lifted. The workers decided to use a sling belt instead of a steel rope in lifting the structure. In addition, they didn't use the lifting device that would hold the load appropriately. When they started the lift, the sling belt snapped. Fortunately, the load was not lifted high enough to injure someone, or to destroy something.</li> <li>On 25th July 2013, due to heavy rain, on surge shaft slopes loose spoil slide down towards power house access road and damaged the CGI Sheets placed for protection near bridge on Jhelum river. All workers and staff who frequently move across the road remained safe and escaped from a possible accident. HSE staff was placed on site during road clearance and removal of spoil from access roads.</li> </ol>	None

<b>Incident</b>	<b>Frequency</b>	<b>Description</b>	<b>Media or Community Reaction</b>
		3. On August 15, 2013, Kyung dong staff was working in the Adit Tunnel. Mucking activity was in progress and limited staff was working on site. Due to the heavy rain and landslide, access road got blocked. One Dumper Truck was working at the access road & slided material struck against the dumper. Dumper Truck driver immediately reversed the truck and no damage was observed. Daewoo HSE Assistant Engineer Mr. Adil took an immediate action and gathered the workers at the muster point. No injury was observed as a result of the land sliding. Access road was blocked which was then cleared by the construction department.	<b>None</b>
		4. On September 02, 2013, a dump truck driver Mr. Abdul Rauf of Daewoo was dropping the road construction material on the access road near the camp office. When the driver lifted the bucket to drop the material on the road, the bucket of the dumper truck touched the overhead electric wires. As a result the wire broke down. HSE Engineer Haroon Akhtar took an immediate action and barricaded the area & Relevant Government department WAPDA (Water And Power Development Authority) was informed ( <b>Annex D-4</b> )	<b>None</b>
<b>Environmental incident/ Property damage</b>	<b>01</b>	On July 06, 2013 at 01:30 sub-contractor Sungbo's prefabricated office cabins due to electric fire was damaged. About six fire extinguishers were used including an excavator to dump sand to extinguish the fire. As immediate actions generator was switched off and cables were disconnected and material laying out side was shifted to the safe place. No injury occurred due to the incident. It was recommended by OE that fire alarms should be fitted in all cabins, workshops, storage rooms and other closed areas and should be frequently tested and maintained in working condition.	<b>None</b>
<b>Medical Checkup (These cases</b>	<b>686</b>	<b>OPD during reporting period Month of July 2013</b>	<b>None</b>

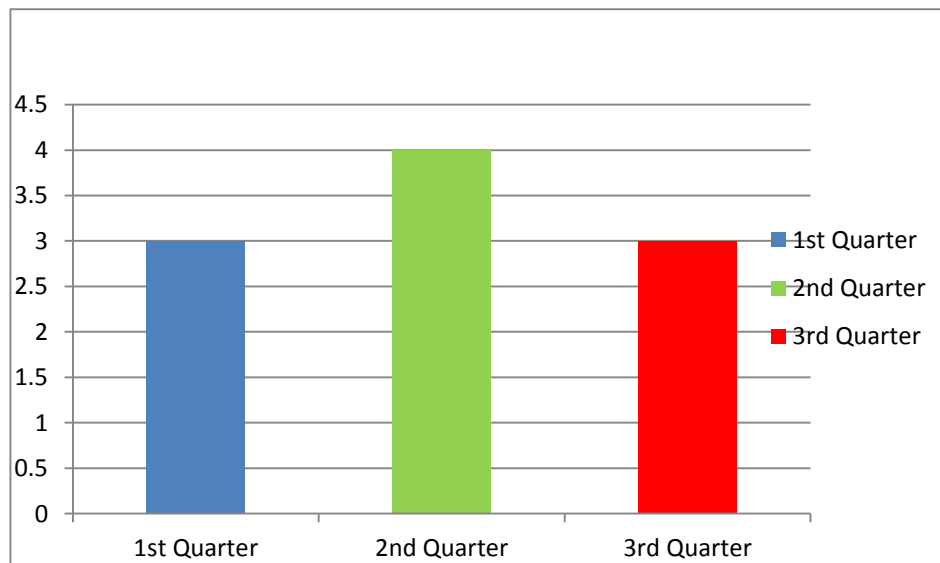
Incident	Frequency	Description	Media or Community Reaction
are seasonal diseases like nausea, flue and cough, headache etc)		<p>Upper Site: 60 Lower Site: 20 (RTI, G/E, Indigestion) Total: 80</p> <p><b>Month of August 2013</b> Upper Site: 147 Lower Site: 83 (RTI, G/E, Indigestion) Total: 230</p> <p><b>Month of September 2013</b> Upper Site: 222 Lower Site: 154 (RTI, APD, G/E, Indigestion) Total: 376</p> <p>686 staff and workers visited medical facilities during the quarter. However, majority of all visitors having normal check up with very few exceptions of minor injuries but rest are of minor in nature like Gastro enteritis, flue and headache etc. (<b>Annex D-5</b>).</p>	

### NEARMISS 3RD QUARTER

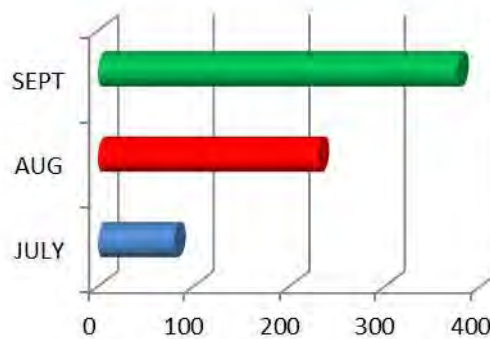
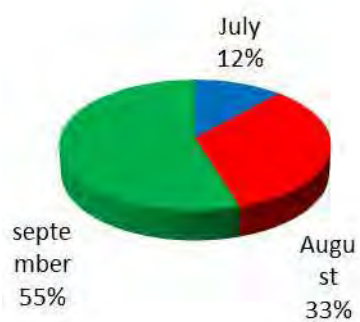




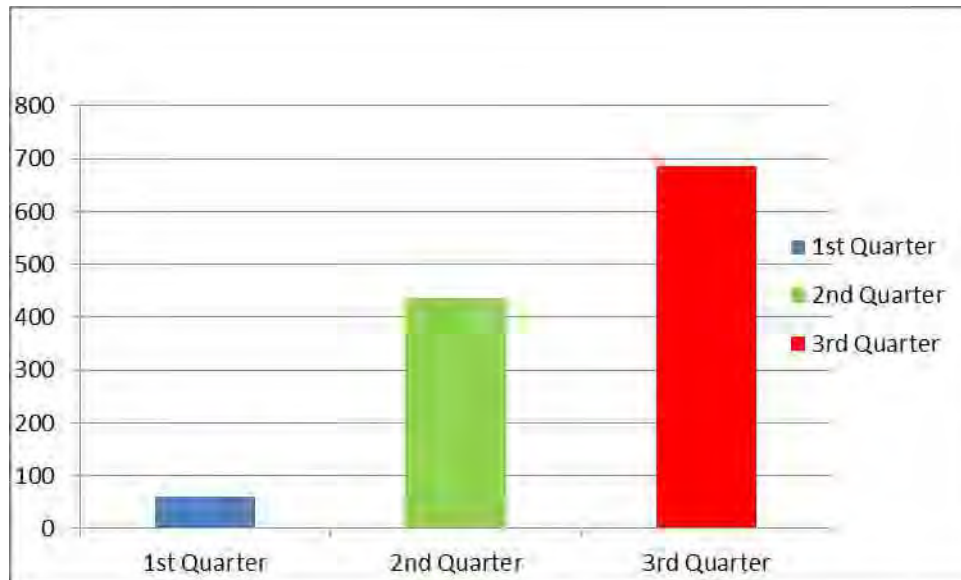
### NEAR MISSES (ALL THREE QUARTERS)



### MEDICAL CHECKUPS 3RD QUARTER



### MEDICAL CHECKUPS (ALL THREE QUARTERS)



EPC's and OE's HSE team continuously indicates corrective actions for compliance. Instructions by OE, SHPL and Lenders are being followed accordingly. In compliance with HSE plans, procedures and policies various corrective actions have been undertaken during quarter and subsequently been reported in weekly monthly and quarterly reports by the EPCC.

#### External Monitoring /Inspection

Sites HSE internal inspection has remained an ongoing activity. External monitoring has periodically been carried out by SHPL, Lenders and their technical advisors and frequently by the OE.

## External Monitoring

### 1-MM visit on 30-31 July 2013

Concerns on some of HSE issues which were subsequently addressed.



### 2-Visit by Lead Insurer (ACE) and its Broker (Willis)

**Date of Survey:** 27-28 August 2013

Shown Satisfaction on project HSE Status and management system



### 1-Visit by Mott Macdonald E&S Monitoring Team (06/09/2013-07/09/2013)

1. MM team showed overall satisfaction on site HSE status and suggested some corrective measures with regard to grievance redress mechanism and waste management on site.
2. MM team emphasized that follow up action and decision on complaints should be undertaken instantly after complaints are registered.



3. MM team suggested that safe passage should be provided to community while passing through Project sites or alternative pathways should be developed on both sites.
4. Waste collection, segregation, transportation and disposal process should be improved and fuel contamination, even minor, should be mitigated.

### **2-Post EIA Monitoring Visit by AJK Environmental Protection Agency (10/09/2013)**

1. EPA team was completely satisfied with ongoing implementation status of EMP and compliance with environmental approval.
2. They emphasized that consistent liaison with EPA should be maintained during construction phase.



### **3-Visit by ADB's E&S Monitoring Team (24/09/2013-27/09/2013)**

ADB's monitoring team visited sites thoroughly they focused mainly the social issues and suggested improvements. Qualitative and quantitative monitoring of water sources situated around HRT corridor has been recommended by visiting team.

