

# Environmental and Social Monitoring Report

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Project Number: 44914-014  
Quarterly Report (April-June 2015)  
June 2015

## Pakistan: Patrind Hydropower Project

Prepared by Star Hydro Power Limited for the Asian Development Bank.

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# **STAR HYDROPOWER LIMITED**

## **147 MW PATRIND HYDRO POWER PROJECT**

### **ENVIRONMENTAL & SOCIAL MONITORING REPORT**

**(APRIL-JUNE 2015)**



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**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 June 2015 the physical progress achieved is 51.85%.

**iii. Location of project**

Village Patrind, District Muzaffarabad, Azad Jammu and Kashmir

**iv. Nature**

Run of river Hydropower Project.

**v. Scale/size**

147 MW

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

Preliminary works commencement: September 2011

Main works start after issuance of NTP: December 2012

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

 Prepared By: Syed Atif Ali Shah Designation: Manager HSE	 Reviewed By: Kyung Hwan Lee 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:

Condition	Status of compliance
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 reports are being submitted to the EPA AJ&K. Post EIA monitoring was undertaken by EPA during last year. Approval and EIA report is part of EPC contract.
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.	Owners have been compensated for the loss of agricultural land, trees and property as per the market rates/replacement cost. For unskilled jobs local workers from affected communities (Alda, Patrind, Tarcheela, Boi, Sarati Shoran and Deedal) are being employed and for skilled jobs locals are being hired on priority basis as per the requirement and the qualification. During civil works special care is being taken not to disturb any of the public utilities.
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.	Emergency response procedures are in implementation. Provision of PPEs, education sessions, availability of medical facilities, installation of sign boards and close supervision by EPCC & OE HSE staff are ongoing activities to ensure Occupational health and safety on project sites. Blasting activities are carried out in accordance with Pakistan Explosive Act. Monitoring of Fish fauna and flora has been undertaken during quarter.
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.	Quality monitoring reports are being sent to EPA-AJK. Spoil is being dumped on approved sites. Installation of batching plant has been undertaken with consultation of EPA-AJK.

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 may be required and can be withdrawn at any time with any prior notice if deemed necessary in the public interest.	For the changes in the design of the weir site layout and Addendum to the EIA report was submitted to both the EPAs i.e. EPA AJ&K and KP covering the changes to be made in the design which was subsequently approved by both the EPAs on November 19, 2014.
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Most of the conditions are common in both approvals with few exception of following issued by EPA KPK:

Condition	Status of compliance
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 from 765m.amsl to 767m will act as 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 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 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	The owners have been compensated for the trees supposed to be acquired due to the land acquisition. The trees were counted in the presence of all stake holders i.e. owners land collectors /patwari representing revenue department representative of EPA and forest/agriculture department. Uneven section of project access road passing through Sarati village has been repaired with graders. Damaged portion, will be repaired if any. The maintenance of the access roads near the project area is part of Social uplift plan
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 was obtained from EPA KPK for installation of two batching plants near the weir site



**b) Relevant Government Agencies**

As 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 Environmental Impact Assessment (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**

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

**d) Renewal Requirements:**

As per AJK-EPA review of IEE and EIA Regulations, 2009 “Once the Environmental Approval is accorded in favor of the proponent, shall be valid for the period of 3-years from the date of issuance. However, if construction is commenced during the 3 years period, the approval shall stand extended "automatically" for a further period of 3-years from the date of expiry of initially issued Approval”.

**c. Incidents of Violations or Non-Compliance**

HSE compliance monitoring is being undertaken regularly. EPC contractor made efforts to ensure remedial and corrective actions highlighted by SHPL and OE to mitigate HSE issues. OE has two HSE Officers for upper and lower sites who are engaged in monitoring / reporting contractor & subcontractors HSE compliance.

Incidents of violations and non-compliances by EPCC and its sub-contractors were included in daily, weekly and monthly reports. To prevent incident and mitigate risks, during the quarter, close supervision is being carried out. Following non conformities were highlighted by OE through correspondence and during formal or informal meetings with construction teams. Remedial measures and corrective actions have been undertaken mitigation measures:

- Dust emissions were observed during drilling activity at slopes stabilization works on both sites due to poor maintenance of dust absorbers. As corrective action dust

absorbers were cleaned before activity. Furthermore, splash of water has sprinkled over dusty surface to further protect workers/community health. Proper PPE's have also been ensured during this particular activity. Dust emissions were higher in the month of April due to drilling works, however, the activities were stopped several time to minimize the dust. In June 2015, as mitigation measure water sprinklers were installed on the dusty sections of access road at power house site.

- Waste management regarding concrete waste was not undertaken properly during the month of May. A new trench was made and sign board was installed for waste carrier vehicles drivers for the proper disposal of concrete waste.
- Sedimentation tank cleaning delayed occasionally during May 2015 due to the unavailability of the equipment, however, the excavator and dump trucks were arranged for the clearing of the sludge inside the tanks to prevent degradation.



- Improper storage of sulphur was observed in QA/QC lab on power house site. An appropriate system for ventilation was made to overcome this problem by installing windows on both sides of the chemical storage room for proper ventilation system. The relevant PPEs have also been provided for dealing sulphur internally by using splash goggles, synthetic apron and dust respirators. MSDS for all the chemicals used at site were displayed in the laboratory.



**Synthetic Apron, Dust respirator and Splash Goggles for dealing of Sulphur- MSDS pasted on site"**

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

To sensitize all staff/workers and to get information and feedback about site HSE issues, to ensure maximum safety on site and to mitigate risks of accidents UA/UC Observation Card System was introduced. Box holding UA/UC cards have been placed on prominent locations

### **Warning Letters for Non Compliances**

Non conformities and deficiencies are being reported on daily and weekly basis. For non-conformities, sub-contractors are penalized and deductions are being made from IPCs on recommendation of relevant HSE Department. 42 warning letters were issued for incident of violations of HSE procedures. List of warning letter is given in the table below. As per EPC contractor's standard procedure, after three warnings employee would not be able to continue his/her job. However, before removal it is important to ensure that individual has been informed / trained and provided with the necessary PPEs.

**WARNING LETTERS**

Sr.	Name	Date			Site	Company	Designation	Reasons	
		Day	Month	Year				1	2
1	Muneeb Ahmed	1	4	2015	Weir Site	Daewoo E&C	Plant Electrician	PPE Violation	
2	Hafeezullaha	1	4	2015	Weir Site	Daewoo E&C	Plant Helper	PPE Violation	
3	M. Javed	4	4	2015	Weir Site	Sungbo E&C	Mechanic	Unsafe Act	
4	Asim	7	4	2015	Weir Site	Sungbo E&C	Welder	Unsafe Act	
5	M. Israr Abbasi	11	4	2015	Power House Site	Kyung Dong E&C	Excavator Helper	Unsafe Act	
6	Muneeb	13	4	2015	Weir Site	Daewoo E&C	Electrician	Unsafe Act	
7	Manzir qureshi	13	4	2015	Weir Site	Daewoo E&C	Plant Helper	Unsafe Act	Without PPE
8	Hafeezullaha	13	4	2015	Weir Site	Daewoo E&C	Plant Helper	Unsafe Act	Without PPE
9	Tayyab	13	4	2015	Weir Site	Sungbo E&C	LTV Driver	Without Induction	
10	Zaheer Ahmed	16	4	2015	Power House Site	Kyung Dong E&C	Labor	PPEs Violation	
11	Raza Khan	16	4	2015	Power House Site	Kyung Dong E&C	Excavator Operator	Unsafe Behavior	
12	M. Zameer	20	4	2015	Power House Site	Kyung Dong E&C	Labor	PPEs Violation	
13	Muhammad Ijaz	20	4	2015	Power House Site	Kyung Dong E&C	Steel Fixer	Unsafe act	

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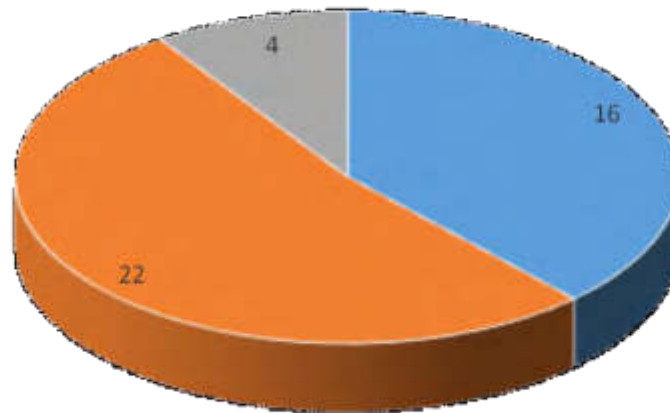
14	Zafran	26	4	2015	Weir Site	Sungbo E&C	Operator	Unsafe Act	Without PPE
15	Mustafa	26	4	2015	Weir Site	IVCC	Welder	Unsafe Act	-
16	Azhar Iqbal	30	4	2015	Power House Site	Kyung Dong E&C	Mobile Crane Helper	Operating without authorization	
17	M. MEHRAN	9	5	2015	Weir Site	SUNG BO	S/C HELPER	Operating without authorization	
18	Namjam Ali Khan	16	5	2015	Power House Site	Kyung dong	Excavator Signal man	Unsafe Act.	Using faulty tools / equipment
19	Rizwan Awan	16	5	2015	Power House Site	Kyung dong	Steel Fixer	unsafe behavior	Fall Protection Violation
20	Ghayoor mumtaz	15	5	2015	Power House Site	Kyung dong	Steel Fixer	Using unsafe access	underneath the erected scaffolding
21	Wali khan	23	5	2015	Weir Site	SUNG BO	operator	operating without induction	
22	Sadiq shah	23	5	2015	Weir Site	SUNG BO	operator	operating without induction	
23	Nawab	24	5	2015	Power House Site	Kyung Dong	Labor	Un safe act.	
24	Zameer	25	5	2015	Weir Site	SUNG BO	operator	Unsafe act	
25	Amjad	25	5	2015	Power House Site	CNEEC	Helper	Unsafe Act	Fall Protection Violation
26	Hamid	25	5	2015	Power House Site	CNEEC	Electrical Helper	PPEs Violation	Fall Protection Violation
27	Waseem Butt	24	5	2015	Power House Site	Kyung dong	Carpenter foreman	PPEs Violation	Fall Protection Violation
28	Bakhat Muhammad	25	5	2015	Power House Site	Kyung dong	Excavator Operator	Unsafe Behavior	Crossing Barriers
29	Muhammad Safdar	24	5	2015	Power House Site	Kyung dong	General foreman	Refusal to show id card	Fall Protection Violation
30	Saeed Rasool	27	5	2015	Weir Site	Rental operator	operator	operating without induction	
31	Tayyab	13	4	2015	Weir Site	Sungbo E&C	LTV Driver	Without Induction	

