



Environmental & Social Monitoring Report (January to March 2013)

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

(JANUARY-MARCH 2013)



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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

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 March 2013 the physical progress achieved is 20.18% which is in accordance with the construction plans.

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: Designation: |  Syed Atif Ali Shah Manager HSE | Reviewed By: Designation: |  No Hyuk Park Deputy Chief Executive Officer |
| Approved By: Designation: | |  Waqar Ahmad Khan 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 |
|--|--|
| <ul style="list-style-type: none">Ensure compliance to NEQS and undertake mitigation measures suggested in the EIA report & EMP. Constitute Environmental/Post EIA Monitoring Committee and submit monitoring reports on quarterly basis and provide the copy of this approval and EIA report to the contractor for information and compliance activities. | Environmental Monitoring Unit has been established and mobilized on site after the issuance of Notice to Proceed to the EPC Contractor. Quarterly E&S monitoring report has been submitted to EPA AJ&K |
| <ul style="list-style-type: none">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 are compensated for the loss of agricultural land, trees and property as per the market rates/replacement cost. For unskilled jobs local are being employed and for skilled jobs they are being hired on priority basis as per the requirement and the qualification. Care is being taken not to disturb any of the public utilities. |
| <ul style="list-style-type: none">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. | Being complied in letter and spirit. |
| <ul style="list-style-type: none">For compliance of regulation 13, 14, 17 & 18 of IEE/EIA regulations 2000 which enunciate the conditions for approval. Confirmation of compliance, entry, inspection and monitoring of the proposed project. The site to install the asphalt plant and other machinery would be selected in consultation with the agency (AJK-EPA). The findings of quality analysis on regular basis should positively be shared. Also, the spoil should be dumped at pre identified location. | Being complied in letter and spirit. Selection of batching plant and dumping locations have been finalized in consultation with EPA-AJ&K. |

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

Shall be done if required.

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

| Condition | Status of compliance |
|--|---|
| <ul style="list-style-type: none">• Water in the pond created by construction of Patrind weir should be maintained at EI765m.amsl.Safety zone/adequate engineering measures should be provided to overcome fears of the residents regarding effects of pond to their houses. The level difference of 2 meter from765m.amsl to 767m will act safety zone so the owner of the land and housing structures falling within the zone should be compensated as per laid down procedure of compensation of the government. | <p>The Company has fulfilled the condition in letter and spirit as the operation level of the Project is at 765 masl. The Company acquired the land at the level of 767 masl as per the condition of the EPA. The additional 2 meters shall act as safety zone and the owners were compensated as per the procedure.</p> |
| <ul style="list-style-type: none">• 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 | <p>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.</p> <p>The roads near the project area are being maintained by the EPC contractor.</p> |

| | |
|---|--|
| <ul style="list-style-type: none">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. |
| <ul style="list-style-type: none">Separate NOC is required for batching/crushing plant. | NOC has been obtained from EPA KP for installation of batching plant near the weir site. |

b) Relevant Government Agencies

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).

- EPA Azad Jammu and Kashmir
- 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

After the issuance of NTP to EPCC on December 26, 2012 the pace of work has been expedited during the quarter. More frequent site visits by SHPL, Owner Engineer & EPC’s HSE staff on both sites have constantly been undertaken 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.

Non compliances with recommended standards and regulations were recorded and reported on daily, weekly and monthly bases through HSE reports and record has been maintained properly.

Following are common non compliances those have been observed and EPCC has been instructed to adopt all the recommended procedures in this regard.

| Sr. | Recorded Dates/ Location | Nature of non-compliance | Corrective Action | Non Compliance with | Media or Community Reaction |
|-----|---|--|--|-------------------------------|-----------------------------------|
| 1 | 11 th Jan 2013 Lowe Site | 02 labors were working at the edge of slope near the surge slope area without body harness. | 1) Labors were strictly advised to use body harness while working on height of 2 meters and above having fall hazards. 2) In the weekly meeting the construction team was informed for this unsafe act and unsafe working condition. | EMP/ IFC EH&S Standards | None |
| 2 | 14 th Jan 2013 Lower Site | At the junction of Adit Tunnel & HRT near power house area 03 workers observed extracting hard concrete with iron bar without any safety gears (gloves). | 1) Labour was instructed to use safety gloves. 2) It was communicated to EPCC not to allow the workers to work without safety gears. | -Do- | -Do- |
| 3 | 18 th Jan 2013 Weir Site. | At the inlet of the diversion tunnel a labour standing on single steel bar of the side wall of diversion tunnel. | 1) Work was stopped, and the labor was brought down from the side wall, warning notice was given to the worker for dangerous activity. 2) Construction team took the notice; it was made clear to all of the labours to use the body harness. | -Do- | -Do- |
| 4 | 28 th Jan 2013 Lower site | Fuel storage area was found contaminated by deposit of the fallen fuel due to unsafe way of extracting fuel from the storage tanks. | 1) EPCC HSE team was told to clean the area. 2) It was instructed to use safe method to extract the fuel from storage tanks. | EMP/IFC PS-3 | -Do- |
| 5 | 11 th Feb 2013 Lower Site | Dumper truck driver reversing dumper truck without helper and side mirror. | 1) EPC HSE team stopped the dumper truck and inquired about helper & side mirror. Construction team was instructed to install the side mirror as soon as possible and | HSE Policy/EMP | -Do- |

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| | | | | | |
|----|---|---|--|--------------------|--------|
| | | | helper should be available all the time during work. | | |
| 6 | 14 th Feb 2013 Weir Site | In the diversion tunnel electric cables were found to lying on the wet and muddy ground in an unsafe manner. | 1) Electrician was told to hang the electric wires with the walls of diversion tunnel. 2) During weekly meeting with the construction team it was suggested to post the proper wiring at the diversion tunnel to avoid of any accident. | IFC E&HS standards | -Do- |
| 7 | 16 th Feb 2013 Lower Site | Excavated material was being dumped on unapproved site on edges of surge shaft access road. | 1) Construction manager and his team were informed to ensure dumping on approved sites. | EMP | -Do- |
| 8 | 26 th Feb 2013 HRT (Lower site) | Compressed air pipe was found repaired posing a threat to workers. | 1) Notice sent to sub-contractor for immediate replacement.(C-1) | IFC EHS Standards. | -None- |
| 9 | 4 th March 2013 Weir Site | One of the sub-contractors was not following the standard procedure for waste disposal and creating environmental pollution in project and adjacent area. | 1) A letter sent to Project Manager of sub-contractor for proper disposal. | IFC PS-3/EMP | -Do- |
| 10 | 11 th March 2013 Lower Site | It was observed that excavator operator was dumping the excavated material in the non-designated area. Workers were burning waste material instead of using the provided trench. | 1) Letter was issued to the sub-contractor that spoil should be dumped only on designated site and trenches should be used for the waste material. | EMP | -Do- |
| 11 | 27 th March 2013 Weir Site. | During the inspection of heavy machinery it was noticed that many drivers and operators having invalid driving licenses. | 1) All the drivers and operators were informed to submit their valid driving licenses along with the original ID card. | HSE Procedures | -Do- |

D. Incidents of Environmental and Safety Accidents

a) Environmental Accidents and Mitigation

With exception of minor soil contamination no reportable environmental accident such as extra ordinary emission or oil spill had been observed. Preventive and remedial actions were undertaken with regard to minor incidents. As recommended by Owner Engineer, fuel storage areas have been maintained appropriately and relocated to mitigate risks of contamination. Waste collection mechanism has been improved as more collection bins are placed on sites.

b) Health and Safety Accidents and Mitigation

Incidents recording extend to all workers/staff working for sub-contractors and on rented vehicles/machinery. No reportable health incident happened during the quarter except an unfortunate “Fatality” incident occurred on 9th February 2013. An investigation report has been submitted by EPCC (annexed in précised form as **-D-1**). The summary of accidents encountered till 31st March 2013, is as follow:

| Incident | Frequency | Description | Media or Community Reaction |
|----------------|-----------|---|--|
| Fatality | 1 | Annex-D-1 | Incident was reported by electronic and press media. |
| First Aid Case | 2 | 1. On February 16, 2013 at 10:30am Mr. Haq Nawaz (Sub contractor’s worker) was assigned to work on stock yard slope. While passing near the steel (fence) sheets got his hand injured with the screw. Mr. Hasham (another worker) immediately sent the injured to the site medical room for first aid. He was discharged after initial treatment. All the workers at site were oriented with hazard analysis. It was recommended to the labor to work safely, and a tool box meeting was conducted with the labor. | None |
| | | 2. On March 11, 2013 at 09:45AM, the concrete work was being carried out on inlet portal, where an excavator was in operation with the help of signaler. M. Asif (Transit Mixer Helper) indicated Mr. Adil Hussain Shah (Excavator Operator) to turn the shoot of transit mixer to left side. While turning the shoot as instructed, Mr. Asif got injured as the shoot struck on the chest. He was immediately sent to Kunhar Hospital Garhi habibullah for first aid. After detailed medical examination he was discharged from hospital and sent back to job after an orientation on safety measures. | None |

| | | | |
|--|----------------------------|--|------|
| Near Miss | 3 | 1. On February 25, 2013 at 01:40PM during concrete lining at the diversion tunnel all workers were working at upper portion of lining form and some of them were hammering the lining form to move concrete at bottom level. Suddenly a chunk of concrete fell down. Fortunately, nobody was passing under falling concrete. It was instructed to the labor not to move under lining form during concreting and the sub-contractor was further directed to execute the work in safe environment to avoid any incident. | None |
| | | 2. On March 07, 2013 at 02:20PM, the drilling work was being performed with a jumbo machine, suddenly the rock material slide towards the area. At the moment, two helpers were standing beside the Jumbo Machine. All the operators and helpers remained safe, but right boom of machine broke by the compression of rock material and left boom liver became oblique. | None |
| | | 3. On March 25, 2013 at 09:50AM, loader operator was doing his job and suddenly the loader slipped back from aggregate yard to batching plant railing. At that time batching plant operator was not on job. Due to incident only railing got damaged. A warning letter was issued to loader Helper and an urgent tool box meeting was arranged regarding heavy machinery operating hazards. | None |
| Environmental incident/ Property damage | None | None | None |
| Medical Treatment Case / Routine Checkup (these cases are seasonal diseases like nausea, flue and cough, headache etc.) | 60 (flue, cough and fever) | 26 cases registered at lower site (D-2) and 34 persons visited upper site medical room. | None |



Total number of man-hours without LTI during quarter = **154900**

Mitigation Measures:

- ✓ EPC HSE Management System has been improved during quarter with more effective monitoring and reporting.
- ✓ To avoid any incident, machinery and electrical appliances are being inspected to ensure their fitness through color coding system.
- ✓ Job Safety Analysis and Risk Assessment have been conducted during quarter.
- ✓ EPC HSE Staff has been strengthened for more effective monitoring and to improve performance.
- ✓ Project specific policies have been further strengthened and disseminated to all staff and workers by EPCC.
- ✓ Availability and use of PPEs have been improved.

EPCC's and Owner's Engineer's (OE's) HSE department continuously indicates corrective actions for further compliance. Instructions made by Owner Engineer, the Company and Lenders are being followed accordingly. In compliance with HSE plans, procedures and policies various corrective actions have been undertaken during quarter and subsequently been reported in weekly monthly and quarterly reports.


Color Coding/Inspection:

To avoid any incident, machinery and electrical appliances are being inspected to ensure their fitness through color coding system. Sample checklists are attached as **(D-3)**.


EPCC's internal site inspection is an ongoing activity and being monitored by the OE, the Company and periodically by Lenders.



To avoid any Heavy Machinery/ Vehicles accident, licenses and required documents are being checked regularly and a registration card is being issued to each driver.



Registration Certificate

| | | | |
|------------------------------------|-------------------------------|--|-----------|
| Issued No. | PPHP-HSE-001 | Driver's Name | Haq Nawaz |
| Vehicle's Class | TM DRIVER | License No. | 14852 |
| Vehicle's No. | | Driver's ID No. | |
| Submitted Document | Equipment Insurance () |  | |
| | Equipment Register () | | |
| | Equipment Drivers License () | | |
| Inspection Available Period | | | |
| Insurance Period | | | |

1. Don't smoke when working is in progress.
 2. Don't use Cellular Phone while working.
 3. Don't operate Heavy Equipment vehicles under the influence of drugs and alcohol.
 4. Inspect your vehicles 1st before operating.
 5. Authorized person only can operate the Heavy Equipment vehicle.
 6. Don't remove safety device of the vehicle.
 7. Always use out rigger while lifting.
 8. Observed the speed limit & use the permitted road.
 9. Always observe and obey safety rules and policies.