Following are measures suggested by ADB team;

- a) SHPL to continue to meet and consult with the affected communities on their concerns and assess and prioritize activities. SHPL need to immediately look at the displaced households' concern on their access to the spring water due to the following reasons: (i) this is their only source of clean water used for drinking and cleaning, (ii) the major burden of fetching water for household use is with the women and girls, (iii) lack of clean water will affect the people's hygiene and health.
- b) The project has not prepared yet the income restoration program based on the socioeconomic



survey results and progress has not been observed on the initial list of programs indicated. It is recommended that SHPL will need to revisit this commitment and ensure that programs will be designed based on the needs of the APs. Moreover, to further help design the income restoration program, including identifying livelihood activities for the affected people is necessary, ADB recommended that SHPL take into consideration results of the interim audit of land acquisition and compensation and resettlement activities to be done by the Refuge External Monitor. The audit is expected to be carried out in December 2013. In designing the income restoration program, SHPL is also encouraged to include women during the consultation and design of the program.

- c) It is appreciated that the concerns of the labor strikers on wages and overtime pay has been resolved through a dialogue between the workers, the EPC and the subcontractor. It is also noted that a grievance redress committee (GRC) has been established to help mitigate concerns of the workers. ADB also provided additional measures on monitoring of EPC and subcontractor compliance with labor standards and provision of mandated benefits. SHPL agreed to the following (i) SHPL/EPC/Subcontractors to provide/cover social/accident insurance of workers (ii) SHPL/EPC/Subcontractors to orient workers on their labor rights as well as on the availability of a GRC to air any labor concerns or issues and oversee EPC/Subcontractors activities; (iii) continue to systematically monitor and report on compliance to the four core labor standards: (1) freedom of association; (2) child labor; (3) forced labor; and (4) discrimination and (iv) SHPL directly or through EPC to continue conducting dialogues with various NGOs and include concerns raised by these NGOs, as well as measures/actions taken by SHPL/EPC to address their concerns in the next monitoring reports.
- d) Measurement of waste water generated in HRT.



### **Internal Inspections Conducted During Reporting Period:**

To mitigate safety incidents, machinery, equipment and electrical appliances are being inspected to ensure fitness through color coding system. Sample checklists are attached as **(Annex D-6)**. According to the nature of work being carried out on construction sites, inspections have continuously been carried out during the reporting period to reduce the risk of accidents and impacts on environment as well as on the health of labor working on sites and for proper maintenance of machineries and other equipment regularly. Following inspections have been consistently undertaken during quarter:

- Heavy equipment inspection
- Batching Plant Inspection
- Site Overall Inspection
- Fire Extinguisher Inspection
- Health and Hygiene Inspection
- Dust Inspection
- Gaseous concentration Inspection



HSE Engineers while inspecting Heavy Equipments

Proper Gas and dust inspections inside HRT are being carried out on regular basis before and after blasting activity for inspection of the magnitude of hazardous gases and ensuring the air quality inside tunnel.



Following inspections have been carried out during the quarter:

Sr.	Inspection	Date	Inspected by	Location
<b>September-2013</b>				
1.	Fire Extinguishers	27/09/2013	S. Tariq Hussain	Camp Office
2.	Wheel Loader WA350/194-35	02/09/2013	Haroon Akhtar	Powerhouse Site
3.	Charging Car ME2-006	08/09/2013	Haroon Akhtar	Powerhouse Site
4.	Boomer Jumbo 352	08/09/2013	Haroon Akhtar	Powerhouse Site
5.	Batching Plant	01/09/2013	M. Javed	Weir Site
6.	Batching Plant	20/09/2013	M. Javed	Weir Site
7.	Batching Plant	25/09/2013	M. Javed	Weir Site
8.	Batching Plant	14/09/2013	M. Javed	Weir Site
9.	Batching Plant	07/09/2013	M. Javed	Weir Site
10.	Charging car MEQ-005	19/09/2013	M. Javed	Weir Site
11.	Jumbo Drill MEQ-001	19/09/2013	M. Javed	Weir Site

Sr.	Inspection	Date	Inspected by	Location
12.	Dumper Truck TKA-167	19/09/2013	M. Javed	Weir Site
13.	Dumper Truck TKA-831	19/09/2013	M. Javed	Weir Site
14.	Dumper Truck IKD-164	19/09/2013	M. Javed	Weir Site
15.	Transit Mixer TM-429	19/09/2013	M. Javed	Weir Site
16.	MT- 410	19/09/2013	M. Javed	Weir Site
17.	MT-403	19/09/2013	M. Javed	Weir Site
18.	MT-404 (2)	19/09/2013	M. Javed	Weir Site
19.	MT- 403 (1)	19/09/2013	M. Javed	Weir Site
20.	Transit Mixer TM-431	19/09/2013	M. Javed	Weir Site
21.	Grove Machine MC-420	20/09/2013	M. Javed	Weir Site
22.	Excavator EX-599	30/09/2013	M. Javed	Weir Site
23.	Fire Extinguishers	05/09/2013- 23/09/2013	M. Javed	Weir Site
<b>August-2013</b>				
24.	Batching Plant	20/08/2013	Addil Yusaf	Powerhouse Site
25.	Fire Extinguisher inspection	27/08/2013	S. Tariq Hussain	Powerhouse Site
26.	Blasting Inspection	01/08/2013	Addil Yusaf	Powerhouse Site
27.	Blasting Inspection	05/08/2013	Addil Yusaf	Powerhouse Site
28.	Color Coding Inspection	01/08/2013	M. Javed	Weir Site
29.	Fire Extinguisher inspection	03/08/2013	M. Javed	Weir Site
30.	Heavy Equipments Inspection	12/08/2013	M. Javed	Weir Site

Sr.	Inspection	Date	Inspected by	Location
31.	Heavy Equipments Inspection	13/08/2013	M. Javed	Weir Site
32.	Wheel Loader and Forklift Inspection	13/08/2013	M. Javed	Weir Site
33.	Dump Truck Inspection	13/08/2013	M. Javed	Weir Site
34.	Heavy Equipments Inspection	14/08/2013	M. Javed	Weir Site
35.	Wheel Loader Inspection	16/08/2013	M. Javed	Weir Site
36.	Dump Truck Inspection	17/08/2013	M. Javed	Weir Site
37.	Color Coding Inspection	12/08/2013	M. Javed	Weir Site
38.	Color Coding Inspection	13/08/2013	M. Javed	Weir Site
39.	Batching Plant Inspection	17/08/2013	M. Javed	Weir Site
40.	Dump Truck Inspection	21/08/2013	M. Javed	Powerhouse Site
41.	Chain Excavator Inspection	22/08/2013	M. Javed	Powerhouse Site
<b>July-2013</b>				
42.	Excavator EX- 05	01/07/2013	M. Javed	Weir Site
43.	Excavator EX-600	01/07/2013	M. Javed	Weir Site
44.	Excavator EX-601	01/07/2013	M. Javed	Weir Site
45.	Excavator EX-605	01/07/2013	M. Javed	Weir Site
46.	Jumbo Drill	01/07/2013	M. Javed	Weir Site
47.	TM – 431	01/07/2013	M. Javed	Weir Site
48.	TM – 432	01/07/2013	M. Javed	Weir Site
49.	Batching Plant	01/07/2013	M. Javed	Weir Site

<b>Sr.</b>	<b>Inspection</b>	<b>Date</b>	<b>Inspected by</b>	<b>Location</b>
50.	Batching Plant	02/07/2013	Addil Yusaf	Powerhouse Site
51.	Charging Car	04/07/2013	M. Javed	Weir Site
52.	Dump Truck	06/07/2013	Addil Yusaf	Powerhouse Site
53.	Fire Extinguisher	06/07/2013	M. Javed	Weir Site
54.	Power House Lower Site/ Blasting	07/07/2013	Addil Yusaf	Powerhouse Site
55.	Power House Lower Site/ Blasting	07/07/2013	Addil Yusaf	Powerhouse Site
56.	Chain Excavator	12/07/2013	Addil Yusaf	Powerhouse Site
57.	Chain Excavator EX-200-C	12/07/2013	Addil Yusaf	Powerhouse Site
58.	Dump Truck	12/07/2013	Addil Yusaf	Powerhouse Site
59.	Chain Excavator	12/07/2013	Addil Yusaf	Powerhouse Site
60.	Power House Lower Site/ Blasting	12/07/2013	Addil Yusaf	Powerhouse Site
61.	Power House Lower Site/ Blasting	12/07/2013	Addil Yusaf	Powerhouse Site
62.	Power House Lower Site/ Blasting	16/07/2013	Addil Yusaf	Powerhouse Site
63.	Power House Lower Site/ Blasting	17/07/2013	Addil Yusaf	Powerhouse Site
64.	Dozer	18/07/2013	M. Javed	Weir Site
65.	Batching Plant	19/07/2013	M. Javed	Weir Site
66.	Wheel Loader D-155	19/07/2013	M. Javed	Weir Site

**E. Labor Relations and Conditions**

**(i) Nature of labor dispute or grievance**

During the reporting quarter no incident of labor dispute was observed, recorded and reported.

However, on July 07, 2013 at weir site a group of labor (14) went on strike that lasted approximately 7 hrs. Issues raised by protesters were as follows;

1. Additional payment on working Sundays,
2. Reduction in working hours during Ramzan and;
3. Increase in wages

From June 2013 working hours were reduced as per demand and no deduction was done in daily wages. Work was resumed on same date at 1400 after intervention of Project management. Detailed report is annexed as **(Annex E-1)**

**(ii) Legal requirements, Permit conditions and renewal requirements**

Labors are being paid according to the local labor laws and overtime has been paid more than the normal rates. Rest of the requirements related to labor's contracts, permits and other conditions remained constant and no change was observed during last three months.

**(iii) Authorities in charge of investigation/recording**

In case of any incident, Site Construction Manager and HSE staff is authorized to record, investigate and address appropriately.

To address any dispute or work related complaint received from staff /workers an internal Grievance Redress Committee (GRC) has been formulated by EPCC comprising of Planning Manager (Korean), Admin Manager (Local) and HSE Manager (Local). Recently, Director Security has also been included in the aforesaid committee that is mandated to investigate issues in an unbiased manner and resolve it amicably so that the concerned party or individual may be satisfied and a friendly / peaceful

environment is reinstated at Project site. GRC did not receive any complaint during the reporting period.

**(iv) Media or community reactions (if any)**

No reaction or issues were raised by the media or the community.

**(v) Corrective actions, deadlines, identification of responsible parties.**

HSE department continuously indicates corrective actions for further compliance by construction team.