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32	Zaheer Ahmed	16	4	2015	Power House Site	Kyung Dong E&C	Labor	PPEs Violation	
33	Raza Khan	16	4	2015	Power House Site	Kyung Dong E&C	Excavator Operator	Unsafe Behavior	
34	M. Zameer	20	4	2015	Power House Site	Kyung Dong E&C	Labor	PPEs Violation	
35	Muhammad Ijaz	20	4	2015	Power House Site	Kyung Dong E&C	Steel Fixer	Unsafe act	
36	Zafran	26	4	2015	Weir Site	Sungbo E&C	Operator	Unsafe Act	Without PPE
37	Mustafa	26	4	2015	Weir Site	IVCC	Welder	Unsafe Act	-
38	Azhar Iqbal	30	4	2015	Power House Site	Kyung Dong E&C	Mobile Crane Helper	Operating without authorization	
39	M. Qadeer	1	6	2015	Weir Site	SUNG BO	Mason	Unsafe Act	
40	Amjid Niaza	1	6	2015	Weir Site	Daewoo	Crane Operator	Unsafe Act	
41	Mr. Choi	7	6	2015	Weir Site	Kyung dong	Steel Fixer	Un safe act	working without Fall Arrest
42	Muneeb	27	6	2015	Weir Site	Daewoo	Electrician	Using unsafe access	underneath the erected scaffolding



No. of Warning letters issued in each month



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

**a) Environmental Accidents and Mitigation**

- No major environmental incident occurred during the reporting quarter on both the sites. However, minor soil contamination due to inappropriate handling of oil has been observed.
  - Dust on project access roads due to vehicles/heavy equipment movement has been observed and mitigated through frequent sprinkling .
  - HRT waste water sedimentation/treatment tanks were partially cleaned . Efforts were made for frequent de-sedimentation.
  - The waste is properly collected from all site areas, segregated and then non recyclables are disposed into the trenches.
  - The excavated material is being transferred to the disposal area at upper site but no embankment has yet been constructed to protect spoil erosion due to rise in river water or flood. Whereas, at lower site it is being dumped on approved site near M&E workshop area and is being stored for reuse in powerhouse backfilling.
- The following preventive and mitigation measures are adopted;



- Filter cartridges of the water filtration plant were changed to ensure clean drinking water.
- Shotcrete activities have been undertaken to stabilize slopes and to mitigate risk of erosion and to minimize landslide risk. Plantation has also been conducted for the stabilization of the power house slopes.
- Excavated material is being dumped in designated disposal areas on both sites
- According to the nature of work inspections have continuously been carried out during the reporting period to reduce the risk of accidents and impacts on environment and for proper maintenance of machineries and other equipment.
- Quarterly Fish fauna and vegetation monitoring undertaken
- Hunting and fishing activities are prohibited on project sites.

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

EPCC encourages and educates employees to take reasonable care for their own health and safety. Incidents are recorded for all workers/staff working for subcontractors and on rented vehicles/machinery.

Summary of health and safety incidents during quarter is in the table given below.

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<b>Incident</b>	<b>Frequency</b>	<b>Description</b>	<b>Media/ Community Reaction</b>
Fatality	None	None	None
First Aid Case	04	<p>i. On 15<sup>th</sup> May 2015, at about 11:30 AM, Mr. Ghyoor Mumtaz , Kyung Dong's E&amp;C' s Steel Fixer was engaged in steel fixing at Power House (Block 4) site. He went to drink water and did not used the proper access way and climbed down the incomplete scaffolding which was under erection and attempted to come down. As he placed his foot on the scaffolding plate at the edge it moved upward direction and he could not maintained his balance and fell down from the top of the scaffolding (approximately 3 meters) on the ground . He got injury on his chin as struck with scaffolding ledgers. Immediately injured person was sent to the site clinic for treatment where, after ASD he was further sent to nearby Ambore hospital. No fracture or major injury found as per doctor examination/X-Ray reports, therefore, he was discharged on same day.</p> <p>ii. On 22<sup>nd</sup> May 2015, Muhammad Siddique, grout operator Daewoo E&amp;C was performing the grouting work on the Power House slopes at about 14:30 PKT. Grouting pipe was choked, he tried to clear the grout by hitting the pressure pipe with the hammer but it did not opened. Then he asked his co-workers to get away from the grouting pipe. After wearing his safety goggles and dust mask, he opened the grouting pipe. He was facing a side from the grout pipe and suddenly the grout hit him with pressure on his face. Mr. Jawad, his co-worker cleaned his face and washed it with the clean water and took him to the site clinic. Site HSE doctor checked him and referred to the nearby hospital for the further examination. From eye specialist, he got further treatment from private eye clinic and resumed his job next day.</p> <p>iii. Based on the gathered information at the scene of the incident, 24<sup>th</sup> May 2015, at about 4:30 PM. Mr. Nawaz, Kyung Dong worker was doing grinding work, with baby grinder (4 inch disc) &amp; cleaning the lining form work near the weir access road. While performing the job, grinder slipped from his hand due to lose grip &amp; hit his face. Since he was not using the clear face shield while grinding, his face got injured and received three stitches, loose grip of IP hands was the root cause of the accident</p> <p>iv. On Sunday June 7th 2015, at 16:45 Abrar Ahmed Awan (IP) was opening the scaffolding pipe and he was sitting under the scaffold pipe. The scaffold pipe was connected much tied. When he opened it, pipe hit back on his face on left side. Resulting minor injury on left side of his face.</p>	None

**Environmental & Social Monitoring Report (April-June 2015)**

<b>Incident</b>	<b>Frequency</b>	<b>Description</b>	<b>Media/ Community Reaction</b>
Medical Treatment Case	04	<p>i. On 6th of April 2015, Imran khan was cutting wood with wood cutter at power house area, during the work, he got jerk from the cutter, and he could not handle it and lose his hand grip on the cutter. This struck on his thumb and received cut on his left thumb.</p> <p>ii. Based on the gathered information at the scene of the incident, on 6th April 2015, at about 11:00 PM, Mr. Latif Qazi, Dilshad Khan, Fakhar Din, Arshad Hussain and other labors were busy in shortcrete work at Surge Shaft slopes area. At about 23:00 PKT, there was a sudden land sliding at the Surge Shaft area, all the workers working there started to run away, mean while there light pole was smashed by the stone and light went off. A double cabin pickup (having plate number LEA-2186) rushed out in reverse gear and struck M Latif Qazi who got leg injuries and was shifted in AIMS hospital where doctor confirmed fracture and referred him to Ayub Teaching Hospital Abbotabad on the IP's request. Other three IPs were given first aid treatment and subsequently were discharged from hospital next morning i.e. 07-04-2015.</p> <p>iii. Based on the gathered information at the scene of the incident, on 9th April 2015, at about 18:00, Mr. Muhammad Ejaz Kyung (Dong Steel Fixer) was performing his duty at Power House and he was cutting the steel bars on cutting machine. While cutting the steel bars his left hand was under the steel bar and small piece of iron hit on this index finger of left hand which cut his finger deeply and he got injured. His negligence which found the immediate cause of accident.</p> <p>iv. On 9th of April 2015, at about 8:20 AM, Mr. Gui Zaib (Sungbo steel fixer) was performing his duty at weir site and he was shifting the steel from steel yard. He was standing at the steel bar which was laying on the ground in steel yard. While moving he tripped from steel bar &amp; fell down on ground and his left arm got injured. He was just standing &amp; not working before accident. His negligence which found the immediate cause of accident. HSE Department had already instructed to all site workers do not wear the loose cloths on sites.</p>	None
Damage only incident and Near Miss	None	None	None

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Incident	Frequency	Description	Media/ Community Reaction
Property damage/environmental incident	None	None	None
Medical Checkup / Examination / Treatment	749	<b>April 2015:</b> 291 (119 Upper Site + 172 Lower Site) <b>May 2015:</b> 159 (106 Upper Site + 215 Lower Site) <b>June 2015:</b> 299(Lower site = (90,Upper site =209)	None

### Safety Milestone

4.8 million Safe man-hours were completed in the month of June, 2015.