Attach this card in visible place (windows)



Registration Certificate

| | | | |
|------------------------------------|-------------------------------|--|----------------------|
| Issued No. | PPHP-HSE-002 | Driver's Name | Ateeq Ur Rehman |
| Vehicle's Class | TM Operator | License No. | 82401-5623626-5#1154 |
| Vehicle's No. | | Driver's ID No. | |
| Submitted Document | Equipment Insurance () |  | |
| | Equipment Register () | | |
| | Equipment Drivers License () | | |
| Inspection Available Period | | | |
| Insurance Period | | | |

1. Don't smoke when working is in progress.
 2. Don't use Cellular Phone while working.
 3. Don't operate Heavy Equipment vehicles under the influence of drugs and alcohol.
 4. Inspect your vehicles 1st before operating.
 5. Authorized person only can operate the Heavy Equipment vehicle.
 6. Don't remove safety device of the vehicle.
 7. Always use out rigger while lifting.
 8. Observed the speed limit & use the permitted road.
 9. Always observe and obey safety rules and policies.

Attach this card in visible place (windows)

HSE Audit:

First internal HSE audit was conducted by Daewoo E&C Head Office audit team from 16th to 20th March 2013. All HSE documents were meticulously reviewed and a thorough site inspection was made by said team. Audit report is attached as **(D-4)**.

Summary of the HSE Audit is as under.

The project site has been completing actions to develop and continuously implement health, safety and environmental management system documentation and establish a structure that will support its implementation. As mentioned below;

- Environmental & social monitoring report submission

- Commitment of top management (project manager) to establish a safety culture through participation in the toolbox meeting.

However, there are still lapses in the implementation of HSE Management system that needs to be addressed. Aspects in the project's management system and compliance program that require improvement are the following;

- Establishment and implementation of HSE management procedure
- Establishment of risk assessment and permit to work system
- Implementation and documentation of inspection program
- Provision of necessary HSE and specialized trainings (work at height, lifting and rigging work, scaffolding, and electrical safety and energizing isolation etc.)

Implementation and verification of the effectiveness of corrective actions regarding the fatal accident happened last 9 February, 2013



Inspection of documents and site (Daewoo Head Office HSE Audit Team)

E. Labor Relations and Conditions

(i) Nature of labor dispute or grievance

During last week of March 2013 at power house site, about 50 labourers remained on strike for enhancement in overtime and weekend work payment. Kyung Dong the sub-contractor resolved the issue amicably while fulfilling demands at reasonable level. Hence, strike ended and labour resumed their respective jobs. The detail of their demands and conclusion is as under;

- i. Sunday should be a paid holiday

- ii. 20% annual increase in salary
- iii. To be permanent employees of company

Previous daily rate was Rs.465/-and over time was 77.5/- per hour. New daily rate is Rs.537/- and overtime is Rs.76.7/- per hour

Sub-contractor has been asked that daily rates must be higher than local prevailing rates i.e. approx.Rs.400/per day in AJK, whereas complainants were already getting more than the prevailing rates. Kyung Dong is paying according to the labor law and overtime is being paid more than the normal rates.

This issue was solved by Kyung Dong with coordination of Daewoo E&C, labour representatives and government authorities of AJK like “Assistant Commissioner on 27-03-2013 and “Chairman Development Authority on 30-03-2013” facilitated the negotiation. All communication between Kyung Dong and labors representatives held in a very peaceful and friendly environment. Kyung Dong has not forced labors to work on Sunday. Labors have choice to work or take holiday, if they work then will be paid as per practice. After final discussion with labor representative dated 01-04-2013 labor resumed work from 02-04-2013 with increased daily wage rate as mentioned above.

(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, EPCC’s HSE staff and site Construction Manager are authorized to record, investigate and address it appropriately.

To address any dispute or work related complaint received from staff /workers. An internal Grievance Redressal Committee (GRC) has also been formulated with following composition:

- i. Planning Manager (Korean)
- ii. Admin Manager (Local)
- iii. HSE Manager (Local)

Committee 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.

(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, EPCC HSE team and Company's HSE department continuously indicate corrective actions for further compliance by construction team.

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

Maximum staff/workers have been accommodated in the base camp at power house site. As majority of workers are local residents hence do not need accommodation. At Upper site, buildings have been hired for accommodation of staff & labor. The living conditions are up to merit with all necessities.

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

The EPC contractor:

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



RENTED ACCOMODATION (WEIR SITE)



WASHROOMS CONSTRUCTED FOR SITE LABOUR



UPPER SITE CAMP UNDER CONSTRUCTION



UPPER SITE CAMP UNDER CONSTRUCTION

(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 the 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/workers do not need housing in the project base camp. |
| (i) 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. | Considerable number of unskilled jobs has been provided to nearby communities (Alda, Thori, Patrind, Tarcheela, Sarati, and other adjacent localities). Also preference has been given to local people for skilled positions. |
| (a) 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 | All regulations have been in implementation. |

| | |
|--|--|
| legal rights. | |
| (b) The Contractor shall require its employees to obey all applicable Laws, including those concerning safety at work. | Site HSE status has been improved due to regular instructions and corrective measures. |
| Working Hours | |
| No work shall be carried out on the Site on gazetted holidays, or outside normal working hours, unless: (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. | Work has been carried out on weekends with the consent of concerned staff/labour. |
| 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. | Being implemented in letter and spirit. |

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

In February 2013, two medical rooms have been established on upper and lower sites.



Qualified male nurse and a lady doctor have been engaged at upper and lower sites. Medical staff has been placed on full time basis in the both sites of the project.



Two ambulances have been rented from Pakistan Red Crescent Society to deal any emergency at the site until new ambulances are procured by EPCC which is in process.

(ix) Implementation of local labor standard

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

(x) Local Employment Status:

| Staff | Male | Female | Total | Industry Rate or Local prevailing Wage Rate | Actual wage paid (can be exact or in range) |
|----------------|------|--------|-------|---|---|
| 1.AJK | | | | | |
| Skilled Labour | 23 | None | 23 | Rs.650/= (Per day) | Rs.(800-1000) (per day) |

| | | | | | |
|-----------------------------------|------|------|------|-----------------------------|---------------------------------------|
| Unskilled labour | 40 | do | 40 | Rs. 350/= (per day) | Rs.465/= (per day) |
| Other Staff | 63 | 01 | 63 | As per demand / negotiation | Higher than the local prevailing rate |
| 2.KPK | | | | | |
| Skilled | 08 | None | 08 | As above | As above |
| Unskilled | 10 | do | 10 | -Do- | -Do- |
| Other Staff | 15 | do | 15 | -Do- | -Do- |
| 3.Other nearby communities | | | | | |
| Skilled | 10 | do | 10 | -Do- | -Do- |
| Unskilled | 25 | do | 25 | -Do- | -Do- |
| Other Staff | 24 | 01 | 24 | -Do- | -Do- |
| 4.Migrants | | | | | |
| Skilled | 18 | None | 18 | -Do- | -Do- |
| Unskilled | None | do | None | -Do- | -Do- |
| Other Staff | 26 | do | 26 | -Do- | -Do- |

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 during the quarter. Daily one staff member from different departments had been designated as Safety Manager to visit and report the HSE status on assigned site.

ii. **Degree of awareness of: (i) Environmental Management; (ii) Health and Safety**

During the quarter project specific HSE policies covering different aspects have been further strengthened and disseminated to all staff and workers in local language. Out of 10 policy statements, two sample papers are annexed as "F-1"

HSE Weekly Meetings:

During quarter as per EPCC's monthly HSE Plan weekly internal meetings and meetings with site construction teams have been regularly conducted on both sites (F-2).



HSE Weekly Meetings (Internal & with construction team)

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 /Campaign/Awareness Raising Programs Carried Out During Quarter:

| Sr. | Training | Date | Target Group/Location | Purpose /Objectives |
|-----|---|------------|--|---|
| 1. | Zero Accident Safety campaign | 02/01/13 | Workers/ Staff (lower site & Upper site) | To make the project accident free Plan attached (F-3) |
| 2. | Safe Driving & Traffic Management | 09/01/13 | Drivers (lower site) | To minimize the risk of accident during construction activities |
| 3. | Safe Driving & Traffic Management | 10/01/13 | Drivers (upper site) | --do-- |
| 4. | Safe work campaign | 07/02/13 | Workers/ Staff (upper site & Lower site) | To raise the awareness level of workers/staff regarding safety. |
| 5. | Post incident Education Session | 12/02/2013 | Batching Plant Staff/workers Upper & Lower Site | To eliminate risk of incidents in futures |
| 6. | Lifting safety Campaign & HSE Award Ceremony (F-4) | 08/03/2013 | Workers/ Staff (upper site & Lower site) | To raise the awareness level of workers/staff regarding safe lifting. |
| 7. | Workshop on “HSE Audit” | 20/03/2013 | Project Management | To improve the HSE Management System |
| 8. | Seminar on Infectious/Seasonal Disease (F-5) | 28/03/2013 | Camp Office Staff (Lower site) | To prevent infectious and seasonal diseases at all project sites. |

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. However, site specific modifications have been made in manual.



Safety Induction Training:

Besides aforementioned training programs for new workers safety induction training has been an ongoing activity by EPCC's HSE staff during reporting period. As part of EMP Monitoring Plan all staff and workers before starting their respective jobs have been given induction training as per "Induction Performa" recommended in EMP document (F-6).

Tool Box Meetings : (Daily on both sites)

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

Tool Box Talks/Daily Safety Manager:

From December 2012 a series of daily “Tool Box Talk” regarding HSE has been started by EPCC focusing on different HSE topics. Each Staff person has also been assigned job of daily Safety Manager to visit site and report safety status (F-7).

Awareness Raising Material/Campaign:

Sign boards have been placed by EPCC on appropriate locations for awareness of the workers and community. In addition brochures regarding information of environmental and social aspect have also been disseminated to increase the level of staff/worker understanding. Safety campaign as part of EPCC’s monthly HSE Plan has been conducted during quarter.



Daily Education/Training on site:

During frequent site visits it has been observed that education/training is an ongoing activity that certainly enhanced and promoted safety culture on sites. Moreover, during inspection of equipment and color coding activities workers and relevant staff has also been educated appropriately.



Tool Box Meetings and Safety Induction Training



Special Education sessions for batching plant staff (Upper & Lower sites)

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

Continuous capacity building initiatives including more specific trainings on environment and social management are required for staff and labour. HSE department of EPC contractor 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. As a result of training needs assessment and to enhance the capacities of the staff and labour following training program are recommended:

| Sr. | Training | Purpose/ Objectives | Priority | Time Line |
|-----|---|---|----------|-----------------------|
| 1 | Trainings for Heavy machinery/vehicle operators | <ul style="list-style-type: none"> Orientation on new vehicles (to be functional in April 2013) To ensure safe work and safe movement on construction sites | High | April 2013 |
| 2 | First Aid Trainings | <ul style="list-style-type: none"> To equip staff and workers with knowledge of First Aid to deal with any incident proactively. | High | April, May, June-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 | May 2013 |

During the reporting period, EPC conducted Coordination meetings with Pakistan Red Crescent Society (PRCS). As a result of meetings PRCS management agreed to provide First Aid Training to EPC workers twice in each month.

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. Coordination meetings were conducted during the quarter with the government line departments including:
 - Development Authority Muzaffarabad (DAM)
 - District Administration,
 - Electricity Department,
 - Hydro Electric Board,
 - Private Power Cell
 - Environmental Protection Agency (EPA)

- In order to maintain good relations during the construction and to enhance the local economy, 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. But mostly direct communication has been preferred by the locals instead of using complaints box. During the quarter following exception no new considerable Complaints have been received through CCB and other sources.

| Nature of Complaints | Action Taken |
|--|---|
| A structural damage during blasting .02 complaint received are annexed as G-1 . | <p>Pre blasting survey carried out in all adjacent villages of upper site including Patrind, Tarcheela and Sarati. The team conducted the survey was composed of AJK EPA, Public Works Department, Sub Contractor, EPC and SPC representatives. Survey was completed in the first week of March 2013. (Annex-G-2) Whereas at lower site in village Alda houses survey has been started on 28th March 2013.</p> <p>All the owners of the land/assets/trees have already been compensated but some of adjacent households were interested that their houses and land should also be acquired despite the fact that no more land was required for the project. A mud-made cattle shed was found damaged but during recent survey it was noted that said structure was constructed before 2005 earthquake that had shattered entire vicinity of the project. Apparently no house/structure damaged due to blasting activity in tunnel as there is a considerable distance. The survey was conducted due to the increase in the complaints of the local residence to avoid any misunderstanding.</p> <p>EPCC and SHPL HSE team is in constant and close liaison with adjacent local community and frequent visits have been carried out to inform each household every time before blasting.</p> |
| Additional land | <p>The land required for the Project has already been acquired and the payment of such land/asset/trees has already been deposited in the government treasury which has subsequently been paid to the owners. The complaint launched is regarding the additional land adjacent to powerhouse which was not required for the project but locals pressurized the revenue department that their land should also be acquired because of the fact the owners whose land was acquired received handsome amount for their land/assets/trees. This was deferred by district administration Muzaffarabad due to illogical and unnecessary acquisition which was initiated on the demand of some of the complainants.</p> <p>A notification under section 4 was issued with regard to acquisition in 2011 which has already been expired. Owners are entitled to utilize their land and it had subsequently been communicated to them.</p> <p>Powerhouse area has already been fenced and aforementioned land is situated outside the boundary.</p> |

| | |
|--------------------|--|
| Seeking Employment | Skilled /unskilled persons from local community have been employed by PEC during reporting period (G-3). None of qualified person among PAPs has been refused against any relevant available job. SHPL, EPC contractor and its sub-contractors are doing their best in employing the locals as per the requirement and the qualifications. The village wise detail is given in the annex-G-3 |
|--------------------|--|



House Survey Team consulting local community before starting survey in Alda village.