**(vi) Labor relations and living conditions for construction labor force**

100 staff/workers have been accommodated in the base camp at powerhouse site while an additional 50 employees have provided accommodation in three private houses. However, as majority of workers are local residents, they do not need accommodation. Whereas, 150 staff has been provided accommodation at weir site.

All staff/workers before induction have been educated to respect local norms and never involve in any conflict with locals. Furthermore, to manage these accommodations community liaison officer / coordinator have been employed from local area. The living conditions are up to merit with all necessities.

Standards for labor health and safety are consistent with IFC's Environmental, Health and Safety General Guidelines. It is executed according to Provision 6.7 Health and Safety of EPC Construction Contract.

The EPC contractor:

- Made all reasonable precautions to maintain the health and safety of the Personnel. First aid facilities are available at all times at the sites and at any accommodation.
- HSE Department is responsible for maintaining safety and protection against accidents.
- Maintained records and make reports concerning health, safety and welfare of labour staff.

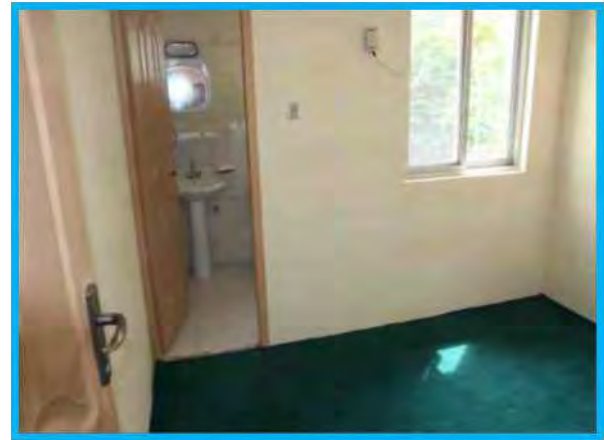




**For site workers at HRT rest room established and clean water provided**

**(vii) Compliance status based on applicable National and International laws/ regulation on labor including ILO core labor standards**

As per conditions stipulated in the project construction contract between SHPL and EPC contractor those have been made in light of National and International laws and standards, implementation during the quarter has been observed accordingly:



**Upper site camp for staff/workers completed and became functional during reporting period.**

**CONTRACTUAL TERMS/ CONDITIONS**

**STATUS OF COMPLIANCE DURING QUARTER**

**ENGAGEMENT OF STAFF AND LABOUR**

Except as otherwise stated in the Project Requirements, the Contractor shall make arrangements for the engagement of all staff and labour, local (People living in project vicinity) or otherwise, and for their payment, housing, feeding and transport.

EPC contractor has made all necessary arrangements for the engagement of all staff and labour and for their payment, housing, feeding and transport. However, the local staff/workers do not need housing in the project base camp.

The Contractor and its subcontractor(s) shall prefer, to the extent practicable and reasonable, to hire unskilled staff and labour, and skilled staff and labour with appropriate qualifications and experience, who are residents of AJ&K or KP especially who are the affected of the Project.

More than 150 unskilled jobs have been provided to nearby communities (Alra, Thuri, Patrind, Tarchela, Sarati, and other adjacent localities). Also preference has been given to local people for skilled positions.

The Contractor shall, and shall ensure that its subcontractors shall, fulfil and observe the Environmental and Social Requirements in relation to the engagement of staff and labour.

EPC Contractor has established a proper mechanism of daily and weekly reporting and consistent monitoring of HSE and related social issues. On the basis of recommendations, corrective measures are being taken accordingly.

**RATES OF WAGES AND CONDITIONS OF LABOUR**

The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out or as prescribed under the Laws of the Country. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.

The pay rates of wages are comparatively better than the local prevailing rates. Temporary skilled workers = Rs. 700-800, Temporary unskilled workers= Rs. 500-550 Whereas in local market it ranges from 600-700 and 400-450 respectively. Minimum salary as per local labor law was 7000 per month till June 30, 2013 which has been increased up to 9000/- per month. While in the Project the minimum salary for the permanent worker is 13000/-.

**PERSONS IN THE SERVICE OF OTHERS**

The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.

Full compliance of the condition was observed during entire quarter.

**LABOUR LAWS/STANDARDS**

(a) The Contractor shall comply with all the relevant labour Laws applicable to then Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.	All regulations have been implemented. Local labor laws were devised in light of International Human Rights & Core Labour Standards; therefore, compliance with local standards is same with international laws /standards. Furthermore, Pakistan has ratified ILO's conventions on core labour standards
(b) The Contractor shall require its employees to obey all applicable Laws, including those concerning safety at work.	Site HSE status has been improved due to regular instructions and corrective measures.
(c) Abolition of child labor	To ensure the abolition of child labour the Computerized National Identity Card (CNIC), which is only provided by the GOP after the age of 18 has been made mandatory for induction of workers. There is no child labour at any site in any form.
(d) Elimination of all forms of forced or compulsory labor	Strict monitoring is being conducted by SHPL, OE and EPCC's HSE staff to check that no forced labour has been undertaken at any site in any form. Furthermore, complaint boxes are also placed on each site.
(e) Elimination of discrimination in respect of employment and occupation	No discrimination exists as all persons have been provided equal opportunities irrespective of colour, race, origin and nationality. Only difference is the nature of job and relevant skills. However, no female is working at site as a worker due to local customs/norms and nature of the job.
(f) Freedom of association and the effective recognition of the right to collective bargaining	No ban is imposed on workers with regard to freedom of association which is evident from the labour strikes for collective interests. However, formal labour union or association has yet not been established yet.

#### **WORKING HOURS**

No work shall be carried out on the Site on locally recognised days of rest, or outside normal working hours, unless:	Work has been carried out on weekends but only with the consent of concerned staff/labor. For additional working hours over time payments has been made accordingly.
(a) Otherwise stated in the Contract,	
(b) the Employer gives consent, which shall not be unreasonably withheld, or	No work has been carried out on locally recognized days of rest e.g. Eid days and other notified holidays.
(c) The work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Employer.	

#### **FACILITIES FOR STAFF AND LABOUR**

(a) Except as otherwise stated in the Project Requirements, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in Project Requirements.

Recommended facilities have been provided.

(b) The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

Nobody has been permitted during reporting period.

**(viii) Medical facilities provided to Staff and Labor during Quarter:**

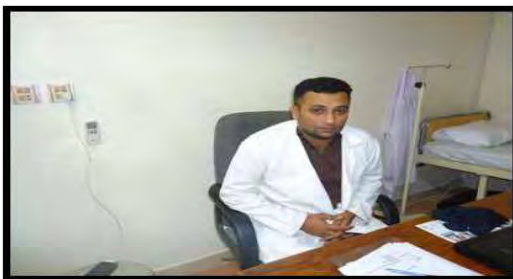
During month of August 2013, on both sites night shift medical staff has been placed by the EPCC to ensure all time availability of health facility. 376 project employees visited medical facilities (Upper and Lower Site) where they were treated accordingly. A male doctor has been hired at project site to help prevent injuries to the work force from August 01, 2013.



**Lower Site Day Shift Doctor**



**Upper Site Day Shift Nurse**



**Lower Site Night Shift Nurse**



**Upper Site Night Shift Nurse**

Furthermore, for major injuries and illness MOU has been executed with Muzaffarabad General Hospital for special medical services if required.

### **Staff and Workers Medical Screening:**

As per EPCC's procedures, annual medical screening tests including Hep.B & C, LFT, RFT, Blood Glucose and Blood CP, Dengue and Typhoid etc. have been undertaken. 265 employees from Daewoo and its sub-contractors were examined for said tests (**Annex. E-2**)



Medical screening tests (Lower Site)

**27/08/2013**



Medical Screening Tests (Upper site)

**29/08/2013**

### **(ix) Implementation of local labor standard**

- GoP Labor Policy 2010 implemented.
- Standards for labor health and safety are executed according to EPC Construction Contract.
- EPC has made all necessary arrangements for payment, housing & feeding.
- The living conditions are up to merit with all necessities.
- Standards consistent with IFC's EHS General Guidelines.
- Prefer to hire unskilled /skilled staff and labor from AJ&K or KP.



(x) Local Employment Status:

As per the EPC contract, the EPCC is bound to employ unskilled workers from local areas/adjacent villages and for skilled jobs preference has to be given to locals/community workers but subject to availability of skilled and unskilled human resources. Similarly, the supply of material and hiring of houses and vehicles has been one of the expectations from local community. Aforementioned commitments and expectations have been fulfilled.

Employment opportunities have been disclosed to the local communities through different sources i.e. local newspapers, announcements and through pamphlets distribution within the villages.

Head		Total	AJMK							KPK					Punjab
			Thori	Alirha	Patrimt	Tarchila	Shoran	Others	Sub-Total	Sacali	Bai	Delola	Others	Sub-Total	
Daeewo	Total	238	19	-	11	3	1	102	136	3	19	16	20	58	44
	Manager	4	-	-	-	-	-	1	1	-	-	-	-	-	3
	Staff	37	-	-	1	-	-	17	18	-	1	2	5	8	11
	Labour	197	19	-	10	3	1	84	117	3	18	14	15	50	30
Kyunadonga	Total	105	3	8	5	-	-	64	81	-	-	8	12	20	4
	Manager	2	-	-	-	-	-	-	-	-	-	-	-	-	2
	Staff	15	-	2	-	-	-	6	10	-	-	-	3	3	2
	Labour	88	3	7	5	-	-	58	71	-	-	8	9	17	-
Sambo	Total	89	-	-	24	3	-	16	43	-	2	10	16	28	18
	Manager	1	-	-	-	-	-	-	-	-	-	-	3	1	-
	Staff	12	-	-	1	-	-	2	3	-	-	1	5	6	3
	Labour	76	-	-	23	3	-	14	40	-	2	9	10	21	15
Total	Total	432	22	9	40	6	1	182	260	3	21	34	48	106	66
	Manager	7	-	-	-	-	-	1	1	-	-	-	1	1	5
	Staff	64	-	2	2	-	-	27	31	-	1	3	13	17	16
	Labour	361	22	7	38	6	1	154	228	3	20	31	34	88	45

**F. Environmental and Social Capacity**

**i. Staff capacities in environmental and social management (as relevant)**

Frequency of training programs, tool box meetings and talks has also been increased by the EPCC (General trainings from 17 to 20 & induction trainings increased from 121 to 212) to enhance staff's capacity on essential aspects of environmental and social management.