### External Monitoring /Inspection

Sites HSE internal inspection has remained an ongoing activity (**Annex-1**). As part of external monitoring, the Lenders' Technical Advisor carried out quarterly monitoring visit during June 2015. Besides technical aspects MM pointed out the HSE issues which were subsequently addressed. Implementation status of recommendations made by FTA (Mott MacDonald) in its June 2015 Construction Monitoring Report is as below:

- Updated Traffic Management Plans have been prepared for both upper and lower site
- Provisions of appropriate levels of shade, resting time, drinking water to workers



- Improvement of dust control and log sheet process for water bowser

Dust pollution prevention measures have been undertaken taken by using one TM and one water browser to sprinkle water and minimize the dust. Water sprinklers have also been installed at the access bridge and the project access roads for further dust control on the



Water sprinkling on project access bridge & access road on power house site.



Whereas, on the weir site, the dust emissions on site access roads and on the main Boi road associated with project area was minimized through regular sprinkling. During the reporting period dust emissions were observed from the rock drilling machine on inspection it was observed that the dust absorbing pipe of the machine was damaged which was repaired and the emissions were minimized.

- Adequate fuel storage and inappropriate spill containment



**Appropriate fuel storage area**



Major quantity of fuel is stored appropriately, however, on construction sites for immediate use temporary storage is undertaken where spill in minor quantity occurred due to mishandling . To mitigate this, the following preventive and corrective actions have been undertaken by the EPCC and its sub-contractors:



**Spill kits are made available**



**Polythene sheets to prevent soil contamination**



**Dip trays have been provided**



**Immediate removal of contaminated top soil**

### **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. According to the nature of work on construction sites, inspections have continuously been carried out during the reporting period to reduce the risk of accidents, impacts on environment and for proper maintenance of machineries and other equipment.

The following inspections have been undertaken during quarter:

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

### **Coordination Meeting /Site Inspection regarding HSE Issues**

A coordination meeting was held on 16 April 2015 between SPC, OE & EPCC at SHPL Office located besides the Thuri Park Muzaffarabad to evaluate factual grounds and circumstances of increasing current safety incident ratio on project sites.

The meeting was chaired by Deputy CEO SHPL Mr. Lee Kyung Hwan and was attended by below named participants:

<b>Name</b>	<b>Designation</b>	<b>Organization</b>
Mr. Lee Kyung Hwan	Dep. Chief Executive Officer	SHPL
Mr. Lim Kyung Hee	Chief Technical Officer	SHPL
Mr. Zeeshan Sadiq	Manager Electrical	SHPL
Mr. Abid Hussain	Acting CRE	PES
Mr. Safeer Khan	HSE Officer	PES
Ms. Khushbakht Aziz	Jr. Engineer	PES
Mr. Seongbin Yoon	Planning Manager	Daewoo E&C
Mr. Myoung Choung	HSE Manager	Daewoo E&C
Mr. Aftab Alam	HSE Manager	Daewoo E&C

During meeting different aspects of HSE procedures, current implementation on site, root causes of recent incidents, EPCC's contractual obligations and improvements in site HSE management were discussed and following recommendations were made to prevent future incidents:

- 1- A doable "Action Plan" should be developed by EPCC with consultation of the OE in light of HSE plan given in contract "Annexure P".
- 2- For efficient and effective monitoring, site specific HSE checklists should be improved and revised so that site activities could be made safer and incident free.
- 3- Operational manual for equipment (heavy & light) should be made available for site staff and workers to make them familiar with safe handling procedures.
- 4- Frequency of site inspection should be increased on daily, weekly and monthly basis.
- 5- Workers induction training should be made more effective.
- 6- All procedures should be translated into local language for easy communication to workers
- 7- Incident reporting mechanism should be reviewed and reporting should be undertaken in compliance with EPC contract, however, over reporting must be avoided so that the focus on site safety is not diverted. It would be more appropriate to do practical corrective actions rather to engage staff in reporting and unnecessary documentation.

- 8- A constant coordination should be maintained between OE and EPCC's HSE teams and joint site inspections should also be carried out.

The meeting was ended with concluding remarks by the chair followed by joint inspection undertaken by the participants.



**Joint inspection was conducted and corrective actions were recommended**

Subsequently, corrective actions were undertaken by the EPCC in stipulated time.

**Mitigation Measures**

- To ensure health and safety of both staff and labor on project area, following were some of the prominent activities EPCC consistently undertook during the quarter:
- Workers (attached with both Daewoo E&C and sub-contractors) have been provided with necessary Personal Protective Equipment (PPE) comprising of helmets, safety shoes and safety jackets and ankle belts to prevent injuries.
- Warning letters have also been issued to the personnel found to perform activities that are against the rules and regulations of the HSE
- Newly employed staff, labor and daily wagers were given HSE inductions so that they are aware of potential risks associated with the construction sites emergency procedures
- Safety campaigns and awards are distributed to encourage and develop safe work behavior in labor and staff
- To mitigate safety incidents, machinery, equipment and electrical appliances are being inspected to ensure fitness
- Regular trainings/education sessions for staff and labor
- Water sprinkling on project access road for community health and safety.

### **Permit To work (PTW)**

For the following activities permit to work have been issued during the quarter .Sample permits are annexed as **Annex- 2**.

1. Welding/ Open Flame Work
2. Excavation
3. Lifting
4. Explosive issue
5. Blast
6. Work at height

### **e. Labor Relations and Conditions**

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

Strike was conducted by the workers from Daewoo & Kyung Dong on 9<sup>th</sup> and 10<sup>th</sup> of June, 2015 at power house site. Most of workers stopped working at site demanding the following actions from project management:

- Pay raise according to government notification
- Ramadan timing
- No one will be fired without proper notification
- Insurance

Strike was resumed and an agreement was made between employees and project management counter signed by the Deputy Commissioner Muzaffarabad (**Annex- 3**).

- Pay raise already has been done
- Company issued and notified Ramadan timing as mutually agreed
- Contracted employees have been insured
- Food allowance has been increased



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

During the quarter, requirements related to labor's contracts, permits and other conditions remained constant and no change was observed. However, salaries of labors were increased in accordance with new government notification.

EPCC and sub-contractors are providing insurance coverage in case of accident and death. Furthermore, a deduction is being made from salaries for employees Old Age Benefits Institution (EOABI) as social security on KPK side.

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

In case of any labor incident, Site Construction Manager and HSE staff is responsible to record, investigate and address it appropriately. To address any dispute or work related complaint received from staff /workers. Internal Grievance Redress Committee (GRC) comprising Planning Manager, Admin Manager and HSE Manager is mandated to investigate the matter 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 at EPCC level was established from January 2013.

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

No reaction was observed from media or the community.

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

SHPL, OE and EPCC's HSE departments continuously indicates corrective actions for further compliance by construction team.

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

All staff/workers before induction have been educated to respect local norms and never involve in any conflict with locals. Furthermore, community liaison officer / coordinator who have been employed from local area, assist in managing these accommodations. Basic services like electricity, water and gas have been provided. Safety measures such as fire extinguishers and emergency contact numbers have been placed on main locations. Fire alarm system has been installed on main campus lower site and will be installed on new accommodations as well. Ambulance drivers are aware of all accommodations to have



prompt access in case of any emergency.

- 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



Cafeteria for sub contractors Sungbo & Kyungdong's staff and workers



Onsite Prayer arrangements during Ramadan

**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 Company and EPC contractor those have been made in light of National and International laws and standards, implementation during the quarter has been observed accordingly. Statuses of compliance with these laws are given in the table below;



**Table: Compliance Status with International and National Labor Laws/Regulations**

CONTRACTUAL TERMS/ CONDITIONS	STATUS OF COMPLIANCE DURING QUARTER
<b>ENGAGEMENT OF STAFF AND LABOR</b>	
Except as otherwise stated in the Project Requirements, the Contractor shall make arrangements for the engagement of all staff and labor, 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 staff and labor and payment for their wages/ salaries, housing, feeding and transport. However, the local staff/workers do not need accommodation on project base camp.
The Contractor and its subcontractor(s) shall prefer, to the extent practicable and reasonable, to hire unskilled staff and labor, and skilled staff and labor with appropriate qualifications and experience, who are residents of AJ&K or KP especially who are the affected of the Project	Unskilled jobs have been provided to nearby communities (Alda, Thori, Patrind, Tarchela, Sarati, and other adjacent localities). Also preference has been given to local people who qualify for skilled positions (Local employment record is given below)
The Contractor shall, and shall ensure that its subcontractors shall, fulfill and observe the Environmental and Social Requirements in relation to the engagement of staff and labor	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
<b>RATES OF WAGES AND CONDITIONS OF LABOR</b>	
The Contractor shall pay rates of wages, and observe conditions of labor, 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.	Minimum salary as per local labor law (AJK) was 9,000 per month till 30th June 2014 which has been increased up to 13,000/- per month in KPK and 12000 pm in AJK. While in the project the minimum salary for the permanent worker is not lower than the local general wages.
<b>PERSONS IN THE SERVICE OF OTHERS</b>	
The Contractor shall not recruit, or attempt to recruit, staff and labor from amongst the Employer's Personnel.	Full compliance of the condition was observed during entire quarter

**LABOR LAWS**

International Human Rights & Core Labor Standards The Contractor shall comply with all the relevant labor Laws applicable 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 are in implementation. Local labor laws were devised in light of International Human Rights & Core Labor Standards; therefore, compliance with local standards is same with international laws /standards. Furthermore, Pakistan has ratified ILO's conventions on core labor standards.
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.
Abolition of child labor	To ensure the abolition of child labor the Computerized National Identity Card (CNIC) has been made mandatory for induction which is only provided by the GOP after the age of 18.
Elimination of all forms of forced or compulsory labor	No forced labor observed /reported during quarter. Furthermore, during site inspections by SHPL, OE and EPCC's HSE staff, it is strictly checked that no forced labor has been undertaken on any site in any form.
Elimination of discrimination in respect of employment and occupation	No discrimination exists as all persons have been provided equal opportunities irrespective of color, race, origin and nationality. Only difference is the nature of job and relevant skills. However, no female is working as worker due to nature of job and local customs/norms.
Freedom of association and the effective recognition of the right to collective bargaining	No ban is imposed on workers with regard to establishment of workers organization or freedom to express labor concerns.