“News clipping of EPC’s meeting with Chairman DAM on 7th Feb.2013”

| Activities under Social Uplift Plan | Status |
|--|---|
| <ul style="list-style-type: none"> Provision of water supply to Patrind village | Natural spring water supply scheme is near to completion to Patrind village in order to ensure access to safe drinking water. |
| <ul style="list-style-type: none"> School Support & Social Uplift | School located at Sarati village (Deedal) will be functional by making of roof, doors, windows and etc. Roof is already completed as below and doors, windows are ready to install. It will improve the condition of school and make good relationships with villagers. |

| | |
|--|---|
| <ul style="list-style-type: none"> Construction of fence for community safety | To ensure community safety at both sites (Upper & Lower) proper fencing has been done around project area. Moreover two households were provided with fence to ensure their privacy and safety. |
| <ul style="list-style-type: none"> Development Scheme for Medical Treatment, | Medical facility established at power house site which is available to local community as well. |



Before EPC's intervention



After EPC's support

School at Sarati (Deedal)

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

Both SHPL & EPC contractor 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.

- On demand of local community and in collaboration with Provincial Earthquake Reconstruction & Rehabilitation Agency (PRRA) KPK a school building was completed in Deedal Mera village near Weir site.
- Fencing work at weir site has been executed by a local sub-contractor KEC.
- Water supply scheme was also completed by Zubair Abbasi & Co which is also a local company.
- Damaged portion on access road at lower site has been rehabilitated on demand of Local Action Committee (comprising representatives of adjacent villages).

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, SHPL and the EPC have proposed five comprehensive environmental development programs as part of social uplift program:

- Water supply of Sarati village using the well of the construction camp is under development.
- Water supply of Park area using the well at the disposal access road had been developed.
- Water pipe line had been developed from existing water tank to Sarati village.

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

Hiring and procurement policy and procedures have been devised but have yet not been approved. Therefore, hiring and procurement of goods and services by EPC contractor 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

EMP was prepared as per the guidelines established by the ADB and IFC guidelines on EHS and Performance Standards. EMP aims to provide 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 EMP including the frequency for the assessment of various parameters. To manage the environmental issue appropriately, following three sub plans have been developed and are being implemented by EPC contractor 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. Partial compliance, as dumping on unapproved sites has been observed.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 with few exceptions.iii. Hired buildings for staff and labour having sanitary system. Camp at lower site with sanitary system as per required standardiv. With minor exception no reportable oil and lubricant contamination occurred |
| c. Plan for Traffic Management | <ul style="list-style-type: none">i. Speed limit controlledii. 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 areavi. Site specific traffic control Plan is prepared in the light of EMP. |

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

| Environmental component | Standards (NEQS) | Compliance/Mitigation measure |
|--------------------------|--|--|
| i. Air Quality | EPA ambient air quality (EPAs standards for each Parameter) | <p>NEQS: To detect confined space gaseous concentration, gas detectors are being used (H-1).</p> <p>Quality of air in project vicinity has yet not been analyzed 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. Water is being sprinkled at least twice a day on unpaved roads. Same is being done on construction areas regularly to control the fugitive dust and particulate matters. 2. To limit pollution from dust and any wind-blown materials during construction, including water sprinkling on regular basis. 3. Use of ventilator in HRT has been recommended essential and now is regularly monitored daily. Protective masks have been issued to tunnel workers, and other dusty sites. |
| ii. Water quality | WHO Guidelines (EPAs standards for each Parameter) | <p>NEQS: Tests for drinking water quality have already been conducted. However to assess the impacts on upstream and downstream of river Jhelum EPA-AJK has been requested to conduct the requisite tests.</p> <p>Waste water originating from batching plants at lower sites includes polypropylene fibers, additives may result in nearby river contamination, therefore, plant staff (QA/QC department) has been strictly asked to develop a mechanism of treatment and immediately construct sedimentation tank and other feasible techniques.</p> <p>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.</p> |

- | | | |
|--|--|--|
| | | 1. Septic tanks have been installed with new constructed toilets at construction sites to mitigate water and soil 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. The results are as under; <ul style="list-style-type: none"> ✓ Day time (7 a.m-5 p.m) average 75dB/ 85 dB with suppression plan ✓ 65dB (5 p.m -9 p.m) and ✓ 55dB (9 pm-7a.m) Provision of necessary safety and PPEs such as ear plugs, ear muffs etc. are ensured during high noise activities like tunnel blasting. Excavators and all heavy machines are lubricated regularly to minimize the noise <p>Vibration:</p> <p>A pre blasting survey has been carried out to maintain control blasting on both sites. Blasting checklist is used by HSE staff. Community representatives were consulted before the activity. Before each blasting residents were informed verbally and through a leaflet (English & Urdu) disclosing blasting plan, impacts, preventive measures etc. attached as (Annex-B)</p> |
| iv. Soil quality | <p>EPA quality standard</p> <p>(Different standards for each Parameter)</p> | <p>Tests to be conducted</p> <p>No environmental incident except small soil contamination has been observed at fuel storage area, lubricant change facility and non-paved area has been rectified by collecting and properly disposing off the contaminated top soil in the excavated material disposal area. As many new vehicles and machinery is arriving on sites therefore to mitigate localized soil contamination proper workshop area with concrete pad has been recommended and same for fuel storage area shall be developed.</p> |
| v. Flora | <p>Visual observations by Forest professional</p> | <p>To rehabilitate, tree plantation shall be carried out as per EMP recommendations post construction phase in project vicinity at all suitable sites and will be ensured during the annual tree plantation campaign by the</p> |

| | | |
|------------------|---|--|
| | | Forest Department. During construction phase on sites where construction works will be completed proposed activity shall be executed, however no additional land acquisition is required for this purpose. |
| vi. Fauna | Observation by relevant wildlife & Fisheries professional | No endanger species found. No considerable disturbance to aquatic life. |



Detection of Gaseous concentration in HRT

vii. **Waste generation and management**

a) Generation:

The solid waste generated during the reporting period has randomly quantified. Different types of waste produced at sites are as follow;

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

iii. **Food Waste**

| Description | Tetra packs (Kg) | Plastic Bags (Kg) | Paper (kg) | Metal (Kg) | Vegetable + Food (Kg) |
|------------------------|-------------------------|--------------------------|-------------------|-------------------|------------------------------|
| Local mess both sites | 3.00 | 1.00 | 2.50 | 2.00 | 20.00 |
| Korean mess both sites | 3.00 | 1.00 | 2.50 | 2.00 | 15.00 |
| Offices both sites | 2.00 | 1.00 | 10.00 | 2.00 | 5.00 |
| Sub Total | 8.00 | 3.00 | 15.00 | 6 | 40.00 |
| Total | 72 Kg | | | | |

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

Use of 19 liter re-useable mineral water bottle has been increased as water approximately 1000 bottles are being purchased monthly. Also, water dispensers and water coolers have been placed on main locations. Use of ½ liter bottle is reduced and has been limited to while travelling outside the project

b) Management

The waste produced is properly managed at sites. Each site is provided with dustbins for collection of waste material. The collected waste is properly disposed off trenches in excavated material disposal areas are used for organic/degradable waste, however, some time it has been noticed that waste material was not properly managed. Thus concerned staff/workers have been strictly instructed to dispose-off in unapproved sites in an inappropriate manner. For more efficient waste management more trainings and education sessions for project staff and workers have been planned and concerned authorities like EPAs and Local Municipal Corporations have also been contacted for the purpose.



viii. Occupational health and safety

Personal Protective Equipment (PPEs) 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 comprising of hard hats, safety shoes, jacket, and sand dust masks depending upon the job specification to prevent injuries.
2. Safety sign boards have been installed at different locations. Special safety measures are being adopted for tunnel workers.



3. Numerous tool box meetings have been held on issues related with occupational health and hygiene.

4. As routine practice, morning physical exercise has also been undertaken regularly at both sites.
5. The EPC Emergency Response Plan for any unforeseen incident exists. Emergency contacts and response procedures placed at each site also in Urdu translation.

ix. Community safety health and security

1. Warning sign boards have been placed on both sites indicating construction hazards to protect community and their livestock. Also, project area is now more appropriately fenced at upper site and partially at lower site.
2. Pre blasting survey of adjacent villages has been carried out to assess possible structural damages and to maintain controlled blasting.
3. Medical facilities available at project sites may also be used for nearby community in case of emergency and as and when needed.
4. The EPC staff conducted site health, safety and security monitoring on daily basis.
5. A strong liaison is established with concerned Government Departments for arranging site security arrangements.
6. 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.

For Patrind village, water supply pipe lines were re- routed permanently at weir site before start of construction work. Length of newly installed pipeline is 800 meter. No additional land was required for the activity.



Both sites are being fenced to secure project vicinity

x. CO2 emissions by the Project:

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

| Sources of CO2 emission | Mitigating/ Preventive Actions |
|---|--|
| Use of excavation machinery | Machinery in operation is in good condition hence mitigating the potential source of emission of CO ₂ in the atmosphere. Regular tuning/servicing of the machinery, again mitigating the potential source of CO ₂ evolution. |
| Tree removal | Removal of trees on construction sites will certainly increase the concentration of CO ₂ in the Project Site atmosphere. 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 accumulation of CO ₂ in the atmosphere. To avoid improper dumping of waste, a Waste Management Plan has been established and 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 in the atmosphere. 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

Status of IFC E&S Action Plan

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

Environmental & Social Monitoring Report (January-March 2013)

| PS | Action | Verification | Timeline | Status |
|-------|---|--|--|---|
| PS1-6 | Public hearing by Khyber Pakhtunkhwa (KP) EPA and Environmental Approval | Minutes of public hearing by KP EPA and a copy of Environmental Approval | Prior to IFC's financial commitment | EPA KP issued Environmental Approval on April 14, 2011 |
| PS1-7 | Submit final arrangement of the electricity transmission from the Project to the NTDC's grid connection point | Summary description of the final arrangement and copy of the EIA for the NTDC's transmission line | To be discussed | Will be done once the arrangement is finalized |
| PS2-1 | SHPL establish and implement HR policies and procedures compliant with IFC PS2 requirements. | HR policies and procedures manual | Prior to first disbursement of IFC financing | HR policy of SHPL is already there and the procedures laid down are being followed properly |
| PS2-2 | Ensure direct and contract employee's familiarity with rights and protections under applicable labor laws. | Posting of relevant clauses of applicable labor laws in Urdu in areas where employees and contract workers congregate as confirmed by EMU and Lender's Engineer. | Prior to start of construction (issuance of EPC contractor's Notice to Proceed). | Being done as per the requirement |
| PS2-3 | Ensure that the construction labor camp has appropriate and adequate accommodations, health and sanitation facilities, cooking and recreation facilities and security for the construction workforce. | A copy of the EPC Contractor's design document; confirmation of EMU and Lender's Engineer. | Prior to start of construction (issuance of EPC contractor's Notice to Proceed). | Being done as per the requirement |