**ii. Degree of awareness of:**

**(i) Environmental Management; (ii) Health and Safety**

An orientation to environmental management, health and safety during construction work is part of induction form of all the staff and workers hired. Special training programs are arranged for all the staff and workers at environmental social issues. Furthermore, daily HSE monitoring, toolbox meeting programmes and other related activities have raised the awareness level among all staff and workers.

**HSE Weekly Meetings:**

During the reporting period as per monthly HSE Plan weekly internal meetings and meetings with site construction teams have regularly been conducted on both sites (**AnnexF-1**).

Waste disposal, housekeeping and compliance with HSE standards were the main issues during the meetings of this quarter and same were highlighted in agenda items of meetings. All the area in charges were advised to deliver tool box talks on regular basis especially on Unsafe Acts/ Unsafe Conditions as most of accidents are the results of unsafe acts and unsafe conditions.



**HSE Weekly Meetings (Internal & with construction team) Lower Site**



**HSE Weekly Meetings Upper Site**

**Environmental laws and regulations:**

EIA study of the project was completed in light of following laws and regulations. EMP as part of EIA is in implementation under the same laws and regulations:

- Pakistan Environmental Protection Act 1997
- National Environmental Quality Standards (NEQS)
- AJK Environmental Protection Act 2000
- Land Acquisition Act 1894
- Draft National Resettlement Policy 2002
- NWFP Forest Ordinance 2002



- Sarhad National Conservation Strategy 1992
- ADB Safeguard Policy Statement 2009
- IFC Handbook (Resettlement Action Plan)



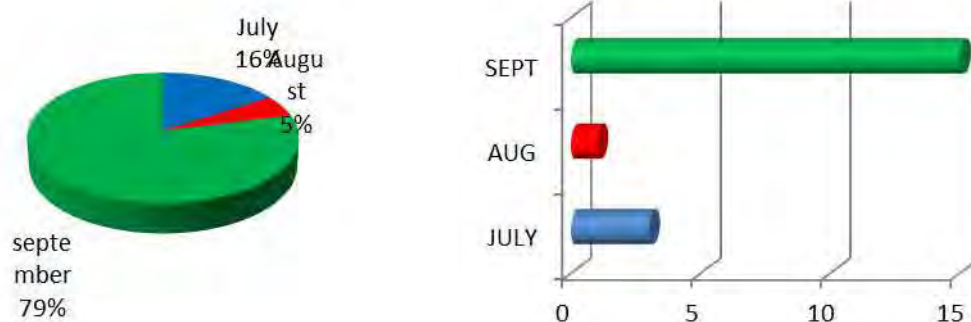
**Full time placement of HSE trainer for induction and all relevant trainings to new workers**

**iii. Training /Campaign/Awareness Raising Programs Carried Out During Quarter:**

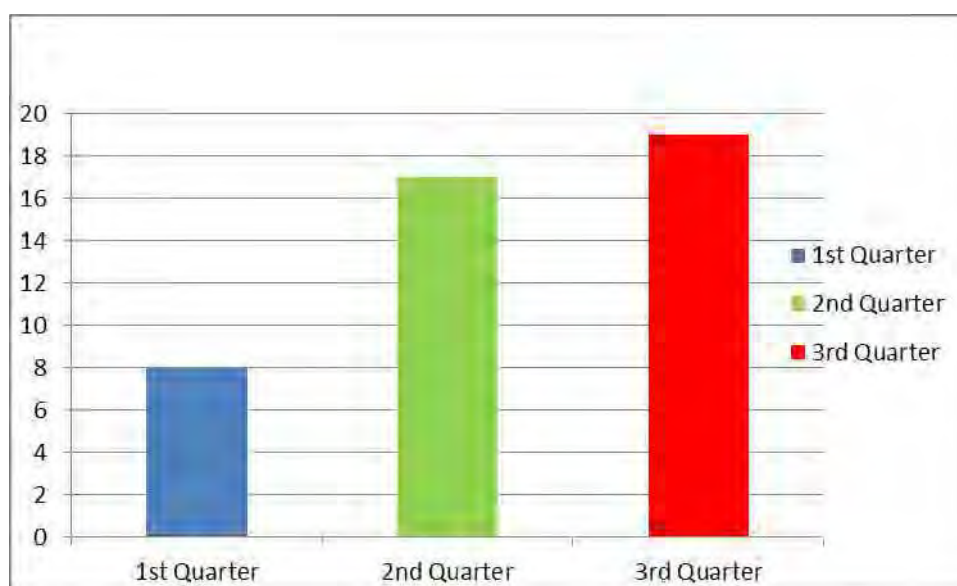
A full time HSE trainer has been hired by the EPCC to manage and conduct training and education sessions on imperative aspects of HSE. During the reporting period, sessions were conducted on following topics at both sites (Weir & Power house Site):

Sr.	Training Name	Day	Month	Year	Trainer	Time	Location
1.	Sub. Con Korean Manager Training	14	7	2013	Chung Myung Hun	11:00	HSE Training Hall Camp Office
2.	Occupational Health and Precautionary Measures in Ramadan	20	7	2013	Dr. Sofia	12:30	HSE Training Hall Camp Office
3.	Emergency Response Training	14	8	2013	M. Javed	14:15	Upper Site
4.	Confined Space Entry	16	8	2013	Aftab Alam & Chung Myung Hun	7:15	HSE Training Hall Camp Office
5.	Permit to Work	19	8	2013	M. Javed	13:00	Upper Site
6.	Motor Bike Safety Training	3	9	2013	S. Tariq Hussain	13:00	HSE Training Hall Camp Office
7.	HSE Counseling	3	9	2013	S. Tariq Hussain	13:00	HSE Training Hall Camp Office
8.	Electrical Safety Training	5	9	2013	S. Tariq Hussain	13:30	HSE Training Hall Camp Office
9.	Road Safety Awareness	6	9	2013	S. Tariq Hussain	8:30	First Step School Lower Chatter Thuri
10.	Drinking Water Training	9	9	2013	Haroon Akhter	16:00	HRT Lower Site
11.	Drinking Water Training	9	9	2013	Haroon Akhter	15:45	Daewoo Site Office Near Bridge
12.	Rigging Safety Training	12	9	2013	S. Tariq Hussain	12:00	HSE Training Hall Camp Office
13.	Lifting and Rigging Safety	14	9	2013	M. Javed	11:00	HSE Training Hall Weir Site Office
14.	Environmental Management	18	9	2013	Aftab Alam	13:30	HSE Training Hall Camp Office
15.	Personal Hygiene	18	9	2013	Dr. Bilal	14:00	HSE Training Hall Camp Office
16.	Confined Space Entry	19	9	2013	S. Tariq Hussain	9:00	HSE Training Hall Camp Office
17.	Road Safety Awareness	20	9	2013	S. Tariq Hussain	9:00	Govt. Primary School Lower Chatter
18.	Eye and Face Protection	21	9	2013	Yasir Ghauri	11:00	HSE Training Hall Weir Site Office
19.	Safety Culture	28	9	2013	M. Javed	11:00	HSE Training Hall Weir Site Office
20.	Fire and Safety Sign	29	9	2013	Yasir Ghauri	11:00	HSE Training Hall Weir Site Office

### SAFETY TRAININGS 3<sup>RD</sup> QUARTER



### SAFETY TRAININGS (ALL THREE QUARTERS)



The trainings mentioned in the above table were conducted by the EPCC in the light of standards guidelines and procedures developed by Daewoo E&C for its project while working across the globe. However, site specific modifications have been made in manual. Sample attendance sheets and summary of training material is annexed as **(Annex- F-2)**.



**Training on Occupational Health in Ramadan**



**Rigging Safety Training**



**Permit to work training (Weir Site)**

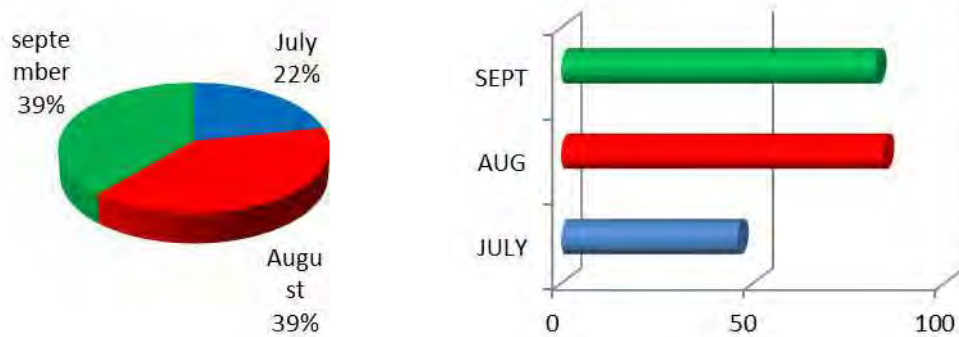


**Training on Standard Blasting Procedures**

### **Induction Training:**

As part of EMP all staff and workers before starting their respective jobs have been given induction training as per “Induction Performa” recommended in EMP document. Detail is being reported in weekly and monthly reports as well. Sample induction training form is attached as **Annex-H-8** to this report

### INDUCTION TRAININGS 3<sup>RD</sup> QUARTER



### INDUCTION TRAININGS (ALL THREE QUARTERS)



### EMPLOYEES INDUCTED 3<sup>RD</sup> QUARTER





### EMPLOYEES INDUCTED (ALL THREE QUARTERS)



Sr.	Month	Total Inductions		No. of Employees Inducted	
		Upper Site	Lower Site	Upper Site	Lower Site
1.	July	8	38	12	70
2.	August	30	54	36	78
3.	September	10	72	27	168
Total		48	164	75	316

#### Tool Box Meetings (Daily on both Sites):

This is a consistent activity undertaken by EPC before the start of every construction shift and is part of 3.5 Safety Campaign. Activity reports are being received from construction teams including sub-contractors. It has been the part of every working day on both sites till date.



