



Environmental & Social Monitoring Report (October to December 2012)

Project Number: 44914

PAK: Patrind Hydropower Project

Prepared by Star Hydro Power Limited

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Asian Development Bank



STAR HYDROPOWER LIMITED

147 MW PATRIND HYDRO POWER PROJECT

ENVIRONMENTAL & SOCIAL MONITORING REPORT

(OCTOBER-DECEMBER 2012)



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A COMPANY OF KOREA WATER RESOURCES CORPORATION

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1. 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

i. Location of project

Village Patrind, District Muzaffarabad, Azad Jammu and Kashmir

ii. Nature

Run of river Hydropower Project.

iii. Scale/size

147 MW

iv. Date of construction/operation commencement

Preliminary works commencement: September 2011

Main works start after issuance of NTP: December 2012

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

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

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:

- 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.
- 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.
- Ensure occupational and community health and safety by back 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.
- 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.
- Communicate any change in the approved project to AJK_EPA and that would be commenced after obtaining the approval. The approval shall stand null and void if the conditions mentioned herein before are not fully complied with. It does not absolve the proponent of the duty to obtain any other approval or clearance that maybe required and can be withdrawn at any time with any prior notice if deem necessary in the public interest.

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

- 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 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 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
- 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
- EPA KP had also issued no objection on installation of batching plant located in village Sarati 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

NOC 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:

Renewal is subject to compliance with aforementioned conditions.

C. Incidents of Violations or Non-Compliance

EPC's HSE staff is mobilized on both sites of the Project are being monitored by the Company's HSE and OE constantly to monitor the compliance status of IFC performance standards, ADB's environmental and social safeguard policies, environmental conditions of EPA's and other regulations and more specifically environmental and social management plan implementation.

It was observed that non compliances with recommended standards and regulations were recorded and reported on daily, weekly and monthly basis through HSE progress reports. Daily record has also been maintained properly.

Following are common non compliances those have been observed for which EPC and sub contractors have subsequently been instructed to adopt all the recommended procedures in this regard. Appropriate corrective actions have been undertaken as per recommendations:

Sr#	Recorded Dates/Locati on	Nature of non compliance	Corrective Action	Non Compliance with	Media or Communi ty Reaction
1	18/10//2012 Power House site Workshop area	Distribution board of batching plant not covered. On same site one worker working in fabrication shop without PPEs.	1. Electrical department instructed by Project Manager for immediate prevention. Education to worker to wear safety gears.	HSE Procedures and IFC Performance standards.	None
2	31/10/2012 Weir site	Area on weir access road was active, no barricading installed to prevent incident.	1. On site instructions to construction team 2. Barricading carried out by sub contractor	EMP, IFC performance Standards	None
4	16/11/2012 Near outlet portal of Diversion Tunnel	Installation of temporary toilet near water source without septic tank	1. Corrective action letter to Sub contractor (C-1) 2. Correction made as shifting facility at appropriate location and installation of septic tank.	EMP/ADB Environmental Safeguards/IFC PS-3 AJK Environmental Protection Act 2000	None
5	17/11/2012Weir sit access road	Work without PPEs & Excavator operation in an unsafe manner	1. Warning letter to Site construction team(C-1) 2. Education to workers and excavator operator	EMP, IFC performance Standards	None
6	8/12/2012 Surge Tank Access road	Fuel/oil spill in fuel storage area	3. Warning letter to Site construction team(C-1) 4. Site cleaning and treatment with sand and proper disposal undertaken	EMP/ IFC Performance Standards	None
7	11/12/2012 Diversion Tunnel	Unsafe conditions at site working area	1- Letter sent for correction (C-1) 2- Correction made	IFC PS-4/EMP/ADB safeguards policy.	None

D. Incidents of Environmental and Safety Accidents

a) Environmental Accidents and Mitigation

Environmental accident such as extra ordinary emission or oil spill had not been reported.

b) Health and Safety Accidents and Mitigation

1. No reportable health incident happened during the quarter; however, as per Daewoo E&C HSE procedure No. **DTMS-HSE-PH002** medical examinations of 69 persons among Daewoo's staff have been undertaken at Lower and Upper sites on 22nd November 2012 and 5th December, 2012 respectively. Sample report is attached as **Annexure D-1**.

The summary of accidents encountered till 31st December 2012, is as follows:

Incident	Frequency	Description
Near Miss (sample report is annexed as D-4)	6	<ol style="list-style-type: none"> 1) On October 4, 2012 Mr. Atif was monitoring the production of concrete at the batching plant. One of his tasks was to receive the "production slip" from the operator of the batching plant and deliver it to the concrete mixer driver so that concrete mixer drivers could be allowed to take out the concrete from batching plant area. The place where Mr. Atif was standing during the operation of batching plant was covered with pile of wooden pallets which were placed with the wall vertically, and these wooden pallets were not fixed properly, due to the heavy blow of wind the wooden pallets felled down just behind Mr. Atif, It would have easily injured him if he was not just few steps away from it. These wooden pallets were heavy enough, which were able to cause any serious injuries. But fortunately Mr. Atif was just a few steps away from this collapse. 2) On October 18, 2012 at 11:15 AM Mr. Akram, a loader helper was standing in workshop area and wanted to shift the steel cage on work site area, he was helping to load the cage with his operator and another labor. As they were loading the steel cage inside the loader, the length of the steel cage was almost 3 meters, due to the heavy weight of the cage, it bended one side and became completely unbalanced and felled down, then it was picked with the help of one more man, Akram's foot just escaped of injury as it felled very close to his feet. 3) On November 11, 2012 at 7:30 am, The "Kyung Dong" labors were passing through the access road to reach at the outlet of diversion Tunnel on weir site area. It was a rainy day, due to heavy rain some small stones were felling down on the access road. When few of the labors were passing through road, suddenly some heavy stones felled down, these stones passed very close to the labors, although they got escape from the area but access road was blocked until it was assured that no more stones will fell down. Fortunately they didn't have any injury from the incident. 4) On November 28, 2012 at 2:30 PM, according to Mr. Afzal, a Dump Truck Driver, he was assigned to deliver aggregates from the batching plant to tunnel near the power house area. As he was going with a loaded aggregate mixture, due to load it was difficult to move the mixture in a single turn of the road. As he was turning it was difficult to turn it in one turn so he reversed it to have full turn, but while reversing, rear wheel of the mixture slipped, he applied the brakes suddenly, but the mixture slipped although the brakes were applied, so he decided to move forward, he got escape from

		<p>there, there were maximum chances of accident, but luckily he was able to move forward. After this incident the condition of road was made better, so that loaded mixture can easily turn.</p> <p>5) On December 03, 2012 at 10:40 AM, there was a lifting operation at the work shop area. The material that was to be lifted was the steel structure. The workers decided to use a sling belt and lift the structure with men power, instead of any lifting device that would hold the load appropriately. When they started lifting, the sling belt snapped. Fortunately, the load was not lifted high enough to injure someone or to destroy something. All the workers on site remained safe as they did not have any injury.</p> <p>6) On December 11, 2012 at 9:15 am, few labors were doing grinding operation inside the Diversion tunnel on weir site, one of the labors named as Mr. Attique was positioning the grinding on the side of the wall of the tunnel to remove the concrete material from the side of the wall, he did not properly positioned the cutter of the grinder in straight line, as the cutter was not straight when cutter touched with wall from the side of cutter it slipped with the wall and man left the cutter from his hand, it felled down on the ground while it was not powered off, the grinder remained on for few moments while it was on the bottom of tunnel. It was a narrow escape for the Mr. Attique, fortunately there was nobody around him, and he himself was safe.</p>
First Aid		<p>1) On November 6, 2012 outside the entrance Adit Tunnel Kyung Dong labors were working during the fitting of compressed air pipe one of the workers named as Mr. Majid was tightening the screw of the band on the pipe with the help of screwdriver. Screwdriver slipped from the pipe, which was directed on his left hand due to which he got minor injury on his left hand. But fortunately screwdriver was not directed towards his mouth or eye. He was given first aid on site.</p> <p>2) On November 19, 2012 near the power house area one of the Geologist of Sub con. Kyung Dong fell down and got injury on his knee while coming down from surge tank area towards the power house site. First Aid was given by the HSE staff at the camp office.</p> <p>3) On December 9, 2012 in the workshop area after welding some iron bars cutting was under process. The cutting was being done with the help of saw having blade. During cutting one labor that was not wearing his safety gloves, got a cut by the blade of the saw. A minor part of his finger was cut with the saw blade.</p> <p>4) On December 20, 2012 at surge shaft area few labors were breaking stones for the cut off drain, a labor having name Amir Awan hammering on stone suddenly a part of stone came backward while hammering and struck on his face, he got minor injury.</p>
Environmental incident/ Property damage	None	
Occupational Injury	No LTI (only 4 minor injuries)	