Environmental & Social Monitoring Report (January-March 2013)

| PS | Action | Verification | Timeline | Status |
|-------|---|---|--|--|
| PS2-4 | Ensure standards for labor health and safety (construction and operational phases) are consistent with IFC's Environmental, Health and Safety General Guidelines. | Provisions of EPC and O&M contracts that reference international industry best practice with regard to construction and O&M working conditions and OHS. | EPC contract: prior to first disbursement of IFC financing. O&M contract: prior to start of operations. | EPCC has prepared health & safety plan which is also part of the EPC contract executed between the Company and EPCC. |
| PS3-1 | Prepare and implement Emergency Response Procedures for construction phase and operational phase | Copies of the Emergency Response Procedures | Prior to start of construction (issuance of EPC contractor's Notice to Proceed), and prior to commissioning of the Project | EPCC has prepared Emergency response procedures and also being implemented which are part of the EPC contract executed between the Company and EPCC. |
| PS4-1 | Prepare and implement a construction traffic management plan. | Plan prepared; training delivered; safeguards in place as reported by EMU and Lender's Engineer. | Prior to start of construction (issuance of EPC contractor's Notice to Proceed). | EPCC has prepared a traffic management plan and also being implemented which is part of the EPC contract executed between the Company and EPCC. |
| PS4-2 | Develop an Emergency Management Plan covering all contingencies related to Project construction and operations with relevant local authorities. | Plan prepared as confirmed by Project Management/EMU and Lender's Engineer | Prior to first disbursement of IFC financing. | EPCC has prepared Emergency Management Plan and also being implemented which are part of the EPC contract executed between the Company and EPCC. |

| PS | Action | Verification | Timeline | Status |
|-------|---|--|---|---|
| PS4-3 | Establish standard operating procedures for alerting local communities about blasting during construction and downstream releases of water from diversion structures during construction and operations. | EMU and Lender's Engineer confirmation | Prior to start of construction (issuance of EPC contractor's Notice to Proceed) | EPCC has prepared operating procedures for alerting the communities about blasting and downstream release of water and also being implemented which are part of the EPC contract executed between the Company and EPCC. |
| PS5-2 | <p>Payment of agreed compensation to all individuals/families directly affected by the Project's permanent or temporary land acquisition.</p> <p>Confirm that all individuals/families that have been physically displaced by Project land acquisition have not suffered impairment of their livelihoods.</p> | <p>EMU confirmation of payments</p> <p>Follow-up socio-economic study of those individuals/families permanently displaced.</p> | <p>Prior to start of construction (issuance of EPC contractor's Notice to Proceed).</p> <p>Prior to commissioning of the Project.</p> | The payment to the owners is still in progress and the confirmation will be provided once the disbursement of payment is completed. |
| PS6-1 | Release minimum 2 m ³ /s of water from the weir as Reserved Flow constantly to Kunhar River. | Actual "Reserved Flow" data to be included in the Annual Monitoring Report (AMR) to be submitted to IFC | Annually as part of the AMR | Will be done as per the timelines |

| PS | Action | Verification | Timeline | Status |
|-------|---|---|-----------------------------|-----------------------------------|
| PS6-2 | Monitor flow volume of streams flowing into Kunhar River between the weir and Jhelum River confluence and evaluate whether 3.7 m ³ /s of total flow (2 m ³ /s as Reserved Flow, plus 1.7 m ³ /s from downstream streams) as referred to in the November 2010 EIA has been achieved | Estimated total flow data between the weir and Kunhar-Jhelum confluence to be included in the Annual Monitoring Report (AMR) to be submitted to IFC | Annually as part of the AMR | Will be done as per the timelines |
| PS6-3 | Monitor the Project's impacts on the Kunhar River between the weir and Jhelum River confluence (e.g. fish fauna, water quality, water flow, usage of Kunhar River water, if any, by local villages between the weir and Jhelum River confluence). | Summary evaluation to be included in the Annual Monitoring Report (AMR) to be submitted to IFC. | Annually as part of the AMR | Will be done as per the timelines |

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/trees/asset which subsequently is being paid to the owners. The confirmation of payment to the owners of land/trees/assets in Urdu language is attached as Annex-H-3 to this document along with its translation in English. 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 | Number of Affected Persons | Persons received payment |
|-------------------------|---|-----------------|--|---|---|--|--------------------------------|
| AJ&K | | | | | | | |
| 1 | Powerhouse (Alda Village) | 81.8 | Award has been issued on November 15, 2011 in favour of the Company. | 73.02% | 100.00% | 196 | *310 |
| 2 | Weir + Head pond (Patrind Village) | 341.1 | Award has been issued on February 21, 2012 in favour of the Company. | 78.48% | 100% land for permanent structures and more than 95% of the head pond | 611 | 323 |
| 3 | Head pond (Shoran Village) | 130.75 | Award has been issued on November 4, 2011 in favour of the Company. | 95.13% | 100.00% | | 192 |
| 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% | The land belongs to forest department. | Govt. Land |
| Total (AJ&K) | | 601.4 | | | | | |
| KPK | | | | | | | |
| 5 | Head pond + Weir (Sarati Village) | 188.7 | Award has been issued on April 4, 2012 in favour of the Company. | 85.00% | 70.00% | 196 | Detail yet to receive |
| Total (KPK) | | 188.7 | | | | | |

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

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. Updated pictures of the construction of new houses are as under;



House under construction at weir site



Close-up of the house under construction



House acquired at Sarati village (KP)



New House being constructed

iv. Resettlement Related Consultation and Disclosure Activities and Grievance

Procedures

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

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

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. The community complaints if received are being addressed very diligently and carefully at all levels.

Annexures

Annex-B
**PRE BLASTING ARRANGEMENTS &
INFORMATION DISSEMINATION IN ALDRA
VILLAGE**

NOTICE OF BLASTING

PAKISTAN PATRIND HYDROPOWER PROJECT

It's Possible
DAEWOO E&C

PLEASE BE INFORMED!

1. On May 28, 2013 Tuesday, at Project Power House Site adjacent to your village, blasting activity shall be carried out.
2. You are requested to please do not enter into Blasting Site and surrounding during aforementioned time period and also restrict your pets and other animals.
3. While listening warning siren please do not come out of your houses
4. After five minutes of warning siren, countdown will start (1, 2, 3, 4, 5) and then blast will occur.
5. When the blast will be fired, you may feel vibration and air over pressure and it will last for a second or two, therefore, you don't need to be afraid.
6. If you have any questions or concerns regarding the blast, please contact us on 0322-9418179.

Thank you for your kind cooperation.

نوٹس:

بمہربانی مطلع رہیں

- 1- مورخہ 28 مئی 2013 بروز منگل، آپ کے گاؤں سے ملحقہ پرا جیکٹ کی پاور ہاؤس والی جگہ پر بلاسٹنگ کی جائے گی۔
 - 2- آپ سے گزارش ہے کہ بمہربانی متذکرہ بالا دورانیہ میں بلاسٹنگ سائٹ کے احاطہ درگردوواح میں داخل نہ ہوں اور اپنے پالتو جانوروں اور مویشیوں کو بھی بند رکھیں۔
 - 3- وارننگ سائرن کی آواز سننے پر اپنے گھروں سے باہر نہ نکلیں۔
 - 4- وارننگ سائرن کے 5 منٹ بعد ایک سے پانچ تک گنتی ہوگی اور پھر بلاسٹ ہوگا۔
 - 5- بلاسٹنگ کے دوران ہلکا سا ارتعاش محسوس کر سکتے ہیں جو صرف ایک یا دو سیکنڈ کے دورانیہ کا ہوگا۔
 - 6- بلاسٹنگ کے حوالہ سے اگر آپ کے مزید سوالات یا تحفظات ہیں تو اس نمبر پر رابطہ کریں: 0322-9418179۔
- آپ کے تعاون کا شکریہ۔

| SR. | RECEIVERS' NAME/ HOUSE OWNER NAMES | HOUSE NO. | SIGNATURE |
|-----|------------------------------------|-----------|-----------|
| 1. | ABDUL QYUM | 01 | |
| 2. | MUHAMMAD ASHRAF | 02 | |
| 3. | NISAR AHMED | 03 | |
| 4. | WAGDAR AHMED | 04 | |
| 5. | FARDOQ ABBASI | 05 | |
| 6. | LIQAT ABBASI | 06 | |
| 7. | IMRAN ABBASI | 07 | |
| 8. | MOHSIN ABBASI | 08 | |
| 9. | SADAQAT ABBASI | 09 | |
| 10. | NIJAZ AHMED | 10 | |
| 11. | GHULAM ABBAS | 11 | |
| 12. | ZAHEER ABBAS | 12 | |
| 13. | RASHID ABBAS | 13 | |
| 14. | MUHAMMAD ASLAM | 14 | |
| 15. | ORANGAZIB QURASHI | 15 | |
| 16. | CHANNZEB QURASHI | 16 | |
| 17. | ABDUL KAMEED | 17 | |
| 18. | RASHID | 18 | |
| 19. | ZAID QURESHI | 19 | |
| 20. | TALAL QURASHI | 20 | |
| 21. | MUHAMMAD SHAZMAN | 21 | |
| 22. | ADEEB QURASHI | 22 | |
| 23. | SHAKOOR AHMED | 23 | |
| 24. | | | |
| 25. | | | |
| 26. | | | |
| 27. | | | |
| 28. | | | |
| 29. | | | |
| 30. | | | |
| 31. | | | |

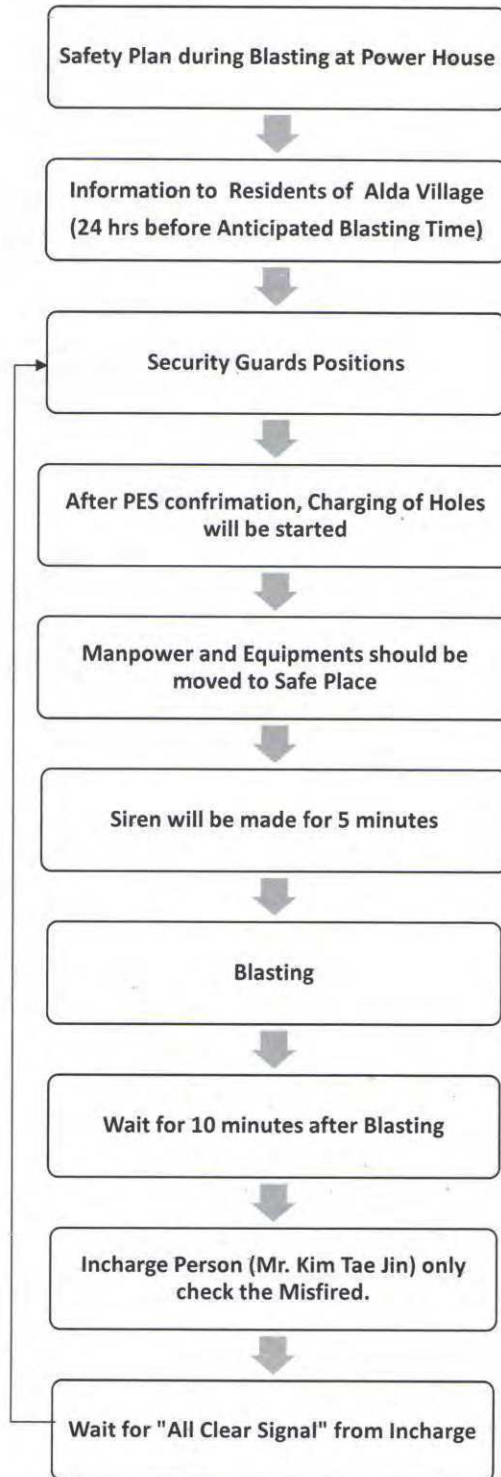


Pre blasting Training session for Blasting Crew



Pre blasting consultation with local community

Power House Routine Blasting Safety Plan



| | |
|------------|------------|
| Kyung Dong | Daewoo E&C |
| PM | CM |
| | |



Sign board for community information

Annex C-1
SAMPLE CORRECTIVE ACTION LETTER

Date: Feb 26, 2013
Ref No. Patrind-HSE-025

SUBJECT: SAFETY RISK AT ADIT TUNNEL

Received By
Mr. J. H. [unclear]

| | | | |
|---|----|-------|-----|
| 기 | 타 | S.M | P.M |
| 제 | AK | WATER | 9 |

Planning: Mon



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

Date : 26 Mar 2013
Ref No : HSE-43

TO,
Administration & Q.A / Q.C

Subject: Submitted the documents of Heavy Equipments (Power House & Weir Site)


Dear Sir, during daily site inspection HSE Team observed that operators of heavy equipments operate the machines without valid license & without HSE inspection.

1. Provide all information of Heavy Equipments, documents, operator's valid license (copy) I.D Card (copy).
2. Informed HSE Team about any new machines, for inspection with complete documents before use.

I hope you will consider HSE requirements and recommendations seriously Furthermore HSE team will never allow the machine to operate without required documents.

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

Note By:


Mr. Chung (HSE manager)
Daewoo E&C

Attachments

Received
27/03/13

420 X 297

Annex D-1

FATALITY INCIDENT INVESTIGATION **SUMMARY**

| Name | Company | Job Title | Member of |
|-----------------------|------------|----------------------------------|--------------|
| Mr. Yong Sik Jang | Daewoo E&C | Construction Manager(Upper Site) | Construction |
| Mr. Choung Myung Hoon | Daewoo E&C | HSE Manager (Kor) | HSE |
| Mr. Aftab Alam | Daewoo E&C | HSE Manager (Pak) | HSE |
| Mr. Abdul Manan | Daewoo E&C | QA/QC Manager | QA/QC |
| Mr. Yasir Ghauri | Daewoo E&C | HSE Engineer | HSE |

1. Investigation Committee

★ Note: TapRoot[®] used as incident investigation tool.