**Daily Tool Box Meetings Upper & Lower Sites**

**Tool Box Talks/Daily Safety Manager:**

From December 2012 a series of daily “Tool Box Talks” (**Annex- F-3**) regarding HSE have been started focusing on different HSE topics. Each Staff person has also been assigned job of daily Safety Manger to visit site and report safety status.



**Daily Tool Box Talk Upper site**



**Daily Tool Box Talk Lower site**

**Awareness Raising Material/Safety Sign/Campaign:**

To make aware workers and community, during quarter more sign boards have been placed by EPCC on appropriate locations.



HSE Policies and News placed on prominent places



Safety Campaign as part of monthly HSE Plan has been conducted during quarter on HSE



Monthly Safety Campaign



### Monthly Safety Award:

To promote safety culture on sites safety award was introduced by EPCC during last quarter and also have been implemented during the reporting period:



### Monthly Safety Award

Sr.	Names	Company	Topics	Work Site
<b>July-2013</b>				
1.	Kwak Haeng Soo	Sungbo E&C	Best Manager	Weir Site
2.	Ko Jang Ho	Kyung Dong E&C	Best Manager	Power House Site
3.	Sultan Fazal Elahi	Sungbo E&C	Best Manager	Weir Site
4.	Waqas Naseer	Daewoo E&C	Best Engineer	Weir Site
5.	Gulzar Ahmed	Sungbo E&C	Best Labor	Weir Site
6.	Naeem Ahmed Qureshi	Daewoo E&C	Best Labor	Power House Site
7.	Adnan Qureshi	Kyung Dong E&C	Best Labor	Power House Site
<b>August-2013</b>				
1.	Liaqat Abbasi	Daewoo E&C	Best Manager	Power House Site
2.	Muhammad Shahid	Daewoo E&C	Best Engineer	Power House Site
3.	Muhammad Hameed Zaki	Daewoo E&C	Best Labor	Power House Site
4.	Yasir Ghauri	Daewoo E&C	Best Engineer	Weir Site
5.	Nazahat Abbasi	Sungbo	Best Labor	Weir Site
6.	Nazim Hussain	Sungbo	Best Labor	Weir Site
7.	Sultan Khan	Sungbo	Best Labor	Weir Site

### **Daily Education/Training on site:**

During frequent site visit, on spot education/training is an ongoing activity that certainly enhance and promote safety culture on sites. Moreover, during inspection of equipment and color coding activities, workers and relevant staff has also been educated by the EPCC.



### **On site Education Lower Site**



### **On site Education Upper Site**

#### **Needs assessment of environmental and social management capacity ( as relevant)**

Continuous capacity building initiatives including more specific trainings on environment and social management are required for staff and labor. HSE department of EPCC has remained engaged in delivering orientation sessions, awareness raising and capacity building sessions on environment and social management and also identified training needs of the staff and labor during the reporting quarter. As a result of training needs assessment and to enhance the capacity of the staff and labor, before start of each month,

trainings and other capacity building activities are being incorporated in Monthly HSE Plan by EPCC.

**G. Stakeholder Consultation/CSR Activities**

**1. Details of consultations, if any, with local communities, nongovernmental organizations, civil society groups, and other stakeholders, including affected people:**

To initiate and sustain constructive external relationships with project stakeholders particularly with civil society organizations, consultation is an important tool to enhance the social performance of the project.

Consultations and meetings have been made with all stakeholders including local community and civil society groups during reporting period to improve the project's implementation.

Following organizations have been consulted to improve company's CSR activities:

Organization Name	Location	Issues raised	Action taken
1- Sahara Welfare Organization	<b>Dalola</b> (Upper Site KPK Part)	<ul style="list-style-type: none"> <li>▪ To promote Environmental and Safety Awareness amongst locals and school children.</li> <li>▪ To inform the local community about socioeconomic benefits of the project at local and national level.</li> <li>▪ To involve them in project development activities.</li> <li>▪ To create a sense of project ownership as stakeholders.</li> <li>▪ Local Action committee demanded that local contractors should be given preference while sub-contracting construction works.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sessions on road safety and environmental awareness were planned and organized in adjacent schools</li> <li>▪ During consultations and meetings and also through community coordinators, Project socioeconomic benefits were communicated to locals</li> <li>▪ On engagement of local subcontractors, the Company addressed this by giving sub-contracting works to locals on priority basis.</li> <li>▪ Through employment and other social uplift measures sense of ownership will be created among locals.</li> </ul>
2- Rural Development Foundation	<b>Sarati</b> (Upper Site KPK Part)		
3- Tanzeem Ul Awan	<b>Daedal Mera</b> (Upper Site KPK Part)		
4- Kunhar Welfare Organization	<b>Patrind</b> ( Upper Site AJK Part)		
5- Press for peace	<b>Muzaffarabad</b> (Lower Site AJK)		
6- Local Action Committee	<b>Thuri/Lower Chatter</b> <b>Muzaffarabad</b> (Lower Site AJK)		
7- Pakistan Red Crescent Society	<b>Muzaffarabad</b> (Lower Site AJK)		
8- Edinburgh DIRECTAID	<b>Muzaffarabad</b> (Lower Site AJK)		



**Consultation with locals (Sarati, Deedal and Dalola villages) and NGO  
(Rural Development Foundation)**

Spray and Fumigation activity has been managed by local NGO Press for Peace and will be conducted frequently in future by same organization.

To conduct the Flora and Fauna Study, a local professional (Retd. Director Fisheries & Wildlife Department AJK) has been hired who is working as Country Director in Organization Edinburgh DIRECTAID having its country office in Muzaffarabad.

HSE sign boards preparation and printing activity is being undertaken by venders (Add City) resident of Patrind village who are affiliated with Kunhar Welfare Organization.

Two Ambulances have been hired from Pakistan Red Crescent Society regional office in Muzaffarabad AJK.

Coordination meetings are being conducted with the following governmental organizations including:

- Development Authority Muzaffarabad (DAM)
- Electricity Department,
- Hydro Electric Board,
- Private Power Cell
- Environmental Protection Agency (EPA)
- District Administration in KPK & AJK
- Police & Security departments in AJK & KPK



A consistent liaison has been established with AJK-EPA for consultation with regard to environmental management issues and monitoring activities.

District Administration, Police Department, Electricity Department, Hydro Electric Board and Private Power Cell are other key line departments those have also been in close contact to address and facilitate the project implementation issues.

Current improvement works on Supreme Court-Thuri access road has been made with the consultation of Development Authority Muzaffarabad (DAM) during the reporting period.

Below mentioned community coordinators have been employed from the local community by EPCC to coordinate and facilitate in addressing the community issues if any:

- 1. Mr Mubarak Awan from Thuri village Lower Chattar (for Lower Site)*
- 2. Mr Fayyaz Ahmed Qureshi from Patrind village (for Upper site)*
- 3. Mr. Bashir Ahmed from Boi Village (for Upper site)*

- Beside this, more inductions in staff and labour have been made from the adjacent villages. Status of local employment is placed in section E of the report.
- Although, Community Complaint BOX (CCB) is placed on site, but mostly direct mode of communication has been preferred by the locals instead of using CCB i.e. through cell phone and direct access to office.



#### **Community Complaint boxes placed at prominent places**

- A complaint was launched by Mr. Abdul Qayyum R/O Alrha village before MM E&S monitoring team for installation of fence around his house adjacent to powerhouse site to secure his domestic privacy.

In response to the complaint the house of said person was completely fenced by EPCC on SHPL's direction. Evidence pictures are annexed as **G-1**).

## **2. Details of community programs involving civil society/NGOs in implementation**

- EPCC has planned to conduct educational/recreational activities for adjacent schools. First session will be held on October 09, 2013 at HSE Training Hall for student of Government Primary School Lower Chatter.
- HSE Clinic and ambulances available on sites may be used to facilitate local communities on both sites in case of any emergency. However, no request has yet been made from locals in this regard despite having information about the facilities.

During the quarter, three consecutive programmes were arranged in nearby schools ((**Annex-G-2**).



*Road Safety Training Session was held in Private Primary School adjacent to Camp Office Thuri.*



*Road Safety Training Session was held in Government Primary School adjacent to Camp Office Thuri.*





*Road safety and Environmental Awareness Session was held in collaboration with NGO Tanzeemul Awan in Government Primary School Deedal Mera near weir site .*

*Aforementioned Activities were followed by gifts distribution and refreshment for staff and all students.*

### **Prayer/ Safety Campaign involving Local Religious Scholars, Community Representatives and Government Administration**

This ceremony was arranged on August 30, 2013 to strengthen good relations with all segments of society including religious and political leadership and especially with local community. Prominent local religious scholars, Khateebis of local mosques, community representatives and local police officers attended the ceremony.



Prayer/Safety Campaign Schedule (30/08/2013)				
Agenda	Time		Content	Location
Campaign arranged	10:30-11:00	30		Weir Site Near bridge/HRT
Recitation	11:00-11:05	5	From Holy Quran Muhammad Ikram (QA/QC)	-Do-
Introductory Remarks	11:05-11:10	5	Scenario and objective Aftab Alam (HSE Manager)	-Do-
Religious Scholar Speech	11:10-11:30	20	Local Mosque Khateeb	-Do-
Best Workers/Manager Award	11:30-11:35	5	Muslim Scholar-Police Officer-PM	-Do-
SM Speech	11:35-11:40	5	Concluding Remarks	-Do-
Prayer followed by Sadqa (slaughtering goat)	11:40-11:45	5	Religious scholars	-Do-
Refreshment	11:45	10	Guests	-Do-

### 3. Project procedures for: (a) hiring; and (b) acquisition of goods and services:

Procedures for hiring have been adopted as per Company's policy and also in compliance with EPC Contract. While, procurement of goods and services by EPCC is being carried out under Quality Assurance and Quality Control plan which has been submitted to OE.

### H. Issues, Status of Implementation of Mitigating Measures in the Environmental and Social Management Plan and Compliance with Environmental Qualities and Environmental and Social Requirements

An EMP document was prepared along the guidelines established by the ADB/WB and adjoining institutions especially IFC guidelines on EHS and Performance Standards. Environmental management plan aims at providing safeguards for and enhancement of social, environmental and economic quality parameters which would be subject to project impacts whereas monitoring involves measurement and recording of such parameters to identify adverse trends for timely mitigation. These parameters have been enumerated in Environmental & Social Management Plan. Frequency for the assessment of various parameters has also been included in the plan.