<ul style="list-style-type: none"> Medical Treatment Case / Routine Checkup (these cases are seasonal diseases like nausea, flue and cough, headache etc) 	<p>10 (flue, cough and fever)</p> <p>Medical examination of 69 employees</p>	<p>As per Daewoo E&C HSE procedure No. DTMS-HSE-PH002 medical examinations of 69 persons among Daewoo's staff have been undertaken</p>
<ul style="list-style-type: none"> Infectious disease/illness 	<p>None</p>	

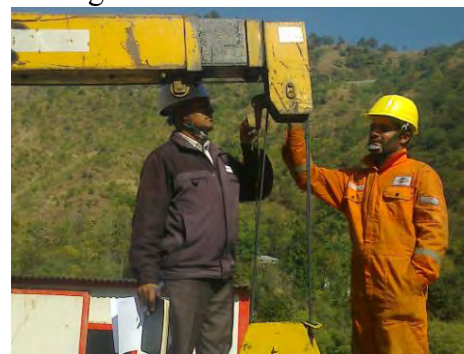
Total number of man-hours without LTI = 174830 (01/10/2012-31/12/2012)
 Project total number of man-hours without LTI= 373230 (07/07/12-31/12/12)

Mitigation through Color Coding/Inspection:

To mitigate safety incidents, machinery, equipments and electrical appliances are being inspected to ensure fitness through color coding system. During quarter yellow tag has been used on inspected equipment (**D-2**).



Color coding



Safety inspection :(Sample checklist annexed as D-3)

E. Labor Relations and Conditions

(i) Nature of labor dispute or grievance

During the current quarter no incident of labor dispute or grievance was observed, recorded and reported.

(ii) Legal requirements, Permit conditions and renewal requirements

In the reporting period all the requirements related to labor's contracts, permits and other conditions remained constant and no change was observed.

(iii) Authorities in charge of investigation/recording

In case of any incident EPC's site Construction Manager, HSE staff, OE's CRE and HSE staff is authorized to record, investigate and address it appropriately.

(iv) Media or community reactions (if any)

No reaction was observed from media or the community.

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

OE's HSE staff indicates corrective actions for any non-compliance to be implemented by EPC's construction team.

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

EPC has accommodated maximum number of staff/workers in the base camp at power house site. As majority of workers are local residents so they do not need accommodation. At upper site, buildings have been hired for accommodation of staff & labor.

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

The EPC contractor:

- Making all reasonable precautions to maintain the health and safety of the Personnel. Placement of medical staff & ambulances is under process. However, first aid kits are available at all times at the sites and accommodation. Kunhar Christian hospital and Muzaffarabad CMH may be approached for further treatment. Arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.
- is responsible for maintaining safety and protection against accidents.
- maintained records and reports concerning health, safety and welfare of labour staff.

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

As per following conditions of contract agreement 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:

Contractual Terms/ Conditions	Status of compliance during Quarter
Engagement of Staff and Labour	
Except as otherwise stated in the Project Requirements, the Contractor shall make arrangements for the engagement of all staff and labour, <u>local (People living in project vicinity)</u> or otherwise, and for their payment, housing, feeding and transport.	EPC contractor has made all necessary arrangements for the engagement of all staff and labour and for their payment, housing, feeding and transport. However, the local staff does not need housing in the project base camp.
(a) The Contractor and its subcontractor(s) shall prefer, to the extent practicable and reasonable, to hire unskilled staff and labour, and skilled staff and labour with appropriate qualifications and experience, who are residents of AJ&K or KP especially who are the affected of the Project.	Compliance has been observed.
(b) The Contractor shall, and shall ensure that its subcontractors shall, fulfil and observe the Environmental and Social Requirements in relation to the engagement of staff and labour.	EPC Contractor has established a proper mechanism of daily and weekly reporting and consistent monitoring of HSE and related social issues. On the basis of recommendations, corrective measures are being taken accordingly.
Rates of Wages and Conditions of Labour	
The Contractor shall pay rates of wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out or as prescribed under the Laws of the Country. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.	The pay rates of wages are comparatively better than the local prevailing rates.
Persons in the Service of Others	
The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Employer's Personnel.	Full compliance of the condition was observed during entire quarter.
Labour Laws	
(a) The Contractor shall comply with all the relevant labour Laws applicable to then Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.	All regulations have been in implementation as no compliant or litigation was observed.
(b) The Contractor shall require its employees to obey all applicable Laws, including those concerning safety at work.	Sites HSE status has been improved due to regular instructions and corrective measures.
Working Hours	
No work shall be carried out on the Site on locally recognised days of rest, or outside normal working hours, unless: <div style="margin-left: 40px;"> (a) Otherwise stated in the Contract, (b) the Employer gives consent, which shall not be unreasonably withheld, or (c) The work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Employer. </div>	With the consent of concerned staff/labor, work has been carried out on weekends on pro rata/ fortnightly basis.

Facilities for Staff and Labour

(a) Except as otherwise stated in the Project Requirements, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in Project Requirements.	Recommended facilities have been provided.
(b) The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.	Nobody has been permitted during reporting period.

(viii) Implementation of local labor standard

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



Labor Laws & Policy placed on Notice Board



Annual social gathering at camp site

F. Environmental and Social Capacity

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

To enhance staff's capacity on imperative aspects of environmental and social management, trainings programs and number of tool box meetings were conducted by EPCC during the quarter. Each staff member is designated as Safety Manager on Pro Rota basis and has been asked to report the status of HSE on assigned site **(F-1)**.

ii. Degree of awareness of: (i) environmental management; (ii) health and safety

EPCC is conducting induction training for all the staff hired for orientation to environmental management, health and safety during construction work. Daily HSE monitoring, toolbox meeting programs and other related activities have raised the awareness level among staff and workers. Also during last month of quarter (10th December 2012 and onward) after physical exercise, HSE related topics for tool box talks have been allocated to staff persons from all departments **(F-2)**

HSE Weekly Meetings:

During quarter, weekly internal meetings and meetings with site construction teams have been regularly conducted on both sites **(F-4)**.



HSE Weekly Meetings (Lower site ,Upper site & Internal)

Environmental laws and regulations

EIA study of the project was completed in light of following laws and regulations. EMP 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)

iii. Training programs carried out:

Training Program/Type	Number of Sessions in Quarter	Number of Participants per session	October	November	December
Training /Campaign /Seminar	Sessions imparted = 6 (03 sessions at Weir Site+3 sessions at Power House site)	Variable (Sample attendance sheets attached (F-5)	02 sessions on PPEs Management (15/10/12 Upper site) +(16/10/12 Lower site)	safety campaign (02/11/12 & 03/11/12) Lower & Upper site Seminar on health management(22/11/12)) at Power House Site	Seminar on health management(05/12/12) at Weir site
Daily Tool Box Meeting	74 at each site	30-40 (variable) at each site	24 Power House Site 24 Weir Site	27Power House Site 27Weir Site	23 Power House Site 23 Weir Site

The trainings mentioned in the above table were conducted in the light of standards guidelines and procedures developed by Daewoo E&C for its project while working across the globe. During the quarter training sessions were conducted on following topics at each site (Weir & Power House Site):

1. PPEs Management Training (15/10/12 & 16/10/12) Upper & Lower Site
2. Lifting Safety Campaign (02/11/12 & 3/11/12) Lower & Upper sites
3. Health Management Seminar (22/11/12 & 05/12/12) Lower & Upper Sites

Safety Induction Training:

Besides aforementioned training programs, safety induction training for new workers has been an ongoing activity during reporting period.