**WORKING HOURS**

No work shall be carried out on the Site on locally recognized days of rest, or outside normal working hours, unless: (a) Otherwise stated in the Contract, (b) the Employer gives consent, which shall not be unreasonably withheld, or 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	Work has been carried out on weekends and on locally recognized holidays but only with the consent of concerned staff/labor.
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**FACILITIES FOR STAFF AND LABOR**

(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

**(vii) Medical facilities provided to Staff and Labor during quarter:**

HSE clinic was shifted in O&M building constructed near the Powerhouse site to ensure availability of facility near to deal any incident on site.

On both sites all time availability of clinical staff and facilities has been insured. During quarter 749 staff and workers visited medical facilities. However, majority of all visitors having normal check up with very few exceptions of minor cuts but rest are of minor in nature like gastro enteritis, flue and headache etc. Availability of first aid boxes has also been ensured at all sites Implementation of local labor standard



**First Aid boxes are placed on each site and stretchers are available to deal emergency**

**(viii) Project procedures for: (a) hiring; and (b) acquisition of goods and services:**

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

**(ix) Local Employment Status:**

As per the EPC contract, EPCC is bound to employ unskilled labor from local areas/ adjacent villages and for skilled jobs preference has to be given to the qualified locals.

<b>LOCAL EMPLOYMENT STATUS</b>															
Company	AJ&K							KPK						Others	Total Employees
	Alrah	Thori	Patrind	Tarshila	Shoran	Other AJ&K	Sub-Total	Sarati	Boi	Deedal	Dalola	Others	Sub-Total		
Daewoo	1	52	12	-	1	168	234	2	9	1	19	31	62	74	370
Kyung Dong	13	21	10	2	-	322	368	-	1	3	4	30	38	47	453
Sungbo	-	-	54	19	22	116	211	-	83	-	99	66	248	13	472
Naveed Brothers	-	6	-	-	-	6	7	-	-	-	-	-	-	0	7
Hespak	-	-	-	-	-	16	16	-	-	-	-	26	26	0	42
Watch Man	-	-	2	-	-	-	2	-	17	-	-	-	17	0	19
Gurad & Guides	-	-	-	-	-	36	36	-	-	-	-	-	-	0	36
Total	14	74	78	21	23	664	874	2	110	4	122	153	391	134	1399
	1.60%	8.47%	8.92%	2.40%	2.63%	75.97%	62.47%	0.51%	28.13%	1.02%	24.24%	39.13%	23.91%	9.58%	100.00%

**Compliance with legal requirement for employment**

<b>Project Legal Agreement/Contract</b>	<b>Conditions/Requirements</b>	<b>Compliance Status</b>
EPC Contract Section 6.1 “Engagement of Staff and Labor”	“The Contractor and its subcontractor(s) shall prefer, to the extent practicable and reasonable, to hire unskilled staff and labor, and skilled staff and labor with appropriate qualifications and experience, who are residents of AJ&K or KP especially who are the affectees of the Project”	Nearly 75% of man power is employed from AJK and 23% from KPK.
As per Para 5 (n) of Environmental approval issued KPK EPA Approval Condition	“Non-technical jobs should be provided to the local community. Employment record for all positions shall be provided to EPA-Khyber Pakhtunkhwa and priority should also be given to local in technical jobs but not at the cost of merit or requirement of the management of the project”	Unskilled jobs have been provided to local residents whereas preference has been given to locals for technical positions but subject to availability
As per condition (xii) stipulated in Environmental approval issued by AJK EPA	“As far as possible, employment should be provided to local people for all unskilled jobs. Preference may also be given to local people for all semi-skilled and skilled jobs. Employment record for all positions shall be provided to AJK-EPA positively”	Employment opportunities have been disclosed to the local communities through different avenues such as newspapers advertisement, public notice on prominent locations and through community coordinators and local project staff. Preference has been given to the locals subject to availability of skilled and unskilled human resources

**f. Environmental and Social Capacity**

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

EPCC has a balance team of HSE staff comprising safety, environment and health professional. Organogram is annexed as **Annex-4**. An orientation to environmental management, health and safety during construction work is part of induction form of all the

staff and workers hired. Furthermore, daily HSE monitoring, toolbox meeting programs and other related activities raise the awareness level among all staff and workers.

**ii. HSE Weekly Meetings:**

As per monthly HSE Plan weekly internal meetings and meetings with site construction teams have regularly been conducted on both sites list of meetings is attached as (**Annex-5**).



Issues regarding compliance with HSE standards have always been main agenda items during the meetings.

**iii. 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)



**iv. Safety Training and Campaign**

Capacity building activities coupled with effective supervision is always result oriented. Regular HSE trainings are conducted for project employees on different subjects. These trainings are conducted 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. List of the trainings and campaigns undertaken during the quarter is attached as (**Annex-6**).



Hand and Power tools safety training for employees



Monthly safety Campaign

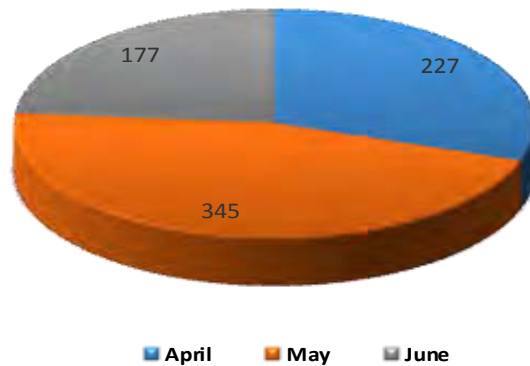
**v. Induction Training**

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. The induction trainings done during the quarter is given below;

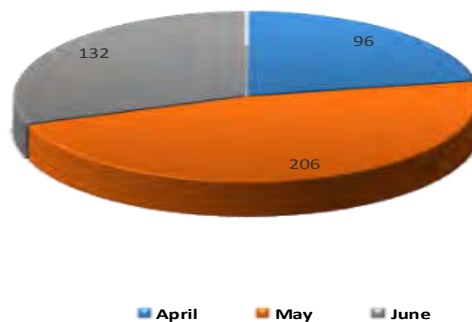


Months	Total No of Induction Trainings		Total No. of employees inducted	
	Lower Site	Upper Site	Lower Site	Upper Site
April	33	31	227	96
May	64	49	345	206
June	25	26	177	132

**P/H Site**



**Weir site**



### **Tool Box Meetings**

This is a consistent activity undertaken daily by EPCC 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. Daily HSE related message is conveyed to all staff and labor during the meeting by HSE staff.

### **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 appropriately. Safety Campaign as part of monthly HSE Plan (**Annex-7**) has been conducted during quarter on both sites.

### **Monthly Safety Award**

Safety campaigns were arranged to promote and develop safe work behavior among labor and staff. To promote safety culture on sites, as per usual safety awards given during month of reporting period:



### **Safety Awards**

Sr. No	Name	Company	Award	Location
1	Rizwan Kazmi	Daewoo E&C	Best Engineer	P/H Site
2	Mehboob Shabab Mir	Kyung dong E&C	Best Engineer	P/H Site
3	Zafar Iqbal	Daewoo E&C	Best Engineer	Weir Site
4	Muhammad Fayyaz	Sungbo E&C	Best Labor	Weir Site
5	Sheraz Nazir	Daewoo E&C	Best Engineer	P/H Site
6	Do Sam Rak	Kyungdong E&C	Best Supervisor	P/H Site
7	Sajjad Ahmed	Daewoo E&C	Best Driver	P/H Site
8	Muhammad Ibrahim	Daewoo E&C	Best Engineer	P/H Site
9	Kim Sang Hun	Kyungdong E&C	Best Manager	Weir Site
10	Afaq Hadir	Sungbo E&C	Best Labor	Weir Site
11	Atibar Khan	Daewoo E&C	Best Driver	Weir Site

### **Needs assessment of environmental and social management capacity**

As ongoing activity continuous capacity building initiatives including more specific trainings on environment and social management are required for staff and labor. Furthermore, daily HSE monitoring, toolbox meeting programs and other related activities have raised the awareness level among all staff and workers.

EPCC's HSE department delivered orientation sessions, awareness raising and capacity building sessions on environment and social management and also identified following training needs of the staff and labor during the next quarter.