Efforts have been made to execute the project in compliance with national and international environmental and social standards. Compliance monitoring of environmental quality has been a constant activity during quarter:

**Environmental Management Plan (Compliance Status)**

<b>Feature/Issue</b>	<b>Parameters/monitoring</b>	<b>Compliance Status/Action taken by EPCC</b>
<b>Statutory Requirements</b>	i. Compliance with approval conditions	Implementation in compliance with : i. EPA's NOC & ADB's Environmental and Social Safeguards, IFC's Performance Standards,
<b>Landslides</b>	i. Catchment stability	i. Study has been planned by EPCC's Geologists
<b>Vegetation Clearance</b>	i. Progressive vegetation clearance within marked sites	i. Clearance undertaken within marked sites as mentioned in EIA.
<b>Erosion and Sediment</b>	i. Extent of erosion and sedimentation ii. Topsoil stripped and covered or seeded if stockpiled for longer than one month or during the monsoon	i. Mitigation measures have been undertaken ii. Slopes covered with Polythene sheets and CGI sheets installed as silt protector. Now shortcrete activity has been started on slopes.
<b>Muck Disposal</b>	i. Reuse of spoil/muck within Project areas where possible ii. Correct disposal of surplus spoil/muck in designated areas	i. Excavated material is being used in civil works ii. Dumping on approved sites. For exceptional noncompliance action NCRs issued and retrofitting measures being carried out.
<b>Water Quality</b>	i. Wastewater treated prior to river discharge ii. Temperature, dissolved oxygen, pH, conductivity, turbidity, total phosphorous, inorganic phosphorous, total nitrogen, ammonia nitrogen, nitrogen oxides, biochemical oxygen demand and faecal coli forms.	i. Septic tanks constructed with accommodation, camp and site office facilities. ii. Drinking water quality tests of adjacent sources were undertaken in previous quarters. iii. For waste water and river water quality tests proposal received from three labs.
<b>Waste Management</b>	i. Waste materials reused or recycled on-site where possible ii. Non-recyclable wastes disposed of appropriately	i. Papers, mineral water bottles and cement bags are reused and recycled ii. Degradable waste disposed in designated trenches iii. MoU being made with MCM
<b>Hazards/Risk</b>	i. Workers provided with appropriate safety equipment and regular safety training	i. Induction training providing PPEs

**Environmental Management Plan (Compliance Status)**

Feature/Issue	Parameters/monitoring	Compliance Status/Action taken by EPCC
	ii. Storage of hazardous goods in bounded areas or in secure sheds iii. Explosives stored in guarded bunkers iv. Use of hazardous goods according to manufacturers' specifications	Tool Box Meetings, Job craft & on site trainings, ii. Hazardous material like polypropylene fiber and acetylene placed in segregated areas. iii. Explosive store established under NOC fulfilling all requirements iv. MSDS (( <b>Annex- H-1</b> )).and SOPs being followed
<b>Workers Health and Safety</b>	i. Enforcement of workforce rules and regulations ii. Provision of alternative fuels for cooking, heating and light iii. Provision of adequate and well maintained services and facilities	i. National and International Labour Laws and Standards are implemented ii. LPG cylinders are being used for cooking purpose and adequate arrangements for heating and lighting iii. Health and other welfare facilities as per required standards
<b>Aquatic Ecology</b>	i. Fish and Aquatic populations	i. Study for reporting quarter completed ( <b>Annex-H-2</b> ) Fishing& hunting prohibited on project sites. No endanger species found. No considerable disturbance to aquatic life.
<b>Flora</b>	i. Direct observation of surrounding vegetation	i. Study/Monitoring for current month undertaken ( <b>Annex-H-3</b> )
<b>Noise and Vibration</b>	i. Maintenance of equipment in accordance with manufactures' specifications ii. Controlled blasting	i. Regular inspections and service of heavy equipments replacement and removal ii. Pre blasting survey, blast permit issuance and SOPs adopted (( <b>Annex- H-4</b> )).
<b>Air Quality</b>	i. Exhaust emissions from machinery – visual inspection	i. Emission in allowable limits and regular inspections. Monitoring through labs has been planned ii. Regular monitoring of HRT air quality

**Environmental Management Plan (Compliance Status)**

Feature/Issue	Parameters/monitoring	Compliance Status/Action taken by EPCC
<b>Traffic/Access</b>	<ul style="list-style-type: none"> <li>i. Enforcement of speed limits on Project roads</li> <li>ii. Noise Traffic Signs</li> </ul>	<ul style="list-style-type: none"> <li>i. Heavy equipment/vehicle drivers education sessions</li> <li>ii. Speed limit and directional sign board installed</li> </ul>
<b>Complaints</b>	<ul style="list-style-type: none"> <li>i. All complaints replied to</li> </ul>	<ul style="list-style-type: none"> <li>i. Internal Grievance Redress Committee</li> <li>ii. Complaint boxes installed for community</li> <li>iii. Community complaints (Annex- H-5) partially addressed as summarized below: Locals from Alda village requested for provision of more (misc. Material, supply, and support). EPCC provided material despite the investigation that damage was not due to project activities. Workers from Thuri village demanded wage without work. As there was no activity on site, the demand could not be fulfilled. Strike for the wages increase during the Ramadan by Patrind villagers- EPCC agreed the Ramadan wage rate (Work hrs:07, Paid Wage: 10 Hrs) Labor from Thuri village launched complaint regarding overtime rate and forced Heavy Equipment operator to participate in the strike. The matter was settled as EPCC explained them how to calculate the overtime rate. An unskilled worker demanded enhancement in his salary equal to Shotcrete skilled workers. EPCC decided to fulfill his demand while checking his skills in Shotcrete works.</li> </ul>



Environmental component	Standards (NEQS)	Compliance/Mitigation measure
i. <b>Air Quality</b>	EPA ambient air quality (EPAs standards for each Parameter )	<p>NEQS:</p> <p><b>Detecting seven hazardous gases in tunnel to ensure the Air Quality in Tunnel. i.e</b></p> <p><b>CO (50 PPM to 100PPM),CO2,NO,NO2,O2,H2s,LEL (Methane)</b></p> <ul style="list-style-type: none"> <li>▪ To ensure dust suppression due to transportation activity, unpaved roads are being sprinkled with water at least twice a day.</li> <li>▪ The EPC is taking all necessary measures to limit pollution from dust and any wind-blown materials during construction.</li> <li>▪ Use of ventilator during work in HRT has been recommended essential. Respiratory protective masks have been issued to tunnel workers.</li> </ul>
ii. <b>Water quality</b>	WHO Guidelines (EPAs standards for each Parameter)	<ul style="list-style-type: none"> <li>▪ Tests for drinking water quality have already been conducted during 3<sup>rd</sup> quarter2012; however, to assess the impacts on rivers, quality monitoring shall be carried out through any recognized company. Also qualitative and quantitative analysis of water sources around HRT shall be undertaken during next quarter.</li> <li>▪ Waste water from tunnel is treated as sedimentation tanks have been constructed on each site.</li> </ul>
iii. <b>Noise levels /Vibration</b>	<p>EPA ambient noise standards.</p> <p>Typically 8-12mm/s day time and 4mm/s night time is standard limit worldwide.</p>	<p><b>Noise:</b></p> <ol style="list-style-type: none"> <li>Noise prone activities are avoided during night time. No open blasting occurs during quiet hours. Intensity of noise and has been monitored to compare it with established standards.</li> <li>Provision of necessary safety and personal protective equipment such as ear plugs etc are ensured during high noise activities like tunnel blasting.</li> <li>Excavators and all heavy machines are lubricated in a routine matter to minimize the noise and to increase the life of equipment</li> </ol> <p><b>Vibration:</b></p> <ol style="list-style-type: none"> <li>EPC is more concerned regarding factors of human comfort and structural damage and always try to comply with allowable vibration standards. Blasting checklist is used by HSE staff. (Record sheet is annexed ((Annex- H-6).-)</li> </ol>

iv. <b>Soil quality</b>	EPA quality standard (Different standards for each Parameter)	i. Tests to be conducted through private lab/company. ii. No environmental incident except small soil contamination has been observed.
v. <b>Flora</b>	Visual observations by relevant Forest professional during EIA study.	Study /monitoring for last month undertaken
vi. <b>Fauna</b>	Observation by relevant wildlife & Fisheries professional during EIA study.	Study /monitoring for reporting period undertaken





**Sedimentation Tanks prepared for tunnel waste water treatment at upper site**



**Additional sedimentation tank constructed lower site- Additional ventilator installed in HRT at Lower Sit**

*As recommended by ADB's E&S Monitoring Team, discharged quantity of HRT waste water during construction activities has been measured and monitored. (Annex H-7)*

**vii. Occupational health and safety**

After fire incident at weir sit on July 06, 2013, special firefighting arrangements have been made to mitigate risk of any future incident.



**Fires fighting suites and blankets have been made available**



**Maximum plastic plugs have been replaced by the fire resistant plugs**



**Fire Extinguishers are regularly inspected and empty cylinders are being sent for refilling**





In accordance with the safety standards, all workers working at site are provided with the Personal Protective equipment comprising of hard hats, safety shoes, jacket, and sand dust masks depending upon the job specification to prevent injuries.



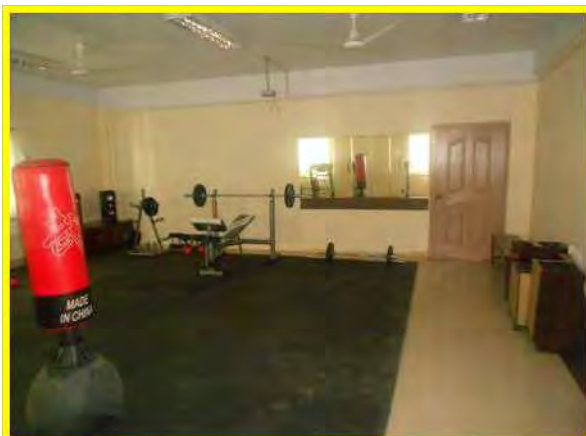
Safety sign boards have been installed at different locations. Special safety measures are being adopted for tunnel workers.