Safety induction training to new labour



Lifting Safety campaign

iv. Needs assessment of environmental and social management capacity (as relevant)

It has been observed that HSE department of EPCC has remained engaged in delivering orientation sessions, awareness raising and capacity building sessions on environment and social management and also identified training needs of the staff and labour during the quarter. To enhance the capacities of the staff and labour following training program are recommended by EPCC:

Sr#	Training	Purpose/ Objectives	Priority	Time Line
1	Safe Driving & Site Traffic Management	<ul style="list-style-type: none"> To prevent accident and loss of life during construction phase To promote HSE awareness among drivers working on project. 	High	January 2013
2	Water Quality Control	<ul style="list-style-type: none"> To define the responsibility and obligations of DEC and its Subcontractors regarding the minimum requirements for the quality of water at the job sites and camps in overseas country. 	High	February 2013
3	Risk Assessment & Management	<ul style="list-style-type: none"> To establish a formal system for the performance and documentation of risk assessment of Health, Safety and Environmental issues expected on DEC project site. The risk assessment will be performed on a variety of activities on the site with the aim of identifying all possible hazards, which may be encountered, and to establish the means by which the hazards can be eliminated/reduced and/or controlled. 	High	March 2013

G. Stakeholder Consultation/CSR Activities

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

- Formal and informal meetings and discussions with communities and other stakeholders is a consistent activity which is undertaken to improve the project's implementation. A liaison with offices of the government has also been maintained regarding project implementation issues and activities during the reporting period.

- Efforts have been made in developing good relations with the nearby communities. In order to maintain good relations, during the construction phase employment opportunities for local unskilled and skilled persons as staff members and workers have equally been provided
- A Community Complaint BOX (CCB) is placed near Access Bridge in Lower site and near the entrance barrier at the Upper site. During the quarter with following exception no new considerable complaints have been received through CCB and other sources:

Nature of Complaints	Action Taken
More Compensation	Land/houses/trees compensation is still in process and the Company has made a very generous compensation to the Affectees. Efforts have been made to complete remaining acquisition process.
Seeking Employment	Skilled /unskilled persons from local community have been employed by EPC during reporting period.
Community development activities	Major activities have yet not been started; however as per demands of the locals few developments have been made.



ADB& IFC's Social Monitoring teams meeting with community representatives
(10th October 2012 & 16th December, 2012 respectively)

Proposed activities under Social Uplift Plan	Status
<ul style="list-style-type: none"> Improvement on access to isolated villages 	Construction of bridge across Jhelum River has been completed during past quarter having major economic and social benefits for local community.
<ul style="list-style-type: none"> Improvement on existing road paving 	Paving the road from the Supreme Court to power house site shall be carried out after construction. However, a damaged portion near camp office has been repaired by the EPCC.
<ul style="list-style-type: none"> New road construction 	New road from the children park to Switchyard, road to connect Access Bridge from Powerhouse to Alda village has been improved during quarter.
<ul style="list-style-type: none"> Park, Site View & Leisure Areas 	After Construction phase
<ul style="list-style-type: none"> Development Scheme for Medical Treatment, School Support & Social Uplift 	Partial development may be carried out during construction phase.

ii. Details of community programs involving civil society/NGOs in implementation

The Company & EPCC have established liaison with civil society in the project vicinity. Meetings and consultations are made with all relevant stakeholders. Officials and competent authorities from government departments and external monitoring teams have been visiting project site and they were briefed and oriented with progress made and relevant issues have also been discussed to extract their remedial measures.

iii. Efforts to promote community relations and local development for inhabitants of the project area and in grievance redress mechanism especially for environmental and social concerns and complaints:

For the uplift and betterment of the local community, the Company and the EPCC have proposed five comprehensive environmental development programs as part of social uplift program.

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

Hiring and procurement of goods and services by EPCC is being carried out under Quality Assurance and Quality Control plan till the hiring & procurement policy is approved.

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

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

EMP(sub plans)	Status of compliance during Quarter
a. Plan for Disposal of Excavated Material	<ul style="list-style-type: none"> i. Dumping on designated sites ii. Disposal of excavated material quantified
b. Plan for Wastes Management	<ul style="list-style-type: none"> i. Waste and scrap materials from construction activities stored in a scrap yard and stock yard. ii. Best housekeeping practices adopted iii. Hired buildings for staff and labour having sanitary system. Camp at lower site with sanitary system as per required standard iv. With minor exception no reportable oil and lubricant contamination occurred
c. Plan for Traffic Management	<ul style="list-style-type: none"> i. Speed limit controlled ii. Safety precautions placed to protect workers and the general public. iii. Vehicles equipped with directional control signage. iv. Vehicles inspected prior to use. v. workers aware of mobile equipment operating in the area vi. Site specific traffic control Plan is prepared in the light of EMP.

EPCC is making efforts to execute the project in compliance with national and international environmental and social standards. Compliance monitoring of environmental quality has been a constant activity during quarter:



Excavated material dumping on approved site

Environmental component	Standards (NEQS)	Compliance/Mitigation measure
i. Air Quality	EPA ambient air quality (EPAs standards for each Parameter)	<p>NEQS: Not analyzed yet, however following measures have been taken to mitigate air pollution:</p> <ol style="list-style-type: none"> 1. To ensure dust suppression due to transportation activity, unpaved roads on weir site and power house site are being sprinkled with water at least twice a day. Water is also sprinkled in construction areas regularly to control the fugitive dust and particulate matters. 2. To overcome air pollution caused by exhaust emissions from vehicles, machinery, speed of HTV & LTV vehicles at project site is limited to decrease the fugitive dust emission. 3. Emission of Sox, Nox, Co, Co2 has been minimized by regular servicing of the light & heavy transport vehicles. 4. Dirt roads are properly maintained to ensure the proper traffic flow in order to minimize the emission of pollutants in air. 5. Loading and unloading of trucks is carried out in an appropriate manner. 6. The construction worker and staff have been made aware regarding air pollution control measures. 7. The EPC is taking all necessary measures to limit pollution from dust and any wind-blown materials during construction, including water sprinkling on regular basis.

ii. Water quality	WHO Guidelines (EPAs standards for each Parameter)	<p>NEQS: Tests for drinking water quality have already been conducted during past quarter however to assess the impacts on rivers, samples from upstream and downstream of river Jhelum (Lower site) have been collected by EPA-AJK to test turbidity. Results are still to be received.</p> <ol style="list-style-type: none"> 1. Fuel and used lubricants storage areas are properly maintained, in order to prevent contamination of surface and ground water sources by accidental spillages of oil and fuel a fuel pump has been installed at upper site risks. 2. Temporary toilets have been placed appropriately with septic tanks to avoid water contamination.
iii. Noise levels /Vibration	<p>EPA ambient noise standards.</p> <p>Typically 8-12mm/s day time and 4mm/s night time is standard limit worldwide.</p>	<p>Noise:</p> <ul style="list-style-type: none"> ▪ Noise prone activities are avoided during night time. No blasting occurs during quiet hours. Intensity of noise and has been monitored to compare it with established standards. An average below 75dB has been maintained during construction activities. ▪ Provision of necessary safety and personal protective equipment such as ear plugs, ear muffs etc are ensured during high noise activities like tunnel blasting. ▪ Excavators and all heavy machines are lubricated in a routine matter to minimize the noise and to increase the life of equipment <p>Vibration:</p> <p>EPC is more concerned regarding factors of human comfort and structural damage and always try to comply with allowable vibration standards.</p>

iv. Soil quality	EPA quality standard (Different standards for each Parameter)	Tests to be conducted No environmental incident. Except, small soil contamination observed at fuel storage area, lubricant change facility and non paved area has been rectified by collecting and properly disposing off the contaminated soil.
v. Flora	Visual observations by relevant Forest professional	To rehabilitate, tree plantation shall be carried out during coming season on degraded sites with the consultation of forest department.
vi. Fauna	Observation by relevant wildlife & Fisheries professional	No endanger species found. No considerable disturbance to aquatic life.