2. Incident Details

- Date and time of the incident: 9th February, 2013 at 09:40 hour
- Location of the incident: Batching Plant Mixer Part, Weir Site
- Nature of the incident: Employee fell inside concrete mixer while the shaft was moving
- Weather: Sunny day, no rain
- Classification of incident: Fatality Case

3. Details of Deceased

- Name: Mr. Rizwan Tariq
- Body Size: Height - 168 cm & Weight - 55kg
- Nationality: Pakistani
- Trade: Batching Plant Helper, Employed on 23 Sept. 2012
- Date of HSE Induction: 23rd Sept 2012

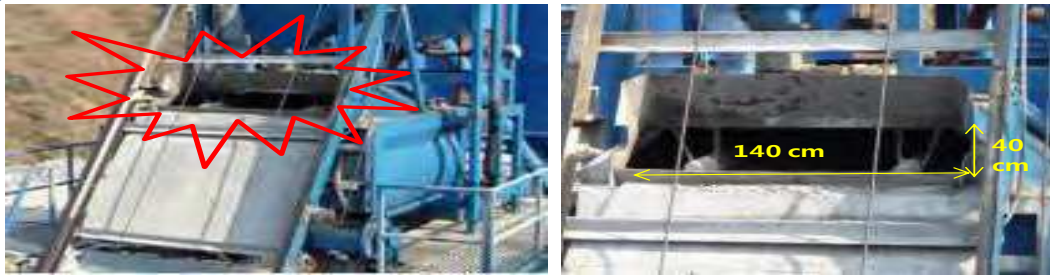
4. Incident Summary

At 9:00 AM, a Batching Plant Helper (deceased) and a Welder were tasked to clean the batching plant equipment including the 1.4 m long, 1.5 m wide and 1.4 m high concrete mixer after a series of concrete mixing. They started cleaning the hopper from the ground and within a few minutes the Helper proceeded to the concrete mixer on the second floor. After finishing cleaning the one side shaft wing of the mixer, the Helper came out from the mixer to signal to the Batching Plant Operator to change the arm side of the shaft for further cleaning. The Helper then signaled to the Operator to turn on the shaft of the mixer from the adjacent control room. The operator pressed “Start button” and pushed stop button. At same moment Mr. Rizwan was standing at the edge of opening of mixture. Though the stop button had already been pressed by operator but the shaft blades were completing rotation, Mr. Rizwan slipped from the edge and fell into the mixture and trapped in the wings of the shaft.

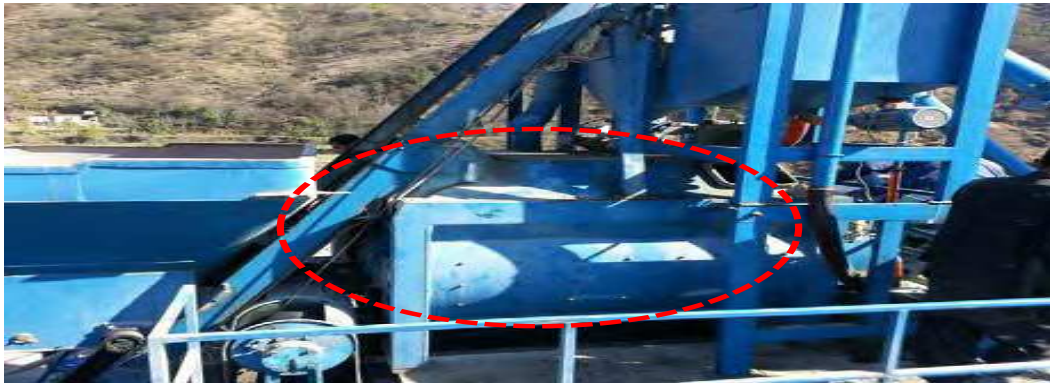
At approximately 9:40 AM, while the shaft was moving, the helper slipped and fell into its 1.4 m long and 0.4 m wide opening of mixer. The Operator upon noticing that the helper was falling inside the mixer shouted for help and rushed to the mixer and noticed that he was trapped in the shaft and with little movement. Other workers who rushed to the scene tried to release and rescue the Helper from the shaft but to no success for the shaft could not be moved manually. The rescue operation lasted for about 5 minutes until they noticed that the Helper was unresponsive and was already dead.

Incident Photographs

The equipment model HZS60 Concrete Mix Batching Plant was used at the Weir Site to produce concrete mixture for the construction site. The equipment is a complete system which consists of mixer, batching machine, weighing system and control system. For the complete details, parts, configuration and operation of the whole system, please refer to the HZS60 Operation Manual. Figure 1 shows the Concrete Mixer equipment that was used in the site and Figure 2 shows the sequence of events leading to accident.



Opening of the Concrete Mixer



Side view of the Concrete Mixer

[Figure 1 – Concrete Mixer]



1. Helper informing Operator to turn on the shaft. Communication were done verbally and hand signal.



Figure 2: Reenactment of the incident

5. Action Taken After the Accident

- Responding workers to the scene strived to release and rescue the Helper but the shaft could not be moved manually. The rescue operation lasted for about five minutes.
- Mr. Mushtaq Site Engineer contacted the nearest medical facility (Kunhar Christen Hospital) at 09:43 AM.
- Police persons are already deputed on site for security of Expatriate Korean staff, however after incident when the death was confirmed, site police in-charge Mr. Babar called local police station for on spot investigation.
- The dead body was transported for autopsy to confirm the cause of death under the custody of Policeman Mr. Zakir.
- Emergency services including Hospital, Rescue and police were contacted.
- Project Manager, staff and all workers were informed with the incident
- All construction activities were stopped till next direction.
- With the consent of the family of deceased, the body was transferred by police to King Abdullah Teaching Hospital Mansehra KPK for Post Mortem Report (Attached as Appendix-7)

6. Investigation Findings

- Mr. Rizwan Tariq joined Daewoo E&C as Batching Plant Helper on September 23, 2012. On his induction he was oriented with the HSE procedures and policies. He was provided with PPEs and all other relevant instruction necessary for personal safety during work.
- Complete Operational Manual for Batching Plant Model HZS60 remains always available on site for the workers for the secure and smooth functioning.
- A method statement for Concrete Batch Plant Operations including HSE instructions had been disseminated amongst workers at Batching Plant Site.
- Tool box meeting was performed on February 9, 2013 which discussed the Installation of Covers to Protect Slope.
- Method Statement (MS): Concrete Batch Plant is available however; maintenance and cleaning procedure of the mixer is not described in full detail.
- A Lock-Out/ Tag-Out (LOTO) procedures should have been established and implemented to prevent the operation of equipment while being serviced or in

maintenance on site thus eliminating the exposure of the Helper from the rotating mechanical hazard and electrical hazard during the cleaning activity. This procedure should be devised and to be implemented for corrective action.

- Confined Space Entry Program has been adopted in accordance with the procedure established by Daewoo E&C's Confined Space Entry Procedure (DTMS-HSE-PS006). However, few lapses in the implementation of Confined Space Entry Procedure were evident during the accident.
- Insufficient engineering controls from the manufacturer to mitigate or prevent exposure of workers from the moving shaft of the concrete mixer during operation and maintenance activity i.e. No provision of any means of barrier or screen to prevent personnel from entering the mixture while in standby mode, and/ or no provision of safety limit switch / interlocking mechanisms when the cover or door of the mixer will be opened.
- No vibration of the concrete mixer while in the operation mode has been observed during the incident investigation.
- Lack of supervision on part of Batching Plant staff that leads to unsafe act of standing on the opening of the concrete mixer while the shaft was still moving.

7. Causal Factors and Root Cause Analysis

1) Operator Pushed the Start Button in the Control Room

- Management System - Standards, Policies, or Admin Controls (SPAC) Needs Improvement– No SPAC
- Management System – SPAC Not Used – Enforcement Needs Improvement
- Procedures – Not Used / Not Followed

2) The Helper, Standing on the Edge of the Mixer Opening Slipped and Fell Inside the Mixer

- Work Direction - Preparation – Work Package / Permit Needs Improvement
- Work Direction - Supervision During Work – No Supervision

8. Work Direction – Preparation - Fall Protection NI corrective Actions for Implementation

| S/N | Causal Factor | Root Cause | C.A S/N | Corrective Actions | Responsible Party | Schedule |
|-----|--|---|------------|---|---------------------------------------|----------|
| 1 | Operator Pushed the Start Button in the Control Room | Management System - Standards, Policies, or Admin Controls (SPAC) Needs Improvement – <u>No SPAC</u> | 1 | Establish a plant specific Lock Out / Tag Out Procedure which will be based on acceptable safety rules and regulations. Include also in the procedure equipment to be locked out and/or tagged out during maintenance or cleaning activities. | HSE Manager /Line Manager/ Supervisor | |
| | | * Management System – SPAC Not Used <u>Enforcement NI</u> | 2 | Institute a more active HSE incentive program to effectively induce safe work behavior. The program may include awards, recognitions, and strict disciplinary sanctions. Allocate adequate financial resources to support this drive. | Project Manager HSE Team | |
| | | | | Review the Method Statement QA-QC-MS-01 Concrete Batch Plant | | |

| S/N | Causal Factor | Root Cause | C.A S/N | Corrective Actions | Responsible Party | Schedule |
|-----|---------------|--|------------|--|---|----------|
| | | * Procedures – Not Used / Not Followed | 3 | Operations for its adequacy, completeness and safety precautions based on this fatal incident. Include in the MS the step by step process of cleaning and maintenance of the mixer and hoppers and the safety precautions to be taken including acquisition of the required Permit To Work document. | HSE Manager/Line Manager/ Supervisor | |
| | | | 4 | Cascade the changes in the processes of MS through the conduction of refresher and awareness training to the responsible personnel. | Competent Person | |

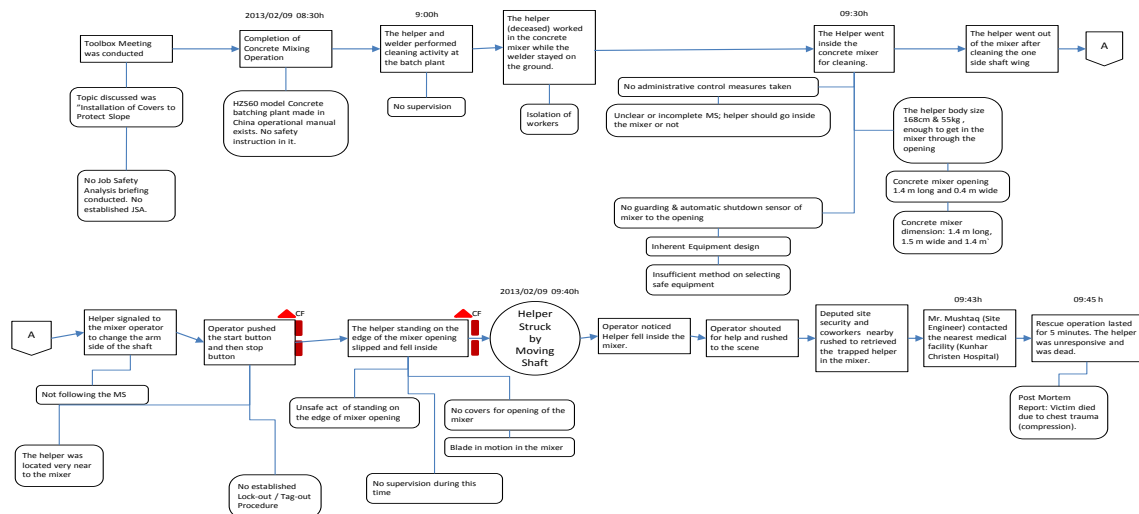
| S/N | Causal Factor | Root Cause | C.A S/N | Corrective Actions | Responsible Party | Schedule |
|-----|--|---|------------|--|--|----------|
| 2 | The Helper, Standing on the Edge of the Mixer Opening Slipped and Fell Inside the Mixer | * Work Direction - Preparation – Work Package / Permit <u>Needs Improvement</u> | 5 | Establish or adapt a Permit to Work Procedure to ensure that specific hazardous activities are initiated and carried out under the written permission and authorization. Outline in the procedure all the activities requiring PTW and devise a PTW form for a specific hazardous activities. Corporate Daewoo procedure PS027-Permit To Work can be adapted or used as reference. | HSE Manager/Line Manager/ Supervisor | |
| | | | 6 | Prepare Job Safety Analysis for the cleaning of mixer and other equipment. All devised and established JSA shall be included in the Tool box Meeting. Conduction of Tool Box Meeting will be enforced and will be monitored in the site. The TBM shall | HSE Engineer Line Supervisor/ Line Operators | |

| S/N | Causal Factor | Root Cause | C.A S/N | Corrective Actions | Responsible Party | Schedule |
|-----|---------------|---|------------|--|---|----------|
| | | | 7 | be checked and led by Foreman and Supervisor. The evidence of the meeting including topics discussed and attendance sheet shall be recorded and kept for audit purposes. | Foreman and Supervisor | |
| | | * Work Direction - Supervision During Work <u>No Supervision</u> | 8 | Implement the Unsafe Act / Unsafe Condition Observation Program. All records including the evidence of compliance with the corrective actions shall be retained for reference... Include in the Safety tool box talk the discussion to all Supervisors the importance of constant and adequate supervision not only in operation but also in maintenance and cleaning activity. Include in the review and revision of MS for Batching Plant Operations | HSE Personnel Field Safety Officer Responsible Person | |

| S/N | Causal Factor | Root Cause | C.A S/N | Corrective Actions | Responsible Party | Schedule |
|-----|---------------|---|------------|--|---|----------|
| | | | 9 | and maintenance the fall protection and prevention actions to be taken including the PPE to be used during the activity. The changes shall be cascaded to all responsible workers. | HSE Team Supervisors | |
| | | * Work Direction – Preparation <u>1. Fall Protection</u> <u>NI</u> | 10 | Consider providing an engineering control such as installing barrier or mesh screens on the mixer opening as practicable as possible. | Line Manager/ HSE Manager/Supervisor | |
| | | | 11 | | Batching Plant Team | |

Snap Chart

Classification : Fatality Incident Case; Struck by Moving Shaft
Project : PC 410 - Hydro Power Plant; Patrind, Pakistan
Date : 09 February, 2013



Patrind Hydro Power Project



CAMP OFFICE THURI LOWER CHATTER
Tel: (92)058-2243-2498, Fax: (92)058-2243-2657
MUZAFFARABAD AJ&K
Date: Feb 28, 2013

DEATH COMPENSATION CERTIFICATE OF MUHAMMAD RIZWAN TARIQ S/O MR. MULIK AMAN TARIQ

Muhammad Rizwan Tariq S/O Mr. Mulik Aman Tariq CNIC: 82201-2349601-7 had worked for Daewoo E&C. Unfortunately, he died during the work at Site. According to the Daewoo E&C Policy/ Procedure and in compliance with Workmen's Compensation Act 1923 (enforced in AJK & KPK) and the agreement between Daewoo E&C and the family of Muhammad Rizwan Tariq S/O Mr. Mulik Aman Tariq, We, Daewoo E&C, hereby pay of the death compensation with an amount of say One million Pak Rupees (10,00,000/-) to Family of Muhammad Rizwan Tariq S/O Mr. Mulik Aman Tariq vide Cheque No.11822930 (ABL Chatter Branch MZD) Dated. 26/02/2013.