- i. Waste Management
- ii. First Aid Trainings
- iii. Corporate Social Responsibility
- iv. Defensive Driving

### **g. Stakeholder Consultation/CSR Activities**

To initiate and sustain constructive external relationships with Project stakeholders particularly with adjacent /local communities, consultation is an important tool to enhance the social performance of the Project.

Meetings and discussions were held with local NGOs and government departments (Environment Protection Agency, district administration and development authority Muzaffarabad).

**h. Details of community programs involving civil society/NGOs in implementation:**

**School Environment & Safety Awareness:**

Daewoo E & C HSE team organized environment health & safety awareness programs on 8<sup>th</sup> May, 2015 at schools located nearby the project area named “First Step”, An awareness session was conducted about basic environment, hygiene and good practices and then students were made aware about the road safety and the importance of safety in their lives. HSE team leader Mr. Choung Myong Hun and Manger Mr. Aftab Alam distributed the gifts among the school children containing notebook, pencils, and biscuits. School administration and teachers welcomed and appreciated the efforts.



Another programme was held in “Government Model School” Lower Chatter near power House Site. School staff and students were informed about the project and its importance .HSE Manager & Environment Officer educated about environmental protection and road safety. EPCC’s HSE team provided gifts and refreshment to students.



- Some professional/consultative services (Fish& Flora Study) on quarterly basis are being hired by EPCC from locally based individuals and organizations during the quarter.
- Flora and Fauna Study by local Fisheries and Wildlife Expert Mr. Yousaf Qureshi who is also retired Director Fisheries Government of AJK.
- HSE sign board preparation and printing activity requirements of the project is being undertaken by local vender (Add City) owned by Mr. Khursheed Qureshi, resident of Patrind village. Add City owner Mr. Khursheed is president of Kunhar Welfare Organization and he himself and rest of his partners are PAPs who are linked with same organization.
- HSE clinic and ambulance is available for local community in case of emergency.



Community child brought to HSE clinic



Child being examined by HSE medical staff

- Safe passage across the project corridor has been established on both sites far more shorter and better than the pre-construction phase



Access for Alda village community Power House site



Access for Tarcheela village Weir Site



**Table: Organizations/NGOs consulted during the quarter**

<b>Organization Name</b>	<b>Location</b>	<b>Purpose/ issues discussed</b>	<b>Actions to address Issues</b>
Kunhar Welfare Organization	Patrind- (Upper Site AJK Part)	EPCC is in constant liaison with the organization regarding preparation of awareness material.	HSE sign board preparation and printing activity is being undertaken by local vender (Add City) owned by Mr. Khursheed Qureshi, resident of Patrind village who is president of Kunhar Welfare Organization and he himself and rest of his partners are PAPs who are linked with same organization. Therefore, all printing works are allocated to same organization.
Pakistan Red Crescent Society (PRCS)	Muzaffarabad- (Lower Site AJK)	Meetings with PRCS on monthly basis regarding placement of First Aid Trained Ambulances Drivers and Fitness /service of both ambulances.	First Aid trained drivers are available all the times on sites and ambulances service and maintenance is being undertaken by the PCRCS.
Edinburgh DIRECTAID	Muzaffarabad- (Lower Site AJK)	Environmental monitoring reports submitted by the NGO were discussed to address and incorporate the comments/recommendations made by the owner engineer.	Environmental monitoring activities are being organized by local NGO Edinburg Direct Aid on quarterly and biannual basis.



**Rental Vehicle and Equipment from locals**

Company	AJ&K							KPK						Others	Total Hired
	Alrah	Thori	Patrind	Tarshila	Shoran	Other AJ&K	Sub-Total	Sarati	Boi	Deedal	Dalola	Others	Sub-Total		
Daewoo	1	1	1	2		14	19	4	1		2	1	8		27
Kyung Dong						16	16					15	15	3	34
Sungbo			4			2	6	4	2		3	1	10		16
Naveed Brothers						4	4						-		4
Hespak						3	3						-		3
DaeKwang							-						-		-
Total	1	1	5	2	0	39	48	8	3	0	5	17	33	3	84
	2.08%	2.08%	10.42%	4.17%	0.00%	81.25%	57.14%	24.24%	9.09%	0.00%	15.15%	51.52%	39.29%	3.57%	100.00%

**i. Compliance and Implementation of Mitigating Measures in ESMP**

Compliance monitoring of environmental and social management plan has been an on-going activity undertaken by OE and EPCC's HSE staff on both sites. Non compliances with recommended standards and regulations were recorded and reported daily, weekly and monthly. EMP Compliance status is attached as **(Annex-8)**.

**a. Environmental monitoring under EMP:**

Internal Environmental and Inspection checklist is developed and being filled on daily bases **(Annex-9)**. Besides this following activities have been undertaken as part of environmental monitoring:

**i. Fish fauna Study/Monitoring:**

Quarterly Study/monitoring was undertaken in Kunhar River (Up & down stream of Project site) during the month of June 2015. This monitoring and its comparison with the past monitoring in last one and half year that apparently there are no significant changes appeared on the aquatic environment of Kunhar River. Professional fisherman was engaged for fishing in the river Kunhar at fixed sampling points. Fishing in the Kunhar River using cast nets of 1 m to 1.5 m diameter recorded a catch of two fish species only. The catch comprised mainly of *Schizothorax plagiostomus* (75%) followed by *Schizothorax curvifrons* (25%). The water is muddy and fish catch was very low at all points unlike the last year during the same month (June 2014). Detailed report is annexed as **(Annex-10)**.



**ii. Flora Study/Monitoring:**

Quarterly Study/monitoring was undertaken at both (Power house & weir) sites in June 2015. The outcomes of the monitoring shows a decrease in the vegetative cover on both the sites, and an increase in landslides has been observed. The monitoring report recommends the bio-engineering works for the treatment of unstable slopes and stabilization of landslides to retain the good looks and better environment as well; detailed report is annexed as **(Annex-11)**.

**iii. Biannual Water Quality monitoring:**

Biannual water monitoring was carried out during the quarter in compliance with section 6.2 of EMP.



Biannual water Monitoring

**Table: Compliance with NEQ's**

<b>Environmental component</b>	<b>Standards (NEQS)</b>	<b>Compliance/Mitigation measure</b>	<b>Remarks</b>
<b>Air Quality</b>	EPA ambient air quality  (EPAs standards for each Parameter )	NEQS:  To ensure dust suppression due to transportation activity, unpaved roads are being sprinkled with water at least twice a day.  The EPC is taking all necessary measures to limit pollution from dust and any wind-blown materials during construction.  Detection of LEL, H2S, CO2, NO2, NO, CO, O2 has been undertaken on daily basis in confined space.	In penstock tunnel at power house site, quality of air is being measured and ventilator is installed.  Ventilation is improved in HRT after breakthrough.
<b>Water quality</b>	WHO Guidelines  (EPAs standards for each Parameter)	Water treatment facilities have been installed on each site to provide safe drinking water for staff and workers.  Waste water from tunnel is treated through sedimentation tanks.	Biannual quality monitoring of waste and drinking water was undertaken during April 2015 for both sites.

<b>Noise levels /Vibration</b>	EPA ambient noise standards and worldwide vibration standards.	<b>Noise:</b> Noise prone activities are avoided during night time. No open blasting occurs during quiet hours. Excavators and all heavy machines are lubricated in a routine matter to minimize the noise and to increase the life of equipment  <b>Vibration:</b> EPC is more concerned regarding factors of human comfort and structural damage and always try to comply with allowable vibration standards. Blast permit is issued by HSE staff before each blast.	Noise level and vibration record is maintained on daily bases after each blast
<b>Soil quality</b>	EPA quality standard  (Different standards for each Parameter)	No environmental incident except small soil contamination has been observed. Over flow from HRT discharged waste water treatment facilities was mitigated through cleaning.	Visual observations mitigation was done by removing the contaminated soil cover. Sedimentation tanks were cleaned regularly.
<b>Flora</b>	Visual observations by relevant Forest professional during EIA study.	Study /monitoring during previous quarter undertaken	Study undertaken in June 2015
<b>Fish Fauna</b>	Observation by relevant wildlife & Fisheries professional during EIA study.	Study /monitoring for last quarter undertaken	Study undertaken in June 2015



**New Sedimentation tank constructed at weir site for bypass adit tunnel & Concrete & sludge waste trench**

#### **b. Occupational health and safety**

Health and safety of workers has been a prime consideration of project. In accordance with the safety standards all workers working at site are provided with the Personal Protective Equipment comprising of hard hats, safety shoes, and jacket and dust masks depending upon the job specification to prevent injuries. Hygienic inspections have been made by medical staff. As per usual morning physical exercise has also been undertaken regularly at both sites. All sub-Contractors have issued necessary PPEs to employees. Also, daily site inspections are undertaken to ensure the implementation.

- 1- Consistent supervision on surge shaft access road and power house protection works was ensured.
- 2- Waste management training sessions were held for supervisors and relevant personnel. Furthermore, waste segregation methods were practically taught to site workers and staff to adopt appropriate mechanism.
- 3- Water sprinkling on project access road for workers /community health and safety
- 4- Water filter plant is installed for drinking water by Daewoo EPCC at camp residence to provide clean & pure water. Filter Plant cartridges are being replaced quarterly to have better quality of water.