vii. **Waste generation and management**

a) Generation:

The Contractor has randomly quantified produced solid waste for the months of, October, November and December 2012. Different types of waste produced at sites are as follow;

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

Description	Tetra packs (Kg)	Plastic Bags (Kg)	Paper (kg)	Metal (Kg)	Vegetable + Food (Kg)
Local mess both sites	3.00	0.50	1.50	1.00	15.00
Korean mess both sites	1.50	0.50	1.50	1.00	10.00
Offices both sites	1.50	0.50	10.00	2.00	3.50
Sub Total	6.00	1.50	13.00	4	28.50
Total	53 Kg				

- iv. Mineral water bottles both s sites: 5-10 Kg daily

b) Management

The waste is being managed properly at sites by the EPCC. Each site is provided with dustbins for collection of waste material. The collected waste is properly disposed off. EPA- AJK team visited the site on 15th November 2012 to assist in selection of site for camp site waste. Two temporary sites have been selected which are being used for the purpose. Scrap steel is stored in yard, other bio degradable waste mostly composed of mineral water bottles is being sent to market for recycling.



EPA team site visit & meeting with project HSE Team (waste disposal site selection)

viii. Occupational health and safety

Personal Protective Equipment (PPE) is used as barriers between a person and a hazard. Their main purpose is to prevent injuries by protecting people from unnecessary exposure to hazards on the job.

1. In accordance with the safety standards all workers working at site are provided with the Personal Protective equipment by EPCC comprising of hard hats, safety shoes, jacket, and sand dust masks depending upon the job specification to prevent injuries.
2. EPCC has issued all necessary PPEs to its employees and sub-contractors. The Company conducted various site inspections to ensure the implementation. Till to date compliance has been observed.
3. Inspections of local staff, labor and Korean's staff mess hall were conducted in order to monitor the health and hygienic conditions. It has been observed that entire cooking staff was aware about the hygienic situations.
4. EPCC conducted a medical examination of thirty two (32) local staff persons on November 22, 2012 at Lower site camp office and subsequently on December 04, 2012 thirty six (36) persons at Upper site were examined. Samples were collected to carry out following tests:

Sr. No	Test Name	Remarks
1	Complete Blood Count (CBC)	All Local staff
2	Blood Grouping	All Local staff
3	ESR	All Local staff
4	LFT	All Local staff
5	Blood Sugar	All Local staff

Sr. No	Test Name	Remarks
6	HBS AG Screening	All Local staff
7	Anti HVC Screening	All Local staff
8	Urine RE	Only kitchen staff
9	Typhidot	Only kitchen staff
10	Malaria	Only kitchen staff
11	Dengue	Only kitchen staff



Seminar on Health Management (22/11/12)



Medical examination at Lower & Upper sites (22/11/12 & 5/12/12)

5. Daily tool box meetings have been conducted by EPCC on issues related with occupational health and hygiene.
6. EPCC is undertaking daily morning physical exercise at both sites.



Daily morning exercise (Lower site & Upper Site)

7. Fire drill and other safety exercises have been held during the quarter.



Fire Drill near site office (Upper Site)



Fire Drill Local Mess area (Upper Site)

8. Workers are being informed in the tool box meetings that majority of accidents happen as a result of an unsafe condition or unsafe act of the person
9. Limited but controlled blasting with all safety measures has been undertaken.
10. EPC Contractor has scheduled all blasting activities to occur during daylight hours as a safety precaution and as a courtesy to local residents.
11. The EPC Emergency Response Plan for any unforeseen incident exists.

ix. Community safety health and security

1. Necessary road safety sign boards have been affixed by EPCC to communicate to the community about possible hazards.

2. The OE's and EPC's HSE staff is monitoring the site health safety and security monitoring on daily basis, while the Company's HSE staff also visit the site to monitor the implementation.
3. A strong liaison is established with concerned government departments for arranging site security arrangements. For this purpose various meetings were held with the government officials and a considerable number of police staff has been provided during quarter.
4. Village services (e.g. access tracks, water supply pipelines, electricity supply lines) affected by construction sites or activities are protected, or temporarily or permanently relocated, to ensure that they continue to function in a similar manner
5. Though, most of social uplift activities as per plan shall be carried out after construction phase but some of these have been started during the reporting period.

x. CO₂ emissions by the Project:

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

Sources of CO₂ emission	Mitigating/ Preventive Actions
Use of excavation machinery	Machinery in operation is in good condition to mitigate the potential source of emission of CO ₂ in the atmosphere. Regular tuning/servicing of the machinery to mitigate the potential source of CO ₂ evolution.
Tree removal	Removal of trees on construction sites will certainly increase the concentration of CO ₂ at the Project site. Therefore, as corrective approach, tree plantation shall be carried out as retrofitting measure as soon as practically possible.
Solid Waste Disposal	Improper waste management could result in evolving and accumulating CO ₂ in the atmosphere. To avoid open dumping of waste, Waste Management Plan has been established and being implemented.
Use of Construction machinery comprising of concrete mix, Dumpers, Excavators, Crane etc	The EPCC has delivered brand new machinery to the Project site, hence mitigating the potential source of emission of CO ₂ . NOC have been obtained for batching plants installed on recommended sites having minimum impacts.

xi. Environmental and Social Management Plan, including IFC E&S Action Plan

Following detailed plans have been developed and are being implemented 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

I. Resettlement Plan Implementation

i. Scope of Land Acquisition and Resettlement Impacts

Land Acquisition

Permanent Land Acquisition	790.10 Kanal
Temporary Land Acquisition	82.55 Kanal
Total	872.60 Kanal

Summary of the Land to be acquired on AJK and KPK

Permanent Land						
Sr. No.	Project Component	Affected Land (Kanal)				
		State owned Land/ Riverbed	Farmland	Wasteland	House land	Total
1	Reservoir Impounding	87.3	282.05	231.9	9.1	610.35
2	Weir Structures	0	1.5	48.7	0	50.2
3	Powerhouse	13.6	30.1	32.85	5.25	81.8
4	Surge Tank	-	-	47.75	-	47.75
Total Permanent Land Acquisition (Kanal)		100.9	313.65	361.2	14.35	790.1
Temporary Land						
1	Colony of Expatriate construction staff, Switchyard, labour camp, access road, bridge, batching plant at Powerhouse Site	54.75	0	27.8	0	82.55
Total Temporary Land Acquisition (Kanal)		54.75	0	27.8	0	82.55
Total Land Acquisition (Kanal)		155.65	313.65	389	14.35	872.65

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

Land acquisition on both sides of the project is in process. The Company has deposited the assessed cost into Government Treasuries for acquisition of the land that subsequently had been paid to APs. Status of the land acquisition is as follows;

Summary of Land Acquisition Progress and compensation payments

Sr. #	Location	Area (Kanal)	Award/Agreement	Status of Payments to Affectees/Government	Status of Possession
AJ&K					
1	Powerhouse (Alda Village)	81.8	Award has been issued on November 15, 2011 in favour of the Company.	54.41%	100.00%
2	Weir + Headpond (Patrind Village)	341.1	Award has been issued on February 21, 2012 in favour of the Company.	69.30%	100% land for permanent structures and more than 95% of the headpond
3	Headpond (Shoran Village)	130.75	Award has been issued on November 4, 2011 in favour of the Company.	82.40%	100.00%
4	Forest Land for Surge Tank (Alda Village)	47.75	Lease Agreement has been signed on April 13, 2012	Lease Rents being paid	100.00%
	Total (AJ&K)	601.4			
KPK					
5	Headpond + Weir (Sarati Village)	188.7	Award has been issued on April 4, 2012 in favour of the Company.	85.00%	70.00%
	Total (KPK)	188.7			

iii. Resettlement and Reconstruction

Updates on housing relocation and reconstruction

Many of the APs have constructed new houses far better than the acquired properties. Living standards have also been improved due to better compensation received and economic activities in the project vicinity. This has been witnessed during the visits of the Company, IFC and ADB.