Now, as agreed by the deceased's family, there is no further liability, dispute/ Litigation on death compensation of Muhammad Rizwan Tariq S/O Mr. Mulik Aman Tariq CNIC: 82201-2349601-7 between Daewoo E&C and the family of Muhammad Rizwan Tariq S/o Mr. Mulik Aman Tariq.

This is for the record.



Name & Signature
(On behalf of Daewoo E&C)

This is to acknowledge that we, the legal heirs of deceased, have received the Cheque No.11822930 (ABL Chatter Branch MZD) Dated. 26/02/2013 from Daewoo E&C amounting One million Pak Rs. (10,00,000/-) for the death compensation of Muhammad Rizwan Tariq S/o Mr. Malik Aman Tariq CNIC: 82201-2349601-7. There is no further liability, dispute/ Litigation on death compensation of Muhammad Rizwan Tariq S/O Mr. Mulik Aman Tariq CNIC: 82201-2351830-5 between Daewoo E&C and the family of Muhammad Rizwan Tariq S/o Mr. Mulik Aman Tariq.

Receivers:

Widow
Shazia Kalsoom D/O Muhammad Feroz Khan
CNIC: 82201-2285489-8

Signature: *Shazia Kalsoom*

Father
Name: Mulik Aman Tariq S/O Muhammad Yaqoob Khan
CNIC: 82201-2351830-5

Signature: *Mulik Aman Tariq*

Witnessed by:

Adnan
Muhammad Adnan Tariq
S/O Mulik Aman Tariq
CNIC: 82501-0370484-7

Raja
Raja Muhammad Rafique Khan
S/O Raja Muhammad Feroz Khan
CNIC: 82201-2351222-5

M. Aftab Alam
M. Aftab Alam
S/O Sahibzada M. Alam
CNIC: 82203-0325577-3
HSE Manager

Kiran Latif
Kiran Latif
D/O Abdul Latif Awan
CNIC: 82203-2944006-4
HSE Assistant

Annex D-2
Medical Checkup Record

DAEWOO E&C

HSE Department (First Aid Form)

Name: Abdul Aziz Witness: _____

Designation: Daewoo (Security Guard) _____

Age: 30 yrs _____

Date: 12/3/2013 Time of Injury: _____

Time: 9:16 AM Incident: _____

No: 11 Location: Lower site

Treatment: **Nature of Injury: / Medical illness**

Tak Dolorom Complaining of Sudden Low back

Say BDA ache

2 days Δ Lumbar Muscular Spasm

Tak Onez Day Pt was completely well before this

PO ones Complain

Taklorom Massage → No Hx of cough

gel ones at → Not dyspnoic

night ΔE Concious / oriented in pain

→ tenderness on lower vertebrae

→ NO lower limb weakness

→ Unable To bend down

Systemic Review:

NAD

Examination- Vitals:

BP: 140/90 mmHg

Pulse: 76 bpm

Temp: 36°C

R.R. _____

General Condition:

Stable

Past Medical History:

Diabetes ☒ TB ☒ Same Illness ☒ Asthma ☒ HTN ☒

Social History:

Smoking ☒ Drinking ☒

Drug History:

Allergies ☒

Referred to: _____


Doctor: D. Asma


Environmental & Social Monitoring Report (January-March 2013)



HSE Health Clinical Record

| No. | Name | Age | Date & Time | Occupation | Place of Incident | Medical illness/ Nature of Injury | Description | Diagnosis | Treatment Given | Name of Person Making Entry |
|-----|----------------|-----|-------------|-------------|-------------------|--------------------------------------|--------------------------------------|---------------|-------------------------------|-----------------------------|
| 1 | M. Sharif | 45 | 14/2/13 | Electrician | Lower site | Left hand wound & no active bleeding | left hand wound & no active bleeding | Minor Injury | Cleaning + Dressing | Mr. SABIR (Male Nurse) |
| 2 | Tanveer | 25 | 14/2/13 | Cook | Lower site | Left Wrist Joint Pain | left wrist Joint pain from 01 day | | Analgesic gel + craps Bandage | Mr. SABIR (Male Nurse) |
| 3 | Naheem | 30 | 15/2/13 | Helper | Lower site | Swelling gum + Pain | Swelling gum + toothache | dental abcess | TAB Augmentin " Brufen | Mr. SABIR (Male Nurse) |
| 4 | S. Sabir | 45 | 19/2/13 | Driver | Lower site | tooth ache | tooth ache from day 02 | Dental caries | Tab Paradol " Flage | Mr. SABIR (Male Nurse) |
| 5 | Dildar H. Shah | 40 | 20/2/13 | LAB TECH | Lower site | minor cut | Left hand cut | minor injury | Cleaning + Dressing done | Mr. SABIR (Male Nurse) |
| 6 | Sajad | 35 | 21/2/13 | Driver | Lower site | minor cut | Left hand cut | minor injury | Cleaning + Dressing done | Mr. SABIR (Male Nurse) |
| 7 | AB Rehman | 25 | 22/2/13 | operator | Lower site | mild flu fever | mild fever flu from 01 day | R.T.I | Tab paradol Tab Augmentin | Mr. SABIR (Male Nurse) |
| 8 | Manzoor | 35 | 24/2/13 | | Lower site | mild fever | mild fever from 02 day | | Tab Paradol | Mr. SABIR (Male Nurse) |
| 9 | Qalandari | 28 | 25/2/13 | | Lower site | cut | cut of little finger | minor injury | Dressing (Suniplast) | Mr. SABIR (Male Nurse) |
| 10 | Rasmi | 25 | 26/2/13 | | Lower site | BP check up | 100/90 | | | Mr. SABIR (Male Nurse) |

SIGNATURE NURSE/DOCTOR :  28/02/13

HSE MANAGER:  28/2/13

It's Possible
DAEWOO E&C


| No. | Name | Age | Date & Time | Occupation | Place of Incident | Medical illness/ Nature of Injury | Description | Diagnosis | Treatment Given | Name of Person Making Entry |
|-----|-------------------|-----|----------------------|-------------------|-------------------|------------------------------------|---|------------------------|--|-----------------------------|
| 11 | Abdul Aziz | 30 | 9:16AM 12/3/2013 | Security Guard | Lower site | low back ache | Tenderness lower vertebral muscle vitaly stable | Lumbar muscle spasms | Tabs Diclon 5mm, paracetamol 500mg sterilized alcohol + D | Dr. Asma |
| 12 | Javaid Akhter | 45 | 2:14PM 12/3/2013 | Daewoo Worker | Lower site | minor cut thumb | Cut at Rt thumb, no active bleeding | minor Injury | sterilized alcohol + D | Dr. Asma |
| 13 | Ghulam shabir | 40 | 12:25PM 18/3/2013 | Kyung Doo Worker | Lower site | Cough Sorethroat mild fever | Cough & Sputum (white) + throat congestion | URI | Tabs Amoxi 500mg + 500mg + 500mg eye wash + eye ointment (Tobramycin) | Dr. Asma |
| 14 | Mr. Jg. OH | 49 | 8:29AM 15/3/2013 | Daewoo Admin | Lower site | F.B in eye | Foreign body in eye, conjunctivitis + itching +ve | F.B in eye | eye wash + eye ointment (Tobramycin) | Dr. Asma |
| 15 | Mr. Khurshid | 27 | 8:35AM 18/3/2013 | Daewoo worker | Lower site | knee injury | minor scratch Rt knee | minor Injury Pt stable | cleansing + Dressing + Done | Dr. Asma |
| 16 | Mr. asif Swati | 35 | 3:27PM 18/3/2013 | Daewoo Driver | Lower site | head ache | headache + G. weakness | BP 110/70 mmHg | encourage fluid intake | Dr. Asma |
| 17 | Aftab Ahmed | 38 | 3:50PM 18/3/2013 | Daewoo LAB Tech | Lower site | left hand injury | healed wound | minor Injury | sterilized alcohol + paracetamol | Dr. Asma |
| 18 | Sajid Raja | 28 | 4:00PM 18/3/2013 | Daewoo Worker | Lower site | fever + headache + runny nose | mild fever 37.8°C vitaly stable | URI | Tabs Amoxi 500mg + 500mg Tobramycin | Dr. Asma |
| 19 | Mr. Kiyoung | 43 | 5:03PM 18/3/2013 | Daewoo (planning) | Lower site | fever + headache + muscular pain | Temp 37.6°C Pulse 82bpm BP 140/90mmHg | Febrile | Tabs Paracetamol 1x1 + 1x1 + 1x1 | Dr. Asma |
| 20 | Mr. Moramat Anwar | 34 | 2:30AM 25/3/2012 | Star hydro | Lower site | Cough sputum + post nasal dripping | No Fever No sore throat vitaly stable | Allergic Rhinitis | Tabs Amoxi 500mg + 500mg sterilized alcohol | Dr. Asma |

HSE Manager:

Dr. Asma Malik:

HSE Health Clinical Record

| No. | Name | Age | Date & Time | Occupation | Place of Incident | Medical Illness/ Nature of Injury | Description | Diagnosis | Treatment Given | Name of Person Making Entry |
|-----|----------------|-----|-----------------------|-------------------------|-------------------|-----------------------------------|--|-------------------------------|--|-----------------------------|
| 21 | Arif Souban | 35 | 5:32 pm 25/3/2013 | Daewoo Driver | Lower site | Fever + Cough | Dry Cough + Fever Temp 38.2°C | URTI | Tab Paracetamol 14x 5 days Syr Bendryl vit C | Dr. Asma |
| 22 | M. Qamar Abbas | 29 | 3:45 pm 26/3/2013 | Daewoo Accountant | Lower site | Indigestion | Indigestion after heavy meal intake | Indigestion | Syr Mucosa 14x 5 days | Dr. Asma |
| 23 | Naveed Iqbal | 40 | 8:40 am 27/3/2013 | Daewoo office boy | Lower site | Cough + fever + blocked nose | Dry Cough Temp 38°C | URTI | Tab Paracetamol Syr Bendryl vit C | Dr. Asma |
| 24 | Azmat Husain | 23 | 9:12 am 27/3/2013 | ES Tech | Lower site | head ache | mild headache NO vomiting NO blurring vision | BP 110/70 mmHg | encourage fluid intake + Na Diet | Dr. Asma |
| 25 | Amar Ikram | 24 | 11:11 am 30/3/2013 | Daewoo network engineer | Lower site | Cough + fever + sore throat | Temp 38°C BP 130/80 mmHg | URTI | Tab Amoxil Syr BP 14x 5 days Tab Paracetamol Syr Bendryl | Dr. Asma |
| 26 | Tanzeem | 35 | 4:32 pm 30/3/2013 | Daewoo Driver | Lower site | headache + nausea + weakness | headache recent onset No vomiting No blurring vision | hypotension BP 110/70 mmHg | encourage fluid intake + Na Diet | Dr. Asma |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

HSE Manager: 

Dr. Asma Malik: 