Numerous tool box talks have been held on issues related with occupational health and hygiene. Hygienic inspections have been made by medical staff. Spray and fumigation activity has been carried out to eliminate risk of diseases due to insects.

As per usual morning physical exercise has also been undertaken regularly at both sites.

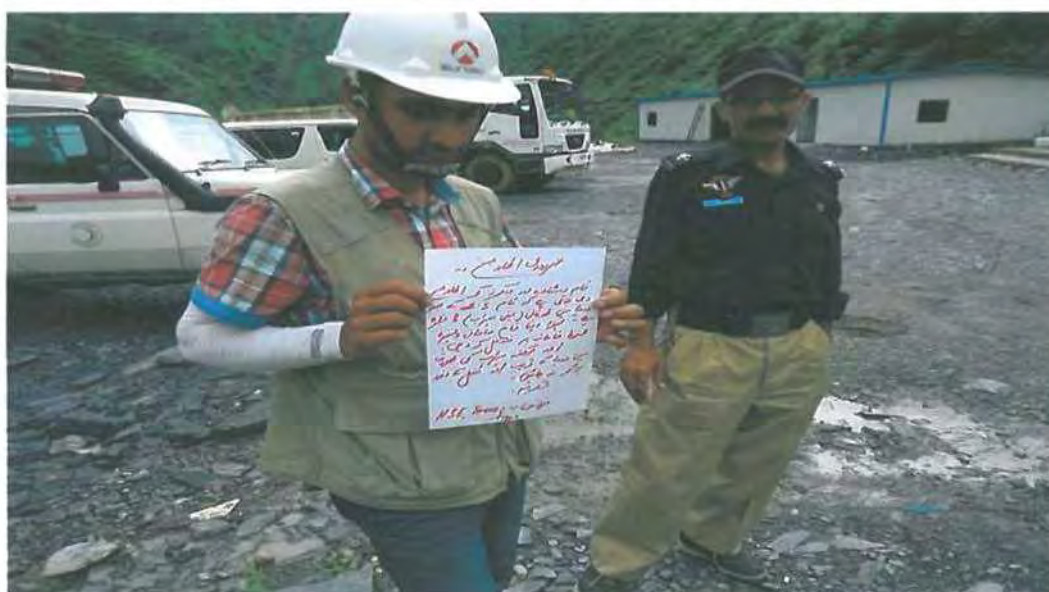


The EPC Emergency Response Plan for any unforeseen incident exists. Emergency contacts and response procedures placed at each site also in Urdu translation.



**HSE Training (Emergency Response) on 14/08/2013**

Project: Pakistan Patrind Hydropower Project.



### **HSE Training (Emergency Response) on 14/08/2013**

Project: Pakistan Patrind Hydropower Project.



### **Emergency Response Drill**



**viii. Community Safety Health and Security**

1. During the reporting quarter, more warning sign boards have been placed on both sites indicating construction hazards to protect the staff and community and their livestock. Also, project area is now fenced more appropriately.
2. Medical facilities available at project sites may also be used for nearby community
3. A strong liaison is established with concerned Government Departments for arranging site security arrangements.
4. Necessary road safety & community awareness sign boards were installed to mitigate possible hazards.



*Preventive measures have been undertaken to around explosive storage area as soft gabion wall has been developed to mitigate risk of destruction and hazard.*

Blasting activities have been managed appropriately and in a safe and secure manner keeping in view the community concerns and standard procedures.

**ix. CO2 emissions by the Project:**

Following are some of the sources those may have CO2 emission. During the reporting period appropriate mitigation measures have been adopted:

Sources of CO2 Emission	Mitigating/ Preventive Actions
Use of excavation machinery	i. Sub-contractors have been instructed strictly to operate machinery in adequate condition hence mitigating the potential source of emission of CO2 in the atmosphere. Regular tuning/servicing of the machinery, again mitigating the potential source of CO2 evolution.
Tree removal	i. Removal of trees on construction sites will certainly increase the concentration of CO2 in the Project Site atmosphere. Therefore, as corrective approach, Tree Plantation shall be carried out as retrofitting measure as stipulated in the EMP when it will be practically possible.
Waste Disposal	i. Improper waste management could be resulted to evolve and accumulate CO2 in the atmosphere. To avoid open dumping of waste, temporary trenches have been used. Filled trenches had been covered with spoil layers and new trench are established for the purpose.
Use of Construction machinery comprising of concrete mix, Dumpers, Excavators, Crane etc.	i. NCRs have been issued by OE and EPCC to mitigate the potential source of emission of CO2 in the atmosphere. Remedial actions are being undertaken through servicing the equipment and mechanical fitness. ii. NOC have been obtained for batching plants installed on recommended sites having minimum impacts.

**x. Environmental and Social Management Plan, including IFC E&HS Action Plan**

**Status of IFC E&S Action Plan**

PS	Action	Verification	Timeline	Status
PS1-1	Establish and staff Project Environmental Management and Monitoring Unit (EMU)	TORs of Manager and staff of the EMU; confirmation of hiring of Manager and staff	Prior to first disbursement of IFC financing	EMU is fully mobilized on site from the date of Notice to Proceed
PS1-2	Preparation of detailed rehabilitation and landscaping plan for all project construction sites and excavation spoil dumping sites.	Plan and budget.	Six months prior to Project commissioning	Will be done as per the timelines
PS1-3	Provide periodic updates to the affected communities of progress in completing this Action Plan.	Public notices/communication/ Meetings	Quarterly during the construction period as part of a general community liaison activities	Being done as per the requirement
PS1-4	Update the Environmental and Social Management Plan (ESMP) for the construction phase (Chapter 9 of the EIA, November 2010) based on the final arrangements with the EPC Contractor, and implement.	Updated ESMP for the construction phase	Prior to start of construction (issuance of EPC contractor's Notice to Proceed).	The EMP was updated in October 2012 and is being implemented. The same is also disclosed on ADB's website.
PS1-5	Update the Environmental and Social Management Plan (ESMP) for the operational phase (Chapter 9 of the EIA, November 2010) based on the final arrangements with the O&M Contractor, and implement.	Updated ESMP for the operational phase	Prior to Project commissioning	Will be done as per the timeline
PS1-6	Public hearing by Khyber Pakhtunkhwa (KP) EPA and Environmental Approval	Minutes of public hearing by KP EPA and a copy of Environmental Approval	Prior to IFC's financial commitment	EPA KP issued Environmental Approval on April 14, 2011

PS	Action	Verification	Timeline	Status
PS1-7	Submit final arrangement of the electricity transmission from the Project to the NTDC's grid connection point	Summary description of the final arrangement and copy of the EIA for the NTDC's transmission line	To be discussed	Will be done once the arrangement is finalized
PS2-1	SHPL establish and implement HR policies and procedures compliant with IFC PS2 requirements.	HR policies and procedures manual	Prior to first disbursement of IFC financing	HR policy of SHPL is already there and the procedures laid down are being followed properly
PS2-2	Ensure direct and contract employee's familiarity with rights and protections under applicable labor laws.	Posting of relevant clauses of applicable labor laws in Urdu in areas where employees and contract workers congregate as confirmed by EMU and Lender's Engineer.	Prior to start of construction (issuance of EPC contractor's Notice to Proceed).	Being done as per the requirement
PS2-3	Ensure that the construction labor camp has appropriate and adequate accommodations, health and sanitation facilities, cooking and recreation facilities and security for the construction workforce.	A copy of the EPC Contractor's design document; confirmation of EMU and Lender's Engineer.	Prior to start of construction (issuance of EPC contractor's Notice to Proceed).	Being done as per the requirement
PS2-4	Ensure standards for labor health and safety (construction and operational phases) are consistent with IFC's Environmental, Health and Safety General Guidelines.	Provisions of EPC and O&M contracts that reference international industry best practice with regard to construction and O&M working conditions and OHS.	EPC contract: prior to first disbursement of IFC financing. O&M contract: prior to start of operations.	EPCC has prepared health & safety plan which is also part of the EPC contract executed between the Company and EPCC.

PS	Action	Verification	Timeline	Status
PS3-1	Prepare and implement Emergency Response Procedures for construction phase and operational phase	Copies of the Emergency Response Procedures	Prior to start of construction (issuance of EPC contractor's Notice to Proceed), and prior to commissioning of the Project	EPCC has prepared Emergency response procedures and also being implemented which are part of the EPC contract executed between the Company and EPCC.
PS4-1	Prepare and implement a construction traffic management plan.	Plan prepared; training delivered; safeguards in place as reported by EMU and Lender's Engineer.	Prior to start of construction (issuance of EPC contractor's Notice to Proceed).	EPCC has prepared a traffic management plan and also being implemented which is part of the EPC contract executed between the Company and EPCC.
PS4-2	Develop an Emergency Management Plan covering all contingencies related to Project construction and operations with relevant local authorities.	Plan prepared as confirmed by Project Management/EMU and Lender's Engineer	Prior to first disbursement of IFC financing.	EPCC has prepared Emergency Management Plan and also being implemented which are part of the EPC contract executed between the Company and EPCC.
PS4-3	Establish standard operating procedures for alerting local communities about blasting during construction and downstream releases of water from diversion structures during construction and operations.	EMU and Lender's Engineer confirmation	Prior to start of construction (issuance of EPC contractor's Notice to Proceed)	EPCC has prepared operating procedures for alerting the communities about blasting and downstream release of water and also being implemented which are part of the EPC contract executed between the Company and EPCC.