House acquired at diversion tunnel area



House being constructed at diversion tunnel area

iv. Resettlement Related Consultation and Disclosure Activities and Grievance Procedures

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

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

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.

Annexure C-1

HSE Sample Corrective Action Letters



Opposite Thuri Park Lower Chatter, Muzaffarabad, AJK, Pakistan Tel: (92) 058-2243-9498 Fax: (92) 058-2243-2657

Date : 16 November 2012

The Project Manger,
Kyung Dong
Camp Office Thuri Muzaffarabad.

Subject: Corrective actions regarding HSE at Weir site

Sir,

The undersigned has been directed to inform you for following corrective measures with regard to HSE status at Weir Site:

1- Shifting of temporary washroom at suitable & safe place:

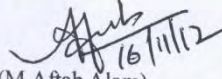
A temporary washroom has been placed near diversion tunnel on right bank of river without appropriate drain system and also at unsafe place that is clear violation of Pakistan Environmental Protection Act 1997 and other applicable laws. Therefore, cabin may please be shifted to another safe place to avoid the water contamination and hazards.

2- Safe Electric system and Equipments:

Electric cables from transformers are laying open and unsafe, while distribution box is unlocked. All cables and wires are required be covered or undergrounded. Electrical equipments and installations like generator, steel binding/cutting machines etc should be made safe through earthing cable and other measures. Name of electrician should also be placed on distribution box.

Immediate action in this regard shall be highly appreciated.

Sincerely yours


(M. Aftab Alam)

HSE Manger
Patrind Hydropower Project, Pakistan

CC: 1-The Deputy Project Manger. 2-Construction Site Manager (Upper site)

Encl: (Reference Pictures)



Opposite Thuri Park Lower Chatter Park Muzaffarabad AJ&K Pakistan Tel: (92) 058-2243-9498 Fax: (92) 058-2243-2657

Date : 17 Nov 2012
Ref No : HSE 0010

The Project Manager,
Kyung Dong
Camp Office Thuri Muzaffarabad.

I always appreciate your work, sincere efforts to make work environment more comfortable for the site workers.


These snaps were taken on **Weir site access road during Excavation work**; through this letter I want to bring in your notice about the safety negligence, and workers have worked without proper PPEs (**Personal Protective Equipments**). And excavator helpers were sitting on running excavator the worker will get injured at construction site.

✓ **Recommendation.**

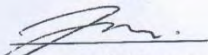
Every work must wear PPEs (**Safety helmet, Safety shoes**) and no one have authorization to sit on heavy machine while they were in running condition and need to follow DAEWOO E&C HSE policy. You are kindly requested.

NOTE: Serious action will be taken if any negligence shown regarding safety.

Prepared By:

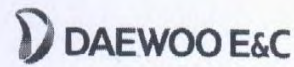

Yasir Ghauri (HSE Engineer)
Daewoo E&C

Note By:


Mr. Chung (HSE manager)
Daewoo E&C

Received By

OH Jeong Tae
Kyung Dong



Opposite Thuri Park, Lower Chatter, Muzaffarabad, AJK, Pakistan Tel:(92) 058-2243-9498 Fax:(92) 058-2243-2657

Date: 08 December, 2012

Patrind-HSE-0016

The Project Manager,
Kyung Dong Engineering & Construction,
Camp Office Thuri Lower Chatter,
Muzaffarabad.

Subject: **Pakistan Patrind Hydro Power Project**
Corrective Actions required on Surge Tank Access Road.

The undersigned has noticed the following unsafe conditions regarding site HSE status during routine site visit at Surge Tank Access road:

1. Wheel dozer was in operation in excavated material dumping site. Helper was standing without flag and PPEs. wherease in last meeting on 4th December Sub con site manager was instructed to manage heavy machines safely on sites.
2. A heavy boulder is laying in loose soil in sliding area just above the first turn towards surge tank area that poses threats to vehicle and road users therefore needs to be removed soon.
3. Ahead the Adit Tunnel towards surge tank fuel spill/leakage has been found that is required to be cleaned.
4. Spoil is being dumped on the edges / brinks of road that has many hazards, so it needs to be dumped appropriately on designated site.
5. Material is placed in haphazard way that needs to be placed in selected yard in a safe manner.

It is advised that the abovementioned unsafe conditions should be corrected and may be reported during next week meeting in HSE office.

(Chung Myung Hun)

HSE Manager

Encl: (Reference pictures)

CC:-

결	담	당	HSE	SM	P.M
재	AB	2		vacation for	26

1. The Construction Manager Daewoo E&C Lower site.



Opposite Thuri Park, Lower Chatter, Muzaffarabad, AJK, Pakistan Tel:(92) 058-2243-9498 Fax:(92) 058-2243-2657

Date: December 11, 2012

Patrind-HSE-0017

The Project Manager,
Kyung Dong Engineering & Construction,
Camp Office Thuri, Lower Chatter,
Muzaffarabad.

Subject: **Pakistan Patrind Hydro Power Project**
Corrective Actions required on Inlet & Outlet Portal of Diversion Tunnel

The undersigned has noticed the following unsafe conditions regarding site HSE status during routine site visit at Diversion Tunnel:

- (A) At Inlet portal, entrance shown is narrow that may be resulted in incident therefore it is recommended that a clear passage should be developed.
- (B) Wooden-ladder at inlet is installed without handrail that must be installed immediately.
- (C) Platform should be fixed with scaffolding.
- (D) Ladder installed at outlet portal without handrail and needs to be widened.
- (E) Ladder without handrail.
- (F) Charging car needs installation of side bars to protect head injury

It is advised that the abovementioned unsafe conditions should be corrected and corrective action report may be submitted to HSE office during the week.

(Chung Myung Hun)
HSE Manager

Encl: (Reference pictures)
CC:-

결	담	당	HSE	SM	PM
재					

1. The Construction Manager Daewoo E&C Upper Site.

Annexure D-1
Sample Medical Examination Report



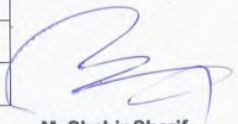
Patient Name: **Qazi Rashid Mehmood** Lab No **2**
 Age / Sex: Year / Male Date: **22-11-2012**
 Referred by: Dr.