**New cartridges being installed at the filter Plant**



- 5- Quarterly water monitoring sampling was conducted in the first week of the may for assessment of the quality of the drinking water and the waste water released from the site from project activities.
- 6- During quarter, coordination meetings, monitoring and inspections were undertaken jointly by EPCC and OE's HSE staff with regard to site HSE status,. No dumping of excavated material was allowed on unapproved sites.
- 7- Waste segregation, collection, transportation and disposal mechanism has been improved during the quarter. Full time waste collectors have been placed on both sites. On site waste management education /awareness sessions were held for supervisors and relevant personnel.
- 8- Sign boards have been made and placed on the site where there is a need to aware people while doing work.
- 9- It is being ensured that landfill is carried out in such a manner that it does not cause contamination to the ground water. The landfills are located, designed, constructed, operated and restored so as to ensure that ground and surface waters are not contaminated.
- 10- Indoor and outdoor spray & fumigation activity has been carried out to control pest and insects.



**Pest/insects control spray**

**c. CO2 emissions by the Project**

Following project activities are likely to produce CO2 emissions, which were given due consideration and following mitigating measures were adopted to minimize the CO2 emissions.

Sources of CO <sub>2</sub>	Mitigating/ Preventive Actions
Use of excavation machinery	Regular tuning/servicing of the machinery is made compulsory and regular inspection is done to ensure that. Smoke producing vehicles are banned from working right away until they are repaired
Tree removal/Land use change	Removal of trees on construction sites will increase the concentration of CO <sub>2</sub> the Project Site atmosphere as trees acted as CO <sub>2</sub> sink. Therefore, as corrective approach, Tree Plantation shall be carried out as retrofitting measure as stipulated in the EMP when it will be practically possible
Solid Waste Disposal	Improper waste management could result accumulation of CO <sub>2</sub> and CH <sub>4</sub> in the atmosphere. For temporary storage of waste proper waste collection and storage areas have been designated. During last month of the reporting quarter waste management mechanism was improved
Use of Construction machinery	Regular inspections of machinery are practiced by HSE staff to check machinery conditions. Warning letters have been issued by OE and EPCC to the smoke producing and vehicles
Usage of liquid fuel	Liquid fuel used at different project activities amounts the maximum CO <sub>2</sub> emissions by the project
Emissions from electricity use	Electrical appliances release some trace amount of gases in order to mitigate that, it is in company's policy to switch off all the electrical appliances when not in use

#### **Plantation for slope stabilization above the surge shaft slopes:**

For slope stabilization and to mitigate environmental impacts plantation of soil binding species has been carried out above the surge shaft slopes on April 17, 2015, power house site. About 500 trees were planted.



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

To manage the environmental and social issue 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

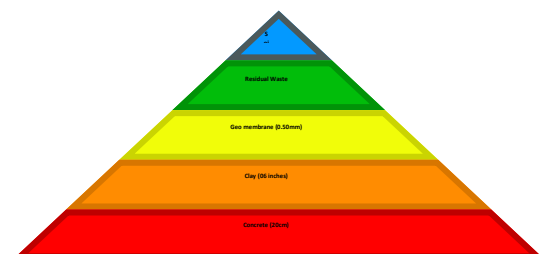
**a) Plan for Disposal of Excavated Material**

Excavated material is being dumped in disposal area approved as per EIA. At lower site, embankment has been developed along major section of the river bank. Whereas, upper site no embankment has yet been developed.



**b) Plan for Waste Management**

EPC and sub-contractors have waste collectors placed on both sites to maintain housekeeping and timely segregation /collection of waste. It is being ensured that landfill is carried out in such a manner that it does not cause harm to the environment. For instance a geo-membrane, concrete and clay lined This can be done by ensuring that landfills are located, designed, constructed, operated and restored so as to ensure that ground and surface waters are not contaminated.



At weir site solid waste management and housekeeping is done on the daily basis, two permanently hired waste collectors from Sungbo and one from Daewoo are working on the site for waste collection segregation and housekeeping on the site. However Kyungdong has no

waste collector at the site as yet and conditions around Kyungdong offices area are relevantly not good.



Waste collection and transportation at Lower site

Recyclable materials transferred to local scrap dealers at weir site

All waste generated in all operation at sites is being managed in accordance with EMP & Waste Management Plan. All the recyclable Waste has been carried and transferred to the scrap dealer by HSE vehicle.

Solid Waste Management and housekeeping is done on the daily basis, two permanently hired waste collectors from Kyoungdong and one from Daewoo are working on the site for waste collection, segregation and housekeeping on the site. After every two weeks, these waste collectors store all segregated material in the store room and transfer through HSE vehicle to the scrap dealer. Then, scrap dealer measure all of the recyclable waste including paper, plastic, cardboards, iron or steel bars etc. This activity is always conducted in the presence of Environment officer to assure the waste management properly. The amount that is generated from the recyclable waste is then used for noble cause by keeping it in the donation box of HSE.



“Transfer and selling of a recyclable waste to the scrap dealer at lower site”



The money that generate from that Recyclable Waste is being added into the donation box for a noble cause as shown in the pictures below;



*Donation Box kept inside the HSE office at Power House Site*

Community living nearby project area is throwing waste outside the dustbin on daily basis in which by cleaning all community area to prevent diseases that can be spread among community. Community awareness has conducted to stop people from throwing the waste openly and letting them know the diseases and effects regarding this including fire hazard.



**c) Plan for Traffic Management:**

Traffic management plan was revised during quarter for both sites that partially has been implemented. Parking areas have been designated and speed limit is controlled; safety precautions have been placed 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. Hazard lights have been installed on heavy vehicles and mobile equipment. Lay out plan is annexed as **(Annex-12)**

**d) Social uplift plan:**

Revised social uplift plan (SUP) was submitted by EPCC to SHPL in March 2013. Besides SUP various activities have also been undertaken to facilitate locals such as subletting works, supply of construction material. Status of SUP has been given in **(Annex-13)**.

During the quarter at lower site project access road remained blocked after sliding that occurred due to heavy rains and earthquake in February 2015. Road repairing was entirely completed by EPCC spending millions rupees, despite the fact the damages were occurred due to aforementioned causes:



Project access road repairing works by Daewoo E&C

**j. Resettlement Plan Implementation**

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

The land identified by the EPC Contractor on the basis of basic design of the Project measuring 872.65 Kanal (683.95 Kanal on AJK and 188.7 Kanal on KP side) was acquired by the Company through Land Acquisition Act (LAA), 1894 applicable in both AJ&K and KPK.

During the construction on the weir site, it was noticed that the land area of 3.7 Kanal “Additional Land” is further required on AJ&K side which is to be submerged due to the headpond of the Project. Due to this addition the total land for the Project becomes 876.35 Kanal.



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

<b>PERMANENT LAND</b>						
<b>Sr.</b>	<b>Project Component</b>	<b>Affected Land (Kanal)</b>				
		<b>State owned Land/ Riverbed</b>	<b>Farmland</b>	<b>Wasteland</b>	<b>House land</b>	<b>Total</b>
1	Reservoir Impounding	87.3	282.05	231.9	9.1	<b>610.35</b>
2	Weir Structures	0	1.5	48.7	0	<b>50.2</b>
3	Powerhouse	13.6	30.1	32.85	5.25	<b>81.8</b>
4	Surge Tank	-	-	47.75	-	<b>47.75</b>
5	Additional Land	0.3		3.4		<b>3.7</b>
<b>Total Permanent Land Acquisition (Kanal)</b>		<b>101.2</b>	<b>313.65</b>	<b>364.6</b>	<b>14.35</b>	<b>793.8</b>
<b>TEMPORARY LAND</b>						
1	Colony of Expatriate construction staff, Switchyard, labour camp, access road, bridge, batching plant at Powerhouse Site	54.75	0	27.8	0	<b>82.55</b>
<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>155.95</b>	<b>313.65</b>	<b>392.4</b>	<b>14.35</b>	<b>876.35</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. For the additional land acquired for the headpond about 92% payment has been made which is reflected in the below table. 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	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	79,320,704	85.77%	196	479*
Headpond (Shoran Village AJ&K)	130.75	75,181,250	73,283,741	97.48%	611 <sup>1</sup>	200
Weir + Headpond (Patrind Village AJ&K)	341.1	204,037,798	163,691,288	80.23%		345
Forest land for Surge Tank (Alda village)	47.75					
<b>B. Additional Land/Property</b>						
Weir + Headpond (Patrind Village AJ&K)	3.7	2,127,500	1,955,000	91.89%	3	3
<b>B. Trees</b>						
Alda		1,815,089	1,804,318	99.41%		19
Alda		75,546	75,546	100.00%		
Shoran		757,391	685,073	90.45%		55
Shoran		106,053	106,053	100.00%	1	1
Patrind		837,882	620,097	74.01%		33
<b>Sub-Total</b>	<b>605.1</b>	<b>377,418,333</b>	<b>321,541,820</b>	<b>85.20%</b>	<b>811</b>	<b>1135</b>
<b>2. KPK</b>						
<b>Land/Property/Trees</b>						
Weir + Headpond (Sarati Village KPK)	188.7	128,557,081	114,613,320	89.15%	196	Detail Yet to receive
<b>Sub-Total</b>	<b>188.7</b>	<b>128,557,081</b>	<b>114,613,320</b>	<b>89.15%</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<sup>1</sup>

**k. Resettlement and Reconstruction**

Living standards have been improved due to better compensation received and economic activities in the project vicinity. PAPs 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. Furthermore, locals from adjacent villages have established small businesses like shops and canteens.