Annex D-3

Sample Inspection Checklists

| | | | |
|--|-----------------|------------------------------------|--|
| Pakistan Patrind Hydro Power Project | | It's Possible DAEWOO E&C | |
| SAFETY CHECKLIST FOR BATCHING PLANT | | | |
| DATE | 27.02.2013. | NOTES ; | |
| HSE OFFICER | Yasir Ghauri | Tick columns A, B or C | |
| HSE MAGR | Aftab Alam | A : Suitable at time of inspection | |
| APPROVED BY | Chung Myung Hun | B : Requires improvement | |
| | | C : Requires immediate action | |
| | | / : Not applicable | |

| INSPECTION ITEMS | BATCH PLANT 1 | | | BATCH PLANT 2 | | |
|---|---------------|---|---|---------------|---|---|
| | A | B | C | A | B | C |
| 1) Isolation of Plant. | ✓ | | | | | |
| 2) Check aggregate hoppers and protecting wall condition. | ✓ | | | | | |
| 3) Clearance of blockages. | ✓ | | | | | |
| 4) Access and working platforms. | ✓ | | | | | |
| 5) Moving parts guarded/protected. | ✓ | | | | | |
| 6) Control of Vehicles/flagman. | ✓ | | | | | |
| 7) Warning Signs. | | ✓ | | | | |
| 8) Authorized Personnel. | ✓ | | | | | |
| 9) Cleaning / housekeeping. | ✓ | | | | | |
| 10) Lighting checks of all units. | ✓ | | | | | |
| 11) Check wire rope condition for overhead crane. | ✓ | | | | | |
| 12) Check trolley upper limit switch condition. | ✓ | | | | | |
| 13) Check bell warning system for belt conveyor. | ✓ | | | | | |
| 14) Check emergency stop switch at belt conveyor. | ✓ | | | | | |
| 15) Check CCTV for conveyors, hoppers and mixer condition. | | ✓ | | | | |
| 16) Check emergency stop switch at mixers unit. | ✓ | | | | | |
| 17) Check that breaker switch is in off position before mixer cleaning (Place danger lock out tag). | ✓ | | | | | |
| 18) Check special PPE rubber gloves, rain boots etc. for admixture filling. | ✓ | | | | | |
| 19) Check special PPE leather gloves, nose mask for cement loading. | ✓ | | | | | |
| 20) Check safety harness use during cement loading activity. | ✓ | | | | | |
| 21) Check fire extinguishers condition & location. | ✓ | | | | | |
| Remarks | | | | | | |

SCL004

Revision : 0

CRANE INSPECTION CHECKLIST

| | | |
|----------------------------------|--|------------------------|
| Division <u>Weld Site Area</u> | Crane <u>C-1599 / 25 Ton</u> | Date <u>01-03-2013</u> |
| Location <u>Steel yard Area</u> | Checked by <u>Adil yusuf - 2 - Yousif Ghouri</u> | |
| Fleet Code: <u>S/N0 : 772764</u> | Registration No. : <u></u> | |

| General appearance: | YES | NO | Comments |
|---|-------------------------------------|--------------------------|----------|
| 1. Is the crane visually in good condition and clean? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Are the accessories properly stored? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 3. Are the storage containers clean and well organized? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

| Mechanical: | YES | NO | Comments |
|---|-------------------------------------|--------------------------|----------|
| 1. Check fluid levels: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Engine oil | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Hydraulic oil | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Battery fluid | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Radiator coolant | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| Fuel | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Are pressure gauges operational? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 3. Is the windscreen clean with good visibility? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Are all steps and handles free of grease? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 5. Is the crane deck tidy and clean of oil spills? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 6. Have all operational functions of crane been checked? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 7. Are crane and winch controls well positioned and laid out? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

| Hydraulics: | YES | NO | Comments |
|---|-------------------------------------|--------------------------|----------|
| 1. Are hoses in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Are there any leaks in hoses or cylinders? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

| Pneumatics: | YES | NO | Comments |
|--|-------------------------------------|--------------------------|----------|
| 1. Are hoses in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Are there any leaks in hoses or valves? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

| Electrical: | YES | NO | Comments |
|---------------------------------|-------------------------------------|--------------------------|----------|
| 1. Is wiring in good condition? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Are lights operational? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

| Safety systems: | YES | NO | Comments |
|--|-------------------------------------|--------------------------|----------|
| 1. Is a level gauge installed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Is main horn operational? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 3. Is Safe Working Load displayed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Is a height-limiting device fitted on all lines, with automatic shutdown? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 5. Are load / radius charts available? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 6. Are overboom/underboom stops available, functioning correctly? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 7. Are load limiting devices operational? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 8. Is a boom angle indicator available that can be seen by the | <input type="checkbox"/> | <input type="checkbox"/> | |

SCL025

Revision : 0

| | | | |
|--|---|--|--|
| operator? | ✓ | | |
| 9. Are there legible decal/label on all operating knobs/levers/controls? | ✓ | | |
| 10. Does access ladder have non-slip surface? | ✓ | | |
| 11. Is grab handle/rail available and in good condition? | ✓ | | |
| 12. Is operator's cabin clean and free from oil and grease? | ✓ | | |

| Lifting gear | YES | NO | Comments |
|---|-----|----|----------|
| 1. Has winch been certified in at least the last 12 months? (Including load test) | | ✓ | |
| 2. Are brakes adequately rated for SWL? | | ✓ | |
| 3. Do brakes auto apply on loss of power? | | ✓ | |
| 4. Is a warning displayed to check failsafe brake application before using? | ✓ | | |
| 5. Have brakes been serviced in last 2 months? | ✓ | | |
| 6. Do 5 turns of cable remain on drum when hook is in contact with the ground? | | ✓ | |
| 7. Is cable of correct type and size for winch? | ✓ | | |
| 8. Is cable properly terminated? | ✓ | | |
| 9. Is the hook rating adequate for SWL? | ✓ | | |
| 10. Is the hook in good condition (incl. swivel, safety latch)? | ✓ | | |
| 11. Do operating levers return to neutral position when released? | ✓ | | |
| 12. Are operating levers clearly labeled? | ✓ | | |

| | | | |
|--|---|---|--|
| 13. Are slings/chains certified and tagged or colour coded? | | ✓ | |
| 14. Are slings/chains in good condition? | ✓ | | |
| 15. Are sheaves in good condition? | ✓ | | |
| 16. Check for missing or damaged hardware like bolts, cotter pins, snap rings? | ✓ | | |
| 17. Are all safety guards installed? | | ✓ | |

| Certification of crane | YES | NO | Comments |
|---|-----|----|----------|
| 1. Has crane been load tested in last 12 months? | | ✓ | |
| 2. Is valid certificate available? | ✓ | | |
| 3. Is there a valid PREMOB certificate for crane? | ✓ | | |

| Training | YES | NO | Comments |
|--|-----|----|----------|
| 1. Is crane operator qualified? | ✓ | | |
| 2. Is operator knowledgeable on operation? | ✓ | | |

| Mobile Cranes | Y/N | NO | Comments |
|---|-----|----|----------|
| 1. Are inertia type seat belts installed? | ✓ | | |
| 2. Is the "Fasten seat belt" sign posted in English? | | ✓ | |
| 3. Does crane driver have a NDL and SPDC permit for Lifting Equipment? | ✓ | | |
| 4. Is the speed limit posted in English? | ✓ | | |
| 5. Are the insurance and registration papers current? | ✓ | | |
| 6. Are all fitted tyres in good condition and all tyre bolts present and tight? | ✓ | | |
| 7. Is the spare tyre in good condition? | ✓ | | |
| 8. Are the following in good working condition? | | | |

SCL025

Revision : 0

| | | | |
|--|---|---|--|
| lights & indicators | ✓ | | |
| Brakes including parking brake | ✓ | | |
| Windscreen wiper including washer | ✓ | | |
| Rearview mirrors (left & right side) | ✓ | | |
| Reversing light and alarm | ✓ | | |
| Flashing light/alarm for road transit | ✓ | | |
| 9. Is swing lock device operational? | ✓ | | |
| 10. Are outriggers and landing pads in good condition, with no visible leaks? | | | |
| 11. Are the following available? | | ✓ | |
| i) Reflective emergency triangle | | | |
| Warning decals/labels in English indicating the following | ✓ | | |
| – outrigger control functions, | ✓ | | |
| – hand signals, | ✓ | | |
| – electrocution warning hazard | ✓ | | |
| ii) Reflective marker on the rear of the crane | ✓ | | |
| iii) First aid kit | | ✓ | |
| iv) Fire extinguisher in driving cab & on platform | | ✓ | |
| v) Barrier tapes | | ✓ | |
| 12. Is the crane manual of operations legible in English and available in the cabin? | | ✓ | |
| 13. Is crane Logbook kept and updated with records of pre-use checks and crane operations? | | ✓ | |

Overall comment on Crane condition

Crane rating is: Overall the crane is in good working condition.

But the load test has not been done in last 12-months. All the mechanical, Electrical, pneumatic system are in better condition, but few safety equipments are missing from crane. Fire extinguisher is not available within the container of crane, And also "First Aid kit" is missing. Fire extinguisher and First Aid kit should be provided as early as possible.

Sign: [Signature]

Date: 01-03-2013

Time: 09-00 AM

Annex D-4

HSE Audit Report

HSE AUDIT REPORT

[V] Internal [] External

Page

85 of 4

ACL No.

OC-ACL(O)-13-001

Report No.

OC-AR(O)-13-001

Organization : Pakistan Patrind Hydropower Project (PC410)

Audit Date : 2013.03.16 ~ 03.20, 5 days

1. PROJECT SUMMARY

- 1) Project Name : Pakistan Patrind Hydropower Project
- 2) Construction Period : 2012.12.28 ~ 2016.12.27 (48 months)
- 3) Contract Amount: USD 289,775,000 (DAEWOO 100 %)
- 4) Client: Star Hydropower Ltd.
- 5) Investor :
 - Lenders(Asian Development Bank + Islamic Development Bank + International Finance Corporation) – 75%
 - KDS(K-Water + Daewoo E&C) – 25%
- 6) Current Progress : 19 %(as of 2013.03)

2. SITE VIEW



Project View



Site View(Upper Site)

3. AUDIT TEAM

- 1) Leader : Jung, Hyun Jae
- 2) Member : Sung, Young Ju (IRCA Reg. # 01200823)

4. AUDIT SCOPE

- 1) HSE Management System based on OHSAS 18001:2007&ISO 14001:2004
- 2) Project HSE Requirements & Program

5. AUDIT REVIEW

The audit was conducted on 16~20 March, 2013 and covers the entire hydropower project facility. The criteria used in the audit are based on OHSAS 18001, ISO 14001, Daewoo E&C and client's HSE requirement.

The project site has been completing actions to develop and continuously implement health, safety and environmental management system documentation and establish a structure that will support its implementation. As mentioned below;

- Environmental & social monitoring report submission
- Commitment of top management (project manager) to establish a safety culture through participation in the toolbox meeting.

However, there are still lapses in the implementation of HSE Management system that needs to be addressed. Aspects in the project's management system and compliance program that require improvement are the following;

- Establishment and implementation of HSE management procedure
- Establishment of risk assessment and permit to work system
- Implementation and documentation of inspection program
- Provision of necessary HSE and specialized trainings (work at height, lifting and rigging work, scaffolding, and electrical safety and energizing isolation etc.)
- Implementation and verification of the effectiveness of corrective actions regarding the fatal accident happened last 9 February, 2013

The location of the project is critical and imparts risk due to its geographically inclined construction site. Risk of landslide due to soft soil and rock is the imminent danger to workers if the foundation was not properly established and maintained.

Possible contributory factors to the weakening and collapsing of the inclined ground foundation are the course of running water from rain, unexpected earthquake, frequent and miscalculation of movement of heavy equipment machineries and human error due to poor planning of the activities.

In addition, risk of vehicle accident in roads is likely to occur due to narrow roads, no existence of barricade and other traffic safety arrangement. It is imperative for the project to improve its road safety management system and continuous interest.

6. AUDIT FINDINGS

1) [4.1 General Requirement]

The specific HSE procedures shall be established depending on site standards and requirements.

- HSE procedures and methods stipulated in safety plan for ongoing identification of hazards, risk evaluation and development risk control measures.

2) [4.4.2 Competence, Training & Awareness]

Required to improve training program (workers awareness level in safety is very low, the project training scheme shall be reinforced)

- HSE induction program shall be modified more specifically and covered all required information for the new worker.
- Job-craft training program shall be introduced (scaffolder, riggers, operator, signal man, mason etc.)
- Recommended Korean supervisors training to confirm and remind their HSE responsibilities.

3) [4.4.6 Operational Control]

Some of high-risk tasks defined by project team shall be proceeded by permit to work system (Deep or extensive excavation, heavy lifting operations, hot work, isolated electrical power work, scaffolding work etc.)

- Practical training and specific pre-instruction before commencing work.
- Review the Permit to work system and revise that on a regular basis.

7. OBSERVATIONS & RECOMMENDATIONS

1) [4.3.1 Hazard Identification, Risk Assessment & Determining Control]

Job Safety Analysis has been set up; the more effective improvements of job safety analysis program and method are recommended.

- Modification of job safety analysis format, covering actual job sequence of all activities, evaluation risk level.
- The practice communication (instruction) shall be implemented for field personnel joining the task.

2) [4.3.3 Objectives & Programmes]

The measurable incident target shall be established plus that the specific performance targets will be prepared to achieve the incident target.

3) [4.4.1 Resources, Roles, Responsibility, Accountability & Authority]

The AED (defibrillator) is recommended in clinic and no. of first aider shall be designed at site.