HAEMATOLOGY

Blood CP:

Test	Result	Reference Range
ESR		0 – 12 mm/1 st hrs
Hemoglobin	g/dl	M: 14----18 g/dl F: 12-----16 g/dl
Total White Cell	----- x 10 ³ /μl	4.0-11.0 x 10 ³ /μl
Red Cells	----- x 10 ³ /μl	M: 4.2-5.2 x 10 ³ /μl F: 3.2-4.2 x 10 ³ /μl
Platelet Count	----- x 10 ³ /μl	150-450 x 10 ³ /μl
Differential Count		
Polymorphs	%	40 – 75 %
Lymphocytes	%	20 – 45 %
Eosinophils	%	01 – 06 %
Monocytes	%	02 – 10 %


No. 00062
 2012/11/22 3:12
 WBC 7.7 x 10³/ul
 LY 2.5 x 10³/ul
 MO 0.2 x 10³/ul
 GR 4.9 x 10³/ul
 LY% 32.9 %
 MO% 3.0 %
 GR% 64.1 %
 RBC 4.82 x 10⁶/ul
 Hgb 15.6 g/dl
 HCT 40.9 %
 MCV 84.8 fl
 MCH 32.3 pg
 MCHC + 38.1 g/dl
 RDW + 15.2 %
 PLT 237 x 10³/ul
 PCT 0.194 %
 MPV 8.2 fl
 PDW + 16.6 fl


 M. Shabir Sharif
 M.Sc Haematology
 M. Phil(Microbiology)

Chemical Pathology	Haematology	Clinical Pathology	Microbiology	Histopathology	Serology	Hepatitis Profile
Mormones	Thyroid Profile	Immunoglobulins	Drug Levels	Tumor Markers	VMA	C3, C4

Sibtain Medicose Street Near Markazi Imam Bargah Opp AK CMH MZD AK.
 سپر لیب ہیلتھ سروسز میڈیکوز اسٹریٹ نزد مرکزی امام بارگاہ بالقابل اے۔ کے۔ سی۔ ایم۔ ایچ مظفر آباد (اے۔ کے۔)
 Ph: 46499

Not For Court
 OR
 Medicolegal Use



SUPER LAB HEALTH SERVICES
PATHOLOGY LABORATORY

سپر لیب ہیلتھ سروسز

Patient. Name: **Qazi Rashid mehmood** Lab #:02

Age / year sex / Male Date: 22-11-2012

Referred by: Dr.....

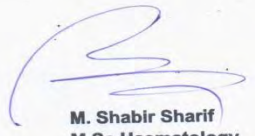
CHEMICAL PATHOLOGY

Liver Function Test:

Test	Result	Reference Range
Total Billirubin	8.7	3.7 – 17.1 umol/l
S.G.P.T (ALT)	38	Up to 40 U/L
Alkaline Phosphatase	199	64 – 306 U/L

HBsAg /HCV

HBsAg	Non Reactive
Anti HCV	Non Reactive
Blood Group	"Bee"
Rh Anti "D"	positive



M. Shabir Sharif
M.Sc Haematology
M. Phil(Microbiology)

Chemical Pathology	Haematology	Clinical Pathology	Microbiology	Histopathology	Serology	Hepatitis Profile
Mormones	Thyroid Profile	Immunoglobulins	Drug Levels	Tumor Markers	VMA	C3, C4

**Not For Court
OR
Medicolegal Use**

Sibtain Medicose Street Near Markazi Imam Bargah Opp AK CMH MZD AK.

سپر لیب ہیلتھ سروسز میڈیکل سروسز نزد مرکزی امام بارگاہ بالقابل اے۔ کے۔ سی۔ ایم۔ ایچ مظفر آباد (اے۔ کے۔)

Ph: 46499



Patient. Name: **Qazi Rashid Mehmood** Lab. 02

Age / Sex.----- ---- Years / Male Date: 22-11-2012

Referred by:

CHEMICAL PATHOLOGY

BLOOD GLUCOSE

<u>Test</u>	<u>Result</u>	<u>Reference Range</u>
Blood Glucose (F)	3.3 – 6.3 mmol / L
Blood Glucose (R)	5.2	Up to 10 mmol / L

M. Shabir Sharif
M.Sc Haematology
M. Phil(Microbiology)

Haematology	Clinical Pathology	Microbiology	Histopathology	Serology	Hepatitis Profile
Thyroid Profile	Immunoglobulins	Drug Levels	Tumor Markers	VMA	C3, C4

Sibtain Medicose Street Near Markazi Imam Bargah Opp AK CMH MZD AK.

سپر لیب سبٹین میڈیکوز اسٹریٹ نزد مرکزی امام بارگاہ بالحقابل اے۔ کے، سی۔ ایم۔ ایچ

Ph: 46499

Not For Court
OR
Medicolegal Use

سپر لیب ہیلتھ سروسز

SUPER LAB HEALTH SERVICES
PATHOLOGY LABORATORY

Patient. Name: **Shakeel Khan Cook**

Lab #:45


Age / Sex: Years / Male

Date: 05-12-2012

Referred by: Dr _____

SEROLOGY

<u>Test</u>	<u>Result</u>
Thyphydot -----	Negative
Malarial Parasite	Not Seen
Dange ---- IGg	Negative
IGm	



M. Shabir Sharif
M.Sc Haematology
M. Phil(Microbiology)

Chemical Pathology	Haematology	Clinical Pathology	Microbiology	Histopathology	Serology	Hepatitis Profile
Mormones	Thyroid Profile	Immunoglobulins	Drug Levels	Tumor Markers	VMA	C3, C4

Sibtain Medicose Street Near Markazi Imam Bargah Opp AK CMH MZD AK.


سپر لیب سسٹین میڈیکوز اسٹریٹ نزد مرکزی امام بارگاہ بالقابل اے۔ کے بنگھا۔ ایم۔ ایچ، مظفر آباد (اے۔ کے)

Not For Court
OR
Medicolegal Use

Ph: 46499

Annexure D-2

Color Coding Inspection

	PROCEDURE	Doc. No	DTMS-HSE-PS004
	COLOR CODING	Rev. No	1
		Page	8 / 10

Attachment 2

Color Coding Tag

RED

January – March

GREEN

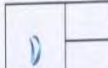
April – June

BLUE

July – September

YELLOW

October - December

	PROCEDURE	Doc. No	DTMS-HSE-PS004
	COLOR CODING	Rev. No	1
		Page	9 / 10

Attachment 3

Out of Service Tag




**Unsafe Equipment
Do Not Use !!!**

Issue No. : _____

Inspector : _____

Inspection Date : _____

 DAEWOO E&C	PROCEDURE	Doc. No	DTMS-HSE-PS004
	COLOR CODING	Rev. No	1
		Page	10 / 10

Attachment 4

Color Coding Inspection Record

Section:

S/N	Item	Control No.	Result			Inspector	Inspection Date	Remarks
			Good	Repair	Remove			
1	Drill machine	DM001	✓			Yasir Chori	11-12-12	
2	wood cutter machine	WCM002	✓			M. Saboor Khan	12-12-12	
3	Steel cutter machine	SEM003	✓			M. Saboor Khan	12-12-12	
4	Gas Jigsaw Machine	JM004	✓			M. Saboor	12-12-12	
5	Electric Pannel	EP005	✓			M. Saboor Khan	12-12-12	
6	Electric Light	EL006		✓		M. Saboor Khan	12-12-12	wire
7	Electric Light	EL007	✓			M. Saboor Khan	12-12-12	
8	Electric Pannel	EP008			✓	M. Saboor	12-12-12	
9	Electric Pannel	EP009		✓		Saboor	12-12-12	
10	Electric Pannel	EP010	✓			M. Saboor		
11	Gas Cylinder	GC011			✓			Gas Pipe