**l. 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               | Member           |
| 4. Affected Community Representative | 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 would be 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. Even though the GRC has yet not been established but complaints received are being addressed at all levels (project & local administration level) depending on nature of complaints. Issues related to land acquisition and compensation requires involvement of District Revenue Officer who is part of proposed GRC while other matters related with employment or employees are being managed through community liaison officers/coordinators and project management.

# Annexures

# **Annex-1**

## **Inspections**

Sr.	Inspection	By	Date			Location	Details
1	B/plant inspection	HSE Staff	1	4	2015	Weir site	Safe guard required around the moving parts of machine.
2	Heavy Machine/Equipment	HSE Staff	1	4	2015	Weir site	Issues enlisted and referred to the concerned department.
3	Gas Cutter & cylinder	HSE Staff	4	4	2015	Weir site	Gauge was damaged & flash back arrestor was missing.
4	Heavy Equipment	HSE Staff	4	4	2015	Weir site	Gauge & needles were damaged & flash back arrester was missing.
5	Environment inspection	HSE Staff	4	4	2015	Weir Site	Kyung dong carried out the blasting activity without informing the HSE department.
6	Fire extinguisher insp.	HSE Staff	5	4	2015	Weir site	Some cylinders were lying on ground .
7	Fire Extinguishers Inspection	HSE Staff	9	4	2015	Power House site	Inspection of fire extinguisher held at Powerhouse site.
8	Blasting inspection	HSE Staff	10	4	2015	Weir site	Kyung dong carried out blasting activity without informing to HSE department.
9	Fire extinguisher insp.	HSE Staff	10	4	2015	Weir site	Some inspection Tags were missing.
10	Electrical system	HSE Staff	13	4	2015	Weir site	Inspection of portable generator carried out at weir site, some oil spillage has been found there.
11	Batching Plant Inspection	HSE Staff	14	4	2015	Weir site	oil spillage & poor housekeeping was observed
12	Color Coding	HSE Staff	15	4	2015	Lower Site	Color Coding activity held at powerhouse site for all tools and equipment for the second quarter 2015 (Documents Attached)
13	Site Inspection	HSE Staff	17	4	2015	Upper Site	Inspection of Environmental issues at weir site.
14	Site Inspection	HSE Staff	18	4	2015	Upper Site	Inspection of Environmental issues at weir site.
15	Oxygen Cylinder Inspection	HSE Staff	18	4	2015	Upper Site	Flash back arrestors were missing.



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16	PPE inspection	HSE Staff	20	4	2015	Upper site	Some issues observed and discussed with concerned department
17	Aggregate Plant inspection	HSE Staff	20	4	2015	Upper Site	Sand screening unit was found unsafe. Recommended to area in charge to concrete the foundation.
18	Portable generator	HSE Staff	21	4	2015	Upper Site	Poor condition of generator at in let location, recommendations made for repairing.
19	Oxygen cylinder	HSE Staff	24	4	2015	Upper Site	Gauge was found damaged.
20	Batching plant inspection	HSE Staff	24	4	2015	Upper Site	Water tank found opened. Instructions made to concerned department to barricade it.
21	Scaffolding inspection	HSE Staff	25	4	2015	Upper Site	Improper scaffolding found without mid rail, bracing & proper coupler.
22	Plant inspection	HSE Staff	28	4	2015	Upper Site	Satisfactory
23	PPE inspection	HSE Staff	28	4	2015	Upper Site	Some issue was observed at discuss with concern dept.
24	Ladder inspection	HSE Staff	4	5	2015	Weir site	Satisfactory
25	Batching plant inspection	HSE Staff	4	5	2015	Weir Site	Some workers were working without PPEs & some oil spillage was observed.
26	Fire Extinguishers Inspection	HSE Staff	4	5	2015	Power House Site	Inspection of fire extinguishers held at Powerhouse site.
27	Fire Extinguishers Inspection	HSE Staff	4	5	2015	Power House site	Inspection of fire extinguisher held at Powerhouse site.
28	Blasting inspection	HSE Staff	5	5	2015	Weir site	Satisfactory
29	Blasting inspection	HSE Staff	6	5	2015	Weir site	Satisfactory
30	Color Coding	HSE Staff	7	5	2015	Power House Site	Color Coding activity held at powerhouse site for remaining tools and equipment's for the second quarter 2015.
31	S/folding inspection	HSE Staff	10	5	2015	Weir site	Unsafe scaffold was found without mid-rail, toe board & cross bracing.
32	B/Plant inspection	HSE Staff	12	5	2015	Weir Site	Too much sludge observed in sedimentation tank; needs to be cleaned immediately

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33	GAS cutter SET Inspection	HSE Staff	14	5	2015	Weir Site	Gauge was found damaged & hose was also poor.
34	Batching Plant Inspection	HSE Staff	17	5	2015	Power House Site	Inspection of batching plant at Powerhouse site.
35	Camp office and mess hall inspection	HSE Staff	17	5	2015	Power House Site	Inspection of Camp Office carried out by HSE officers.
36	Inspection of accommodation	HSE Staff	17	5	2015	Power House Site	Inspection of accommodations carried out by HSE officers.
37	Heavy Machine/Equipment	HSE Staff	19	5	2015	Power House Site	Inspection of heavy equipment on powerhouse site.
38	Blasting Inspection	HSE Staff	21	5	2015	Upper Site	Satisfactory
39	Batching Plant Inspection	HSE Staff	22	5	2015	Upper Site	Satisfactory
40	Oxygen Cylinder Inspection	HSE Staff	22	5	2015	Upper Site	Satisfactory
41	Blasting Inspection	HSE Staff	24	5	2015	Upper Site	Satisfactory
42	Ladder inspection	HSE Staff	28	5	2015	Upper Site	Satisfactory
43	Blasting inspection	HSE Staff	30	5	2015	Upper Site	cleaning of sedimentation was tank req.
44	Fire Extinguisher inspection	HSE Staff	1	6	2015	Power House Site	Inspection of fire extinguisher held at Powerhouse site.
45	B/Plant inspection.	HSE Staff	1	6	2015	Weir site	Oil spillage found under the drums.
46	Scaffolding & ladder	HSE Staff	2	6	2015	Weir Ste	Edge protection & proper access required.
47	Heavy equipment	HSE Staff	3	6	2015	Weir site	Tire was in very poor condition.
48	Fire extinguisher inspection	HSE Staff	4	6	2015	Weir site	Some empty & expired fire extinguishers have also been found.
49	Gas cylinder inspection	HSE Staff	10	6	2015	Weir Site	Gauge was damaged & non return valve required

*Environmental & Social Monitoring Report (April-June 2015)*

50	Hygiene Inspection of Kitchen Staff	HSE Staff	12	6	2015	Weir Site	Improvement Required
51	Fire Extinguishers Inspection	HSE Staff	4	6	2015	Power House site	Inspection of fire extinguisher held at Powerhouse site.
52	Blasting inspection	HSE Staff	12	6	2015	Weir site	Satisfactory
53	Ladder Inspection	HSE Staff	17	6	2015	Weir site	Guard rail was missing.
54	Scaffolding Inspection	HSE Staff	18	6	2015	Weir site	Insufficient supports & improper access was found.
55	Noise and vibration inspection	HSE Staff	18	6	2015	Weir Site	Ok
56	Ladder Inspection	HSE Staff	21	6	2015	Weir Site	Guard rail & tie off required.
57	Blasting inspection	HSE Staff	22	6	2015	Weir site	Satisfactory
58	Noise & vibration	HSE Staff	22	6	2015	Weir Site	Satisfactory
59	B/plant inspection	HSE Staff	25	6	2015	Weir Site	Satisfactory
60	Ladder inspection	HSE Staff	27	6	2015	Weir Site	Length was insufficient

# **Annex-2**

## **Sample Work Permit**




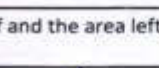

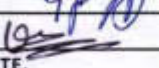
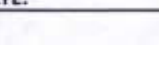
PAKISTAN PATRIND HYDRO POWER PROJECT		DAEWOO E&C	
CUTTING / WELDING / HOT WORK PERMIT		PERMIT TO WORK NO.	
WORK DETAIL	PIPES FABRICATION		
SPECIAL TOOLS TO BE USED	WELDING MACHINE & ACCESSORIES		
LOCATION	FABRICATION WORKSHOP		
Issue Date	14/04/2015	Time	07:00 HOURS
Validity Date	14/04/2015	Time	21:00 HOURS
Do not proceed with your work until your permit has been authorised by the relevant member of staff.			
HAZARDS AND PRECAUTIONS TO BE TAKEN			
PRIMARY HAZARDS: fumes, electric, liquids, slip/trip, moving parts			
PLEASE ANSWER THE FOLLOWING QUESTIONS TRUTHFULLY		YES	NO
Building sprinklers or other fire suppression systems.			✓
cutting welding, flame or spark producing equipment is in good.		✓	
Isolation of Plant.		N/A	
Operator having good visibility.		✓	
All flammable and combustible material have been removed.		✓	
Warning signs attached.			✓
All sources of flammable vapors or combustible dusts have been eliminated.		✓	
lighting checks of all the units.		✓	
Opening have been covered.		✓	
All equipment has been cleaned.		✓	
Check fire extinguisher condition and location.		✓	
Other Precaution Required			
Other Safety Equipment Required		FULL PPE'S.	
AUTHORISATION AND ACCEPTANCE			
I confirm that I have verified the above information and ensured that the necessary precautions have been taken. It is safe to carry out the work as defined above and the permit information has been explained to all workers involved. I accept responsibility for this work.			
Permit Requester	WAGAR AHMAD	Signature	Car
Issuing Authorising	Jongham Park	Signature	JK
HSE Representative	IBRAHIM	Signature	42
HAND BACK AND CANCELLATION			
I confirm that the work has been completed / partially completed *, checked y my self and the area left in a safe and tidy condition. (*delete as appropriate)			
Permit Requester	WAGAR AHMAD	Signature	JK
Issuing Authorising	KEM JUNG MEN	Signature	JK
HSE Representative	IBRAHIM	Signature	42
THIS PERMIT IS ONLY VAILD WHEN ALL SECTIONS ARE COMPELTE.			