4) [4.4.3 communication, Participation & Consultation]

Practical and effective site observation program is recommended. (UA/UC observation)

5) [4.4.7 Emergency Preparedness & Response]

Emergency drill should be carried out regularly with effective plan.

6) [4.5.1 Performance Measurement & Monitoring]

Project inspection program shall be developed, conducted kept in record and reviewed.

- Light vehicle / heavy equipment, power electrical tools and equipment, control of substances hazardous to health, firefighting facilities, hygiene condition.
- The introduction UA/UC observation program is recommended to identify and analyze the leading indicators.

Annex F-1
HSE Revised Policy



Pakistan Patrind Hydropower PJ

HSE POLICY

Daewoo Pakistan Patrind Hydropower PJ (DPPH) is committed to compliance of Health, Safety and Environment procedures throughout the stages of her Project. To create an "Incident Free Environment" for all employees, continuous improvements and preventive measures will be implemented in compliance with this Policy.

DPPH shall comply with existing laws and regulations in HSE. All HSE issues raised by interested parties shall be passed to senior management for thorough consideration.

DPPH will establish an HSE Management System based on OHSAS 18001/1999 and ISO 14001/2004 in compliance with the following HSE Policy.

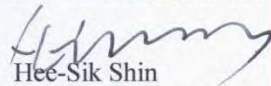
For all projects, DPPH shall carry out environmental impact studies, in addition to identifying potential health and safety hazards. Each project will be subjected to a "Zero-accident" campaign to help educate employees about avoiding injuries, illnesses and property damage at the workplace, and about protecting the local environment from contamination.

The Health and Safety Policy shall be communicated to all employees with the intent that employees are made aware of their individual HSE obligations. Each employee of DPPH, including higher management, will participate in the implementation of the HSE Policy.

The following Safety Policies should be applied to Project and the Client's Safety, Health and Environmental Policies are basically complied with;

- To prevent all injuries, illnesses, property damages & environmental incidents
- To set achievable targets & report on performance
- To employ only competent personnel & implement training program
- To develop Project HSE Management System & Safety Incentive Program
- To create a safe work place & positive safety culture
- To ensure effective safety training & develop personal responsibility in safety
- To establish Health & Safety Management System & Safe Work Practices, etc.

DPPH believes every job can be completed in a safe manner, safety is everyone's responsibility, and every employee has the right to Stop Work. "If it's not safe, don't do it."


Hee-Sik Shin
Project Manager
March 2013



Pakistan Patrind Hydropower PJ

HSE POLICY

ایچ ایس ای پالیسی

پاکستان پٹرینڈ ہائیڈرو پاور پراجیکٹ منصوبہ کے تمام مراحل پر ایچ ایس ای کے طریقہ ہائے کار کی تعمیل کی پابندی ہے۔ تمام ملازمین کے لیے حادثات سے پاک ماحول کی فراہمی کے لیے اس پالیسی کی تعمیل میں مسلسل بہتری اور حفاظتی تدابیر کا نفاذ کیا جائے گا۔

ڈائریکٹوریٹنگ اینڈ کنٹرولنگ سسٹم پہلے سے موجود ایچ ایس ای قواعد و ضوابط پر عمل پیرا ہوگی۔

ایچ ایس ای منصوبہ کے متعلقین کی طرف سے اٹھائے گئے تمام معاملات کو تفصیلی طور پر غور و خوض کے لیے سینئر مینجمنٹ کو بھیجی جائے گی۔

ڈائریکٹوریٹنگ ہائیڈرو پاور پراجیکٹ درج ذیل ایچ ایس ای پالیسی کی تعمیل کے لیے ISO/OHSAS 18001/1999 اور 14001/2004 کی بنیاد پر ایچ ایس ای مینجمنٹ سسٹم تشکیل دے گی۔

ڈائریکٹوریٹنگ ہائیڈرو پاور پراجیکٹ اپنے تمام پراجیکٹس کے لیے صحت اور حفاظت کے خطرات کی نشاندہی کرنے کے علاوہ ماحولیاتی اثرات کے جائزے کا اہتمام کرے گی۔ ہر پراجیکٹ "زیرو دایکریٹ" مینجمنٹ کے تحت پانچویں گائیڈ لائن کے مطابق کام کیا جائے گا تاکہ ملازمین کو حادثے، چوٹ اور بیماریوں سے بچنے، پراپرٹی کے نقصان کو روکنے، کام کی جگہ اور مقامی ماحول کو آلودہ ہونے سے بچانے کے متعلق معلومات فراہم کی جاسکیں۔

ایچ ایس ای پالیسی تمام ملازمین تک اس مقصد کے تحت پہنچائی جائے گی کہ تمام ملازمین کو ایچ ایس ای کے حوالے سے ان کے فریضے سے آگاہ کیا جاسکے۔ اعلیٰ بٹھول سینئر مینجمنٹ، ڈائریکٹوریٹنگ ہائیڈرو پاور پراجیکٹ ایچ ایس ای پالیسی کے نفاذ میں حصہ لے گا، بذیل سیفٹی پالیسی پراجیکٹ پر لاگو ہونی چاہیے جب کہ کلائنٹ کی ہیلپ لائن، سیفٹی اور انوائسمنٹ پالیسی بھی اسی پر عمل پیرا ہے۔

☆ ہر قسم کی چوٹ، بیماری، جائیداد کا نقصان اور ماحولیاتی حادثات کی روک تھام کرنا۔

☆ قابل حصول ٹارگٹ اور کارکردگی پر رپورٹ تشکیل کرنا۔

☆ صرف اہل افراد کو بھرتی کرنا اور ان کے لیے ٹریننگ پروگرام منعقد کرنا۔

☆ ایچ ایس ای مینجمنٹ سسٹم اور حفاظتی تربیتی پروگرام بنانا۔

☆ محفوظ کام کرنے کی جگہ اور مثبت حفاظتی کلچر اپنانا۔

☆ موثر حفاظتی تربیت اور سیفٹی کے حوالے سے شخصی ذمہ داری پیدا کرنا۔

☆ ایچ ایس ای مینجمنٹ سسٹم کا نظام مرتب کرنا اور محفوظ کام کی جگہ مہیا کرنا۔

ڈائریکٹوریٹنگ ہائیڈرو پاور پراجیکٹ کنٹرولنگ سسٹم کو یقین ہے کہ ہر کام کو ایک محفوظ طریقہ سے مکمل کیا جاسکتا ہے۔ سیفٹی ہر ایک کی ذمہ داری ہے اور ہر شخص کو حق حاصل ہے کہ کوئی کام اگر غیر محفوظ ہے تو اسے روک دے اور کام نہ کرنے دے۔

Hee-Sik Shin
Project Manager
March 2013



Pakistan Patrind Hydropower PJ

IMPLEMENTATION OF THE HSE POLICY

In principle, the prevention of all accident would start with the active commitment of our management and all to:

1. Follow approved codes of work especially with regards to standards and codes applicable to our engineering and maintenance jobs
 - Operate the permit to work system effectively such that operational hazards are identified at their early stages and addressed.
 - Use of safe tools, both electrically operated and manual tools will be of such standards that their potential to cause harms will be greatly reduced.
 - Provision of work plan and procedures to be in line with clients' requirement.
 - Only certified and tested materials shall be used for all construction works.
2. The maintenance of high degree of personal health standards on and off the job must be taken into account for each project. The areas to be addressed include:
 - provision and maintenance of first aid facilities both at base and project sites

A handwritten signature in black ink, appearing to read 'Hee-Sik Shin'.

Hee-Sik Shin
Project Manager
March 2013



Pakistan Patrind Hydropower PJ

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 - provision and maintenance of first aid facilities both at base and project sites


Hee-Sik Shin
Project Manager
March 2013



Pakistan Patrind Hydropower PJ

IMPLEMENTATION OF THE HSE POLICY

HSE پالیسی کا نفاذ

اصولی طور پر حادثات کے متدارک کا ہماری انتظامیہ کی جانب سے ایک متحرک عہد کے ساتھ آغاز ہوگا اور تمام:

☆ کام کے منظور شدہ قواعد بالخصوص انجینئرنگ اور مینٹیننس کے کام کے لیے مقررہ معیار اور قواعد پر عملدرآمد کریں گے۔

i- ”کام کے اجازت نامہ“ کے نظام کو موثر طریقہ سے (پر مٹ ٹورک) نافذ کیا جائے تاکہ ابتدائی مرحلہ میں ہی خطرات کو پرکھا جاسکے اور ان کی روک تھام کے طریقہ کار کو واضح کیا جاسکے، جس سے ان کے نقصانات پہنچانے کے امکانات کم ہو جائیں۔

ii- محفوظ آلات کے استعمال کو یقینی بنایا جائے گا۔ بجلی اور ہاتھ دونوں طریقوں سے چلنے والے آلات اس معیار کے بنائے جائیں گے جس سے ان کے نقصان پہنچانے کا امکان کم سے کم ہو۔

iii- کام کی منصوبہ بندی اور طریقہ کار کی فراہمی کلائنٹ کی ضروریات کے مطابق ہوگی۔

iv- تمام تعمیراتی کاموں کے لیے صرف مصدقہ اور ٹیسٹ شدہ مواد استعمال کیا جائے گا۔

v- ہر پراجیکٹ کے لیے کام کے دوران اور کام کے بعد، افرادی صحت کے اعلیٰ معیار کو قائم رکھا جائے گا۔

☆ پراجیکٹ اور ٹیس سائٹ، دونوں کے لیے ابتدائی طبی امداد اور سہولیات کی فراہمی یقینی بنائی جائے گی۔

Hee-Sik Shin
Project Manager
March 2013

Annex F-2
HSE WEEKLY MEETING

DAEWOO E&C

WEEKLY HSE MEETING WITH UPPER SITE Construction Team

DATE AND TIME: 27-03-2013

LOCATION: Weir Site

SUBJECTS DISCUSSED:

- 1- Housekeeping at Batching plant area.
- 2- Kyung Dong Electrical Problem
- 3- Unsafe excavation in Sung Bo area
- 4- Usage of safety Harness

ATTENDANCE

| S/N | NAME | SIGNATURE |
|-----|-------------------|---|
| 1. | Chung Myoung hum |  |
| 2. | Jang Yong Sik |  |
| 3. | Baek Jong Beom |  |
| 4. | 이정호 |  |
| 5. | 이정호 |  |
| 6. | Jasir Shaver |  |
| 7. | M- Javed |  |
| 8. | Saboor Khan |  |
| 9. | Kashif Malik |  |
| 10. | ATTIQUE UR REHMAN |  |

DAEWOO E&C

WEEKLY HSE METING

DATE AND TIME: 25-03-2013 / TIME=08:30

LOCATION: Lower Site

SUBJECTS DISCUSSED:

- 1- HSE Audit Team Comments & feed back
- 2- Preparation of Training manual
- 3- Labour / staff induction Training changes.
- 4- JSA - Risk assessment
- 5- Daily feed back
- 6- Male nurse / night shift arrangements.

ATTENDANCE

| S/N | NAME | SIGNATURE |
|-----|-----------------------------|-----------|
| 1. | Chung Myoung hum | |
| 2. | Adil Aftab Alam. | |
| 3. | Jasri Ghauri | |
| 4. | Adil yusuf. | |
| 5. | Mubshen Janjua | |
| 6. | | |
| 7. | | |
| 8. | | |
| 9. | | |
| 10. | | |

GF027

Revision : 0

Annex F-3

ZERO ACCIDENT CAMPAIGN PLAN

Commitment to Safety

NEW YEAR ZERO ACCIDENT CAMPAIGN PATRIND HYDROPOWER PROJECT

سال نو
”زیر وایکسیڈنٹ“ مہم
DAEWOO E&C

CAMPAIGN PLAN

Scenario:

As part of Daewoo HSE site plan and procedures “Zero accident campaign” on each project site has been recommended to promote safety education.

Objective:

The objective of zero accident campaign is to respect human life. Each and every human being is irreplaceable, nobody deserves to get injured or die. The campaign aims for zero accident in the workplace.

Upper site Plan:

Date: January 2, 2013

Time: 06:40 – 07:10

Participants: All staff/workers (Daewoo E&C + Kyung Dong + SUNGBO C&E)

Assembly: In front of Kyung Dong site office all staff and workers will be gathered at 06:40.

Slogan Display: 06:50 -07:00

Zero Accident campaign banner shall be displayed by two persons. While all staff/workers shall stand behind the banner stretching their arm and stating out loud “Safety First” & “Our target-Zero Accident” In order to work safely and correctly.

Safety Education: 07:00-07:05 (by HSE staff)

Safety Message: 07:05-07:10 (by Site Manager Daewoo E&C)

Interpreter: Fida Husain Shah (Kyung Dong)

| | | | | | |
|---|---|---|-----|---|---|
| 결 | 담 | 당 | HSE | 공 | 팀 |
| 지 | | | | | |

Lower site Plan:

Time: 06:40 – 07:10 **Date:** January 2, 2013

Participants: All staff/workers (