Annexure D-3
Sample Inspection checklist



SCAFFOLDING INSPECTION CHECK LIST

DATE: 09-12-2012

TIME: 3:10

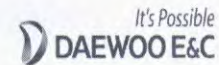
AREA: Weir site

LOCATION: Inlet

SAFETY INSPECTION ITEMS	YES	NO	REMARKS
1) PERSONNEL SAFETY GEARS			
a. Is every worker wearing a hard hat?	✓		
b. Is eye protection being used?	✓		
c. Is proper foot protection being worn?	✓		
d. Are gloves being used for hand protection?	✓		
e. Are safety belts / lifelines used at heights over 2 meters?		✓	N/A
2) ELECTRICAL			
a. Is wiring adequate, well insulated, and fused properly?	✓		
b. Are all equipment grounded?	✓		
c. Are all extension cords in good condition?	✓		
d. Are electrical danger signs posted?	✓		
e. Are electrical boxes equipped with required covers?	✓		
f. Is electrical leakage breaker being used?	✓		
3) SCAFFOLDING / ELEVATED WORK			
a. Scaffolding inspected and in good condition?	✓		
b. Is Slab edge protection being used?	✓		
c. Guardrails over 2m?	✓		
d. Are ALL voids and openings or edges protected?	✓		
e. Access ladder provided for all scaffolds?	✓		
f. Are there adequately support plates under all uprights?	✓		
g. Is Bracing used on main elevations?	✓		
h. Are scaffold tie backs used as required by Standard?	✓		
i. Is scaffold plumb and square?	✓		
4) LADDERS AND STAIRS			Wood Platform
a. Are all ladders used in safe manner?	✓		
b. Are sufficient ladders provided for the work?	✓		
c. Do side rails extend 1 meter above landing?	✓		
d. Are access ways clear of stored materials and debris?	✓		

Inspection By	Noted By	Approved By	Received By	Remarks
Yasir Ghauri	Jang Young Sik	Chaung Myung Hun		


Annexure D-3
Sample Near Miss Incident Report



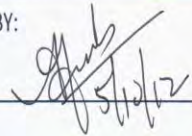
INITIAL INCIDENT REPORT

Name of Immediate Supervisor Mr. Choi / Kyung Dong		
1. Date : Oct 04, 2012	2. Time :	3. Location :
4. Type of Incident : Near Miss		5. Nationality : AJK (Pakistan)
6. Name of Involved Person : Mr. Atif	7. Job Title:	8. ID No.
9. Incident Detailed Description : <p>On October 4, 2012 Mr. Atif was monitoring the production of concrete at the batching plant. One of his tasks was to receive the "production slip" from the operator of the batching plant and deliver it to the concert mixer driver so that concrete mixer drivers could be allowed to take out the concrete from batching plant area. The place where Mr. Atif was standing during the operation of batching plant was covered with pile of wooden pallets which were placed with the wall vertically, and these wooden pallets were not fixed properly, due to the heavy blow of wind the wooden pallets felled down just behind Mr. Atif, It would have easily injured him if he was not just few steps away from it. These wooden pallets were heavy enough, which were able to cause any serious injuries. But fortunately Mr. Atif was just a few steps away from this collapse.</p>		
10. Witness of the Incident:		
11. Immediate Action Taken: <p>The HSE Department took notice about the incident, which was then communicated to the In charge and other worker on the site.</p>		
11. Corrective Action to be taken : <ul style="list-style-type: none"> • All the equipments should be properly placed, it should be ensured that that items which are placed will not fell down, and they will not damage any property. • If anything which is not properly placed if any of the employee is taking notice, should properly be placed by him. • During the heavy blow of air small items which can flow with the heavy air should not be placed in open air. 		

REPORTED BY:


Mr. Yasir Ghauri, HSE Engineer

NOTED BY:


Mr. Aftab Alam, HSE Manager

Annexure F-1
Daily Safety Manager Schedule



Daily Safety Manager
Monthly Schedule for Daewoo E&C Staff
(December 2012)

Date/Day	Safety Manager	Work Place	Remarks
1/12/2012 (Sat)			Weekend
2/12/2012 (Sun)			Weekend
3/12/2012 (Mon)	M. Saboor Khan	Upper Site	
4/12/2012 (Tue)	Athar Zubair	Lower Site	
5/12/2012 (Wed)	Muhammad Aslam	Upper site	
6/12/2012 (Thu)	Tae Hyo Kim	Lower Site	
7/12/2012 (Fri)	M Akram	Upper Site	
8/12/2012 (Sat)			Weekend
9/12/2012 (Sun)			Weekend
10/12/2012 (Mon)	Ahsin Gillani	Lower Site	
11/12/2012 (Tue)	Aftab Alam	Upper site	
12/12/2012 (Wed)	Majid Khan	Lower Site	
13/12/2012 (Thu)	Qazi Rashid	Upper site	
14/12/2012 (Fri)	Baek Jong Beom	Lower Site	
15/12/2012 (Sat)			Weekend
17/12/2012 (Sun)			Weekend
18/12/2012 (Mon)	Muhammad Ishfaq	Upper Site	
19/12/2012 (Tue)	Muhammad Shahid	Lower Site	
20/12/2012 (Wed)	Chaung Myung Hun	Upper site	
21/12/2012 (Thu)	Abdul Mannan	Lower Site	
22/12/2012 (Fri)			Weekend
23/12/2012 (Sat)			Weekend
24/12/2012 (Sun)	Malik Kashif	Upper Site	
25/12/2012 (Mon)			Public Holiday
26/12/2012 (Tue)	Israr Ahmed	Lower Site	
27/12/2012 (Wed)	Mushtaq Ahmed	Upper site	
28/12/2012 (Thu)	Song Kheeseon	Lower Site	
29/12/2012 (Fri)			Weekend
30/12/2012 (Fri)			Weekend
31/12/2012 (Sat)	M Rashid Awan	Upper site	

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Patrind Hydro Power PJ
 Project Manager
 Hee Sik, Shin



Annexure F-2

Daily Tool Box Talk Schedule

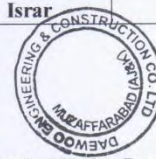


Camp Site Daily Tool Box Talk

(Weekly Schedule)

Date/Day		HSE Topic	Delivered by	Remarks
Week (10th -16th December 2012)				
10/12/2012	(Mon)	Electrical Safety	Ahsin Gillani	
11/12/2012	(Tue)	Environmental Management	Aftab Alam	
12/12/2012	(Wed)	Risk Assessment & Managment	Majid Khan	
13/12/2012	(Thu)	Site House Keeping	Athar Zubair	
14/12/2012	(Fri)	Fire Prevention and Protection	Yasir Ghauri	
15/12/2012	(Sat)			Weekend
16/12/2012	(Sun)			Weekend
Week (17th -23rd December 2012)				
17/12/2012	(Mon)	Concrete work safety procedure	Abdul Mannan	
18/12/2012	(Tue)	Excavation Work Safety	Muhammad Shahid	
19/12/2012	(wed)	Fall prevention and Protection	Muhammad Aslam	
20/12/2012	(Thu)	Confined Space Entry Procedure	Qazi Rashid	
21/12/2012	(Fri)	Importance of PPEs	Muhammad Ishfaq	
22/12/2012	(Sat)			Weekend
23/12/2012	(Sun)			Weekend
Week (24th -30th December 2012)				
24/12/2012	(Mon)	Fuel Storage and handling	Abdul Mannan	
25/12/2012	(Tue)			Public Holiday
26/12/2012	(Wed)	Waste Management	M Rashid Awan	
27/12/2012	(Thu)	Health Management	Khurram Javaid	
28/12/2012	(Fri)	Office Safety/Security	Iftikhar Rauf	
29/12/2012	(Sat)			Weekend
30/12/2012	(Sun)			Weekend
31/12/2012	(Mon)	Traffic Management	Israr	

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Patrind Hydro Power PJ
Project Manager
Hee Sik, Shin

Annexure F-3

HSE Monthly Plan




DAEWOO E&C

MONTHLY HSE PLAN

(PATRIND HYDRO POWER PROJECT)