PAKISTAN PATRIND HYDRO POWER PROJECT		It's Possible DAEWOO E&C	
<b>Lifting Work</b>		PERMIT TO WORK NO. _____	
Issue Date	10/04/2015	Time	07:00 HOURS
Validity Date	10/04/2015	Time	21:00 HOURS
Crane Type	CRAWLER CRANE	Type of the Load to be lifted	PIPES
No. of Workers	4	Maximum Weight of Load	10 TON
Operator Name	ADIR	Rigger Name	SAHOO, ARBAS
Do not proceed with your work until your permit has been authorised by the relevant member of staff.			
<b>HAZARDS AND PRECAUTIONS TO BE TAKEN</b>			
PRIMARY HAZARDS - Jolts, electric, liquids, sludge, moving parts.			
PLEASE ANSWER THE FOLLOWING QUESTIONS TRUTHFULLY		YES	NO
Crane operator holding the valid licence		✓	
Crane travel routes determined		✓	
Crane sitting on firm foundation out rigger pads		✓	✓
Area roped off & signs displayed			✓
Over / under ground facilities are be protected		N/A	
Sling wire & lifting equipments are be tested		✓	✓
Other Precaution Required	Please inspect all lifting gears before use.		
Other Safety Equipment Required	FULL PPE'S.		
<b>AUTHORISATION AND ACCEPTANCE</b>			
I confirm that I have verified the above information and ensured that the necessary precautions have been taken. It is safe to carry out the work as defined above and the permit information has been explained to all workers involved. I accept responsibility for this work.			
Permit Requester name	AMIR HUSSAIN	Signature	<i>[Signature]</i>
Issuing Authorising Construction Manager	KAMRAN HASSAN	Signature	<i>[Signature]</i>
HSE Representative name	KAMRAN HASSAN	Signature	<i>[Signature]</i>
<b>COMPLETION OR CANCELLATION</b>			
I confirm that the work has been completed / partially completed *, checked by my self and the area left in a safe and tidy condition. (*delete as appropriate)			
Permit Requester name	AMIR HUSSAIN	Signature	<i>[Signature]</i>
Issuing Authorising Construction Manager	KAMRAN HASSAN	Signature	<i>[Signature]</i>
HSE Representative name	TARIC	Signature	<i>[Signature]</i>
THIS PERMIT IS ONLY VALID WHEN ALL SECTIONS ARE COMPLETE.			



PAKISTAN PATRIND HYDRO POWER PROJECT					
<b>Explosive Issue Permit</b>			PERMIT TO WORK NO.		
JOB DETAILS:		Blasting in HRT			
Special Tools & Equipment to be used		Explosives, Detonators			
LOCATION:		HRT Lower Site			
Issue date:	23-06-2015	Time:	3:00 P.M.	Total kg of Explosives:	18.40 kg
Validity Date:	23-06-2015	Time:	7:00 P.M.	Total number of detonators:	36 EA
Contractor's Company name:		Khyng Dong			
<b>HAZARDS AND PRECAUTIONS TO BE TAKEN</b>					
PLEASE ANSWER THE FOLLOWING QUESTIONS TRUTHFULLY					
Are qualified / trained staff has undertaken this job?					YES
Has the adequate PPE's are being carried by all employees?					NO
Are there adequate emergency arrangements in place?					
Other Safety Equipment Required					
<b>AUTHORISATION AND ACCEPTANCE</b>					
I confirm that I have verified the above information and ensured that the necessary precautions have been taken. It is safe to carry out the Explosive as defined above and the permit information has been explained to all workers involved. I accept responsibility for Taking out & Handling the explosive.					
Permit Requester:	Reyan Khan	Phone no:	0321-8985371	Signature:	Suleman
Issuing Authority:	M. M. B.	Phone no:	0323-5304839	Signature:	M. M. B.
KD HSE Representative:	Fahad Abbasi	Phone no:	0315-863105	Signature:	Fahad Abbasi
EPC HSE Representative:	Yasir Shami	Phone no:	0301-903992	Signature:	Yasir Shami
Store incharge:	Mohsin	Phone no:	0305-64609	Signature:	Mohsin
Security Guard:	A.R. Rehman	Phone no:	0346-44706	Signature:	A.R. Rehman
<b>COMPLETION OR CANCELLATION</b>					
I confirm that the work has been completed checked by my self and the area left in a safe and tidy condition.					
Permit Requester name:	Reyan Khan	Phone no:	0321-8985371	Signature:	Suleman
Issuing Authority name:	M. M. B.	Phone no:	0323-5304839	Signature:	M. M. B.
Store Incharge name:	Mohsin	Phone no:	0305-64609	Signature:	Mohsin
HSE Representative name:	Raza Faizal	Phone no:		Signature:	Raza Faizal
THIS PERMIT IS ONLY VALID WHEN ALL SECTIONS ARE COMPLETE.					

PAKISTAN PATRIND HYDRO POWER PROJECT		DAEWOO E&C	
<b>WORKING AT HEIGHTS</b>		PERMIT TO WORK NO.	
<b>JOB DETAILS</b> Drilling, shotcrete, installation of rockbolts, wire mesh and grouting.			
<b>SPECIAL TOOLS TO BE USED:</b> Excavator platform, Dry shotcrete machine, grouting machine, drilling machine.			
<b>LOCATION</b> Powerhouse Slope			
<b>Issue Date</b>	10-APR-2015	<b>Time</b>	7:00 AM
<b>Validity Date</b>	10-APR-2015	<b>Time</b>	7:00 AM - 7:00 PM
Do not proceed with your work until your permit has been authorised by the relevant member of staff.			
<b>HAZARDS AND PRECAUTIONS TO BE TAKEN</b>			
PRIMARY HAZARDS - fumes, electrics, gases, liquids, sludge, radiation, moving parts			
<b>PLEASE ANSWER THE FOLLOWING QUESTIONS TRUTHFULLY</b>			
Are you qualified / trained to undertake this work ?	<input type="radio"/>	YES	NO
Are appropriate signs to be created ?	<input type="radio"/>		<input type="radio"/>
Is area to be barricaded ?	<input type="radio"/>		<input type="radio"/>
Are crawl boards with handrails and roofing ladder to be used ?	<input type="radio"/>		<input type="radio"/>
Is scaffolding and / or body harness required ?	<input type="radio"/>		<input type="radio"/>
If yes, is scaffolding in place and inspected ?	N/A		
Has harness been inspected ?	<input type="radio"/>		<input type="radio"/>
Are weather condition acceptable ?	<input type="radio"/>		<input type="radio"/>
Are there any ducts or outlets on roof ?	<input type="radio"/>		<input type="radio"/>
If yes any hazards from fumes, etc ?	<input type="radio"/>		<input type="radio"/>
Is there any risk from falling objects ?	<input type="radio"/>		<input type="radio"/>
Are there any existing overhead services crossing and /or adjacent to proposed height working	<input type="radio"/>		<input type="radio"/>
Is edge protection / toeboards required ?	<input type="radio"/>		<input type="radio"/>
Are guard rails required for scaffolding ?	<input type="radio"/>		<input type="radio"/>
Is Personal Protective Equipments required ?	<input type="radio"/>		<input type="radio"/>
Are you likely to come into contact with asbestos? If yes, please refer to asbestos Present Permit to Work			
<b>Other Precaution Required</b>		Check platform and all machine.	
<b>Other Safety Equipment Required</b>		Use body harness and dust mask	
<b>AUTHORISATION AND ACCEPTANCE</b>			
I confirm that I have verified the above information and ensured that the necessary precautions have been taken. It is safe to carry out the work as defined above and the permit information has been explained to all workers involved. I accept responsibility for this work.			
Permit Requester name	Ronald Santos	Signature	
Issuing Authorising name	Sung.kheeseon	Signature	
Construction Manager	Sung.kheeseon	Signature	
HSE Representative name	Usman Khan	Signature	
<b>COMPLETION OR CANCELLATION</b>			
I confirm that the work has been completed / partially completed *, checked by my self and the area left in a safe and tidy condition. (*delete as appropriate)			
Permit Requester name	RONALD SANTOS	Signature	
Issuing Authorising name	R. SANTOS	Signature	
HSE Representative name	USMAN KHAN	Signature	
THIS PERMIT IS ONLY VALID WHEN ALL SECTIONS ARE COMPLETE.			