PS	Action	Verification	Timeline	Status
PS5-2	<p>Payment of agreed compensation to all individuals/families directly affected by the Project's permanent or temporary land acquisition.</p> <p>Confirm that all individuals/families that have been physically displaced by Project land acquisition have not suffered impairment of their livelihoods.</p>	<p>EMU confirmation of payments</p> <p>Follow-up socio-economic study of those individuals/families permanently displaced.</p>	<p>Prior to start of construction (issuance of EPC contractor's Notice to Proceed).</p> <p>Prior to commissioning of the Project.</p>	<p>The payment to the owners is still in progress and the confirmation will be provided once the disbursement of payment is completed.</p> <p>Status of compensation is discussed in detail in subsequent section –I (ii) of the report</p> <p>Interim socio-economic audit report to be conducted in December 2013.</p>
PS6-1	Release minimum 2 m <sup>3</sup> /s of water from the weir as Reserved Flow constantly to Kunhar River.	Actual "Reserved Flow" data to be included in the Annual Monitoring Report (AMR) to be submitted to IFC	Annually as part of the AMR	Will be done as per the timelines
PS6-2	Monitor flow volume of streams flowing into Kunhar River between the weir and Jhelum River confluence and evaluate whether 3.7 m <sup>3</sup> /s of total flow (2 m <sup>3</sup> /s as Reserved Flow, plus 1.7 m <sup>3</sup> /s from downstream streams) as referred to in the November 2010 EIA has been achieved	Estimated total flow data between the weir and Kunhar-Jhelum confluence to be included in the Annual Monitoring Report (AMR) to be submitted to IFC	Annually as part of the AMR	Will be done as per the timelines
PS6-3	Monitor the Project's impacts on the Kunhar River between the weir and Jhelum River confluence (e.g. fish fauna, water quality, water flow, usage of Kunhar River water, if any, by local villages between the weir and Jhelum River confluence).	Summary evaluation to be included in the Annual Monitoring Report (AMR) to be submitted to IFC.	Annually as part of the AMR	Being done on quarterly basis as per table 6.1 of the EMP



To manage the environmental and social issues appropriately, following detailed plans developed by EPCC have been in implementation to fulfill the environmental and social compliance requirements of the project:

- a. Plan for Disposal of Excavated Material
- b. Plan for Waste Management
- c. Plan for Traffic Management
- d. Social uplift plan

These plans (a, b & c) as part of project EMP document are under implementation.

**a- Plan for Disposal of Excavated Material**

- Disposal sites already designated on acquired land on both sites.
- Dumping on approved sites has been observed during quarter.





## b- Plan for Waste Management

### Waste generation and management

#### a) Generation:

The solid waste produced during the reporting period has been quantified randomly.

Different types of waste produced at sites are as follow;

- i. Engine/ Generator Oil- (27 liter is used for 200 hours for 2 Generators installed at both sites)
- ii. Cement/ Slag Bags - ( Mostly cement bulker has been used, however bags used have been taken by local labor)
- iii. Food Waste

Description	Tetra packs (Kg)	Plastic Bags (Kg)	Paper (kg)	Metal (Kg)	Vegetable + Food (Kg)
Local mess both sites	6.00	3.50	4.50	5.00	32.00
Korean mess both sites	5.00	2.50	3.70	3.50	24.00
Offices both sites	6.00	3.00	15.00	4.00	10.00
Sub Total	16.00	9.00	23.20	12.5	66.00
<b>Total</b>	<b>126.70 Kg</b>				

#### iv. Mineral water bottles both sites: 10-12 Kg daily

Use of 19 liter re-useable mineral water bottle has been increased as water approximately 1100 bottles are being purchased monthly. Also, water dispensers and



water coolers have been placed on main locations. Use of ½ liter bottle is reduced and has been limited to travelling duration.

**b) Management**

The waste produced is properly managed at sites. Each site is provided with dustbins for collection of waste material. The collected waste has been properly disposed-off in trenches at upper site and near workshop area at lower site.



**Proper waste collection and disposal mechanism adopted**

**c- Plan for Traffic Management**

Speed limit is controlled; safety precautions have been adopted to protect workers and the general public. Vehicles are equipped with directional control signage and are being inspected prior to use. Workers have been made aware of mobile equipment operating in the area.

Furthermore, for heavy vehicle movement, a diversion has been made near camp office at lower site to mitigate risks and noise near schools, residential area and camp office as per initial traffic management plan.



**d- Social uplift plan**

A section of road leading from access bridge to children park and onward to Supreme Court has partially been improved (Lower Site), however, major activities under Social Uplift Plan will be implemented after construction phase.

**I. Resettlement Plan Implementation**

**i. Scope of Land Acquisition and Resettlement Impacts**

**Land Acquisition**

Permanent Land Acquisition	790.10 Kanal
Temporary Land Acquisition	82.55 Kanal
<b>Total</b>	<b>872.60 Kanal</b>

**SUMMARY OF THE LAND TO BE ACQUIRED ON AJK AND KPK**

PERMANENT LAND						
Sr.	Project Component	Affected Land (Kanal)				
		State owned Land/ Riverbed	Farmland	Wasteland	House land	Total
1	Reservoir Impounding	87.3	282.05	231.9	9.1	610.35
2	Weir Structures	0	1.5	48.7	0	50.2
3	Powerhouse	13.6	30.1	32.85	5.25	81.8
4	Surge Tank	-	-	47.75	-	47.75
<b>Total Permanent Land Acquisition (Kanal)</b>		<b>100.9</b>	<b>313.65</b>	<b>361.2</b>	<b>14.35</b>	<b>790.1</b>
TEMPORARY LAND						
1	Colony of Expatriate construction staff, Switchyard, labour camp, access road, bridge, batching plant at Powerhouse Site	54.75	0	27.8	0	82.55
<b>Total Temporary Land Acquisition (Kanal)</b>		<b>54.75</b>	<b>0</b>	<b>27.8</b>	<b>0</b>	<b>82.55</b>
<b>Total Land Acquisition (Kanal)</b>		<b>155.65</b>	<b>313.65</b>	<b>389</b>	<b>14.35</b>	<b>872.65</b>



ii. **Status of Land Acquisition, Progress on Compensation Payments and Assistance Delivery**

Payment for land acquisition on both sides of the project is in process. The Company has deposited the assessed cost (100%) into Government treasuries for subsequent payment to APs. However there is delay in the payment of compensation due to (i) unavailability of entitled land owners who are working or based in other cities or (ii) an existing shareholding dispute among the families. Status of the land acquisition is as follows;

**Summary of Land Acquisition Progress and compensation payments**

Village	Area (Kanal)	Award Amount	Disbursed	%age	No. of Persons	Persons received payment
<b>1. AJ&amp;K</b>						
<b>A. Land/Property</b>						
Powerhouse (Alda Village AJ&K)	81.8	92,479,824	65,925,150	71.29%	196	321*
Headpond (Shoran Village AJ&K)	130.75	75,181,250	72,462,769	96.38%	611 <sup>1</sup>	196
Weir + Headpond (Patrind Village AJ&K)	341.1	204,037,798	161,535,837	79.17%		337
Forest land for Surge Tank (Alda village)	47.75					
<b>B. Trees</b>						
Alda		1,890,635	1,865,684	98.68%		19
Shoran		757,391	654,331	86.39%		55
Patrind		837,882	635,958	75.90%		32
<b>Sub-Total</b>	<b>601.4</b>	<b>375,184,780</b>	<b>303,079,729</b>	<b>80.78%</b>	<b>807</b>	<b>960</b>
<b>2. KPK</b>						
<b>Land/Property/Trees</b>						
Weir + Headpond (Sarati Village KPK)	188.7	128,557,081	114,326,182	88.93%	196	Detail Yet to receive
<b>Sub-Total</b>	<b>188.7</b>	<b>128,557,081</b>	<b>114,326,182</b>	<b>88.93%</b>	<b>196</b>	

\*The number of persons who received the payment is higher than the number of affected persons is due to the repetition of the owners names in the payment vouchers.

**Note:** Few payments were made in third quarter which shows increase in the no. of persons from second quarter.

For clarity, payment for trees has been separated from the land cost of AJ&K villages which shows decrease in %age from second quarter.

<sup>1</sup> Out of the 78 unpaid landowners, about 20 affected persons have not been paid due to family disputes while the rest are being paid upon appearance before the revenue department.



### **iii. Resettlement and Reconstruction**

#### **Updates on housing relocation and reconstruction**

Construction of 8 houses has almost been completed by APs in adjacent villages and others have acquired land in urban areas to construct houses. As shown in the pictures below and observed during the site visits by SHPL, MM and ADB, newly constructed houses are far better than the acquired properties. APs who lost their houses had utilized compensation amount in reconstruction of houses others have made investment in alternative lands in urban areas for better facilities. However, it is reality that compensation amount has benefited PAPs together socially and economically.



*Land owner Mr. Shafqat (Sarati village) of upper site camp area has been facilitated with access road and house fencing. Beside this, he has been employed as Admin Officer in Daewoo E&C at upper site office.*



**House acquired at Sarati village (KP)**



**New House being constructed**





**House acquired at Alda (AJK)**



**New House being constructed**



**House acquired at Diversion tunnel (KP)**



**3 New Houses constructed**



**House acquired at Alda (AJK)**



**New House being constructed**



**House acquired at Alda (AJK)**



**New House being constructed**

**iv. Resettlement Related Consultation and Disclosure Activities and Grievance Procedures**

In order to ensure that grievances and complaints are addressed in a timely and satisfactory manner and that all possible avenues are available to project affected persons (PAPs) to resolve their grievances, a Grievance Redress Committee has been proposed with following composition:

- |    |                                   |                  |
|----|-----------------------------------|------------------|
| 1. | District Revenue Officer          | Chairman         |
| 2. | Union Council Nazim               | Principal Member |
| 3. | SHPL Representative               | As Member        |
| 4. | Affected Community Representative | As Member        |

Establishment of a grievance committee requires the consent from District Administrations (AJK & KPK). The proposed GRC has not been established because SHPL cannot ensure that the District Revenue Officers could be available as and when required. Nevertheless, while the GRC has not yet been formalized, issues related with acquisition and compensation and community complaints are being addressed with the involvement of same authorities. In practice the same forum is functional but officially has not yet been notified. SHPL will continue to pursue the establishment of the GRC, meanwhile, in cooperation with the relevant authorities, ensure that grievances are recorded and addressed following the timeframe in the RP

GRC is a forum for raising objections and holding discussions to resolve conflicts. Moreover, consultation with the local community and concerned public representatives and officials of the relevant line departments is an ongoing process. Relevant information to the stakeholders has been provided in a timely manner and in a form and language that are understandable and accessible to them. A grievance mechanism is available to allow an AP appealing any disagreeable decision, practice or activity arising from land or other assets compensation. The community/ APs complaints are being addressed very diligently and carefully at all levels, i.e. district and at project level.