December 2012						
Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
1	2	3	4	5	6	7
		Internal weekly Meeting(HSE Team)+ preparation of HSE Education Material	Meeting with Site construction team (Daewoo +Sub con staff) lower site + Preparation/submiton of Monthly & Weekly HSE reports to DEC Head Office	Seminar on Water Quality Control (Lower Site) + Water quality tests (River Jehlum)	Meeting with Site construction team (Daewoo & sub Con) Upper site	Inspection of electric system /appliances and identification of fire hazards (Upper site)
8	9	10	11	12	13	14
		Internal weekly Meeting(HSE Team)+ Tool Box Meeting on sites by HSE staff	Meeting with Site construction team (Daewoo +Sub con staff) lower site + Dissemination of HSE Education Material on both sites +submission of Weekly HSE reports	Moke Fire Drill + Emergency Evacuation Drill (Lower site)	Meeting with Site construction team (Daewoo & sub Con) Upper site	Inspection of heavy machines and vehicles + Inspection of electric system (Lower Site)
15	16	17	18	19	20	21
		Internal weekly Meeting(HSE Team)+ Tool Box Meeting on sites by HSE staff	Meeting with Site construction team (Daewoo +Sub con staff) lower site + submission of Weekly HSE reports	Training on Risk Assessment & Management + Moke Fire Drill + Emergency Evacuation Drill (Upper site)	Meeting with Site construction team (Daewoo & sub Con) Upper site	Inspection of heavy machines and vehicles + Health and hygiene of Kitchen staff(Upper Site)
22	23	24	25	26	27	28
		Internal weekly Meeting(HSE Team)+ Tool Box Meeting on sites by HSE staff	Public Holiday	Inspection of security arrangements + submission of Weekly HSE reports	HSE Annual Progress Review Meeting with construction team (Daewoo & sub Con)	Inspection of security arrangements + Health and hygiene of Kitchen staff(Lower Site)
29	30	31				
		HSE Annual Progress Review meeting (HSE Team)				

- ❖ As ongoing activity daily Tool Box Meetings will be held on both sites.
- ❖ Site inspection and monitoring of HSE status will be carried out repeatedly on daily basis
- ❖ Preparation of Monthly and Quarterly Environmental reports will be ongoing activity during the month.
- ❖ Daily & weekly HSE progress reports will be a consistent activity.

 DAEWOO E&C	MONTHLY HSE PLAN				PATRIND HYDRO POWER PROJECT	
NOVEMBER 2012						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			1	2	3	4
			Inspection of sites (focus on PPEs)	Lifting safety campaign (Preparation/installation of bruchers & banners)		
5	6	7	8	9	10	11
Inspection of explosive storage area (lower site)	Internal weekly Meeting(HSE Team)	Preparation/submission of Monthly & Weekly HSE reports to DEC Head Office	Site selection for camp site waste disposal area (Upper site)	Inspection of site Focus on Hazards identification (Lower site)		
12	13	14	15	16	17	18
Internal weekly Meeting(HSE Team)	submission of weekly HSE report to DEC Head Office	Preparation and submission of past weeks HSE data to Head Office	Site selection for camp site waste disposal area (Lower site)	Inspection of heavy machines and vehicles (Upper Site)		
19	20	21	22	23	24	25
House Keeping practices at camp & const.sites (staff & workers)	Moke Fire Drill	Health Management Training (Lower Site)	Meeting with sub con and site management (Upper site)	Inspection of heavy machines and vehicles (Lower Site)		
26	27	28	29	30		
House Keeping practices at camp & const.sites (staff & workers)	Meeting with sub con and site management (Lower site)	Environmental Awareness campaign (Lower site)	Inspection of electric system /appliances and identification of fire hazards	Inspection of security arrangements (Both sites)		

- ❖ As ongoing activity daily Tool Box Meetings will be held on both sites.
- ❖ Site inspection and monitoring of HSE status will be carried out repeatedly on daily basis
- ❖ Preparation of Monthly and quarterly Environmental reports will be ongoing activity during the month.
- ❖ Daily & weekly HSE progress reports will be a consistent activity.

Annexure F-4
Weekly HSE Meetings

DAEWOO E&C

WEEKLY HSE MEETING WITH SITE
CONSTRUCTION TEAMDATE AND TIME: 20th December 2012

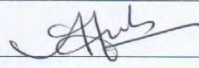

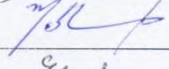
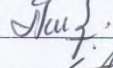
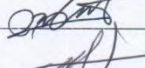
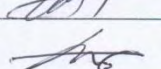
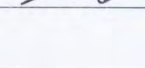
LOCATION: Upper Site Daewoo E&C Site Office

CONDUCTED BY: HSE Team JOB TITLE:

SUBJECTS DISCUSSED:

- (1) Education about (Plan-Do-check-Act) cycle.
- (2) Information about an incident that happened on another site runned by Daewoo E&C
- (3) inspection made by HSE - NO retrofitting
- (4)

ATTENDANCE

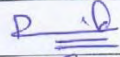

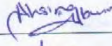



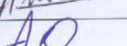

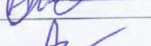
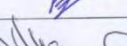
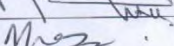
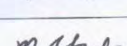
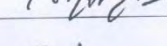
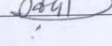

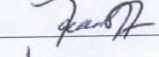


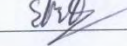
S/N	NAME	SIGNATURE
1.	Aftab Alam	
2.	Chung Myung Hun	
3.	Myung-hun Chung	
4.	Mushtaq Ahmad	
5.	Kashif Malik	
6.	Ol Dong H	
7.	El B H	
8.	El B H	
9.		
10.		

Annexure F-5
HSE Training Attendance Sheet

ATTENDANCE SHEET

Venue: HSE Training Hall

Date: 22 November 2012

Seminar on "Health Management"		Resource Person: M.Shabir Sharif	
	Name	Designation	Signature
1	Rashid	CAD Engineer	
2	Ammar Ikram	Network Engineer	
3	Ahsin MUMTAZ	Electrical Engineer	
4	Nadeem Ahmed Qureshi	Electrician	
5	Akash Shah	office boy	
6	Shahid Ahmed	plumber	
7	Hamid	office boy	
8	Aziz	office boy	
9	Adil	office boy	
10	Dilsher Shah	lab technician	
11	MUSHTAQ AHMAD	Coordinator	
12	Majid	Ecologist	
13	M. Shahid	Site Engr.	
14	ARIF Suba	Driver	
15	Maheshwar	HSE	
16	M. Shebani	Driver	
17	Jasir Ghani	HSE	
18	Shahzad	Driver	
19	Ahsin	office boy	
20	Shahzad	Driver	

Sr.No	Name	Designation	Signature
21	Asif Yaseen	second cook	ASIF
22	Lateef Abasi	cook	Qisk
23	Mubshar Janjua	HSE Asst	Qisk
24	Ather Zahir	Safety Engineer	Ather
25	Sahaleem	Office Boy	cook
26	M. Sateer	Office Boy	Qisk
27	Khushi Mohammad	Cook helper	Qisk
28	Naseem Hyazir	L.V. Driver	Qisk
29	Reraiz	Cook	Qisk
30	Aftab Alam	HSE manager	Aftab
31			
32			

ATTENDANCE SHEET

TOPIC : PPE Management DATE : 15/10/2012
 COMPANY NAME : Kyung Dong & Sangbo TIME : 10:00 AM
 SITE: Weir Site workers.
 CONDUCTED BY: Yasir Ghauri & Saboor Khan.

NO	NAME	SIGNATURE
1	Habom Din	ch. Hechuf
2	M. Zoman.	U. Lojia
3	M. E. m. s. m.	m. 9mRAM
4	Sajeel. or. Rahman.	Sajeel
5	Javed. AKhatr.	Javed
6	Javed iqbal.	Javed
7	M. Ejaz	M. Ejaz
8	Kharom shehzad	Kharom shehzad
9	Asad abbass	Asad abbass
10	m. j. f. m.	m. j. f. m.
11	m. asif.	m. asif.
12	Toqeer: shehzad	Toqeer: shehzad
13	Toqeer. Abbass-	Toqeer. Abbass-
14	M. Ramzan.	M. Ramzan
15	Tahir. Abbass	Tahir Abbass

HSE MANAGER SIGN: _____

SITE ENGINEER SIGN: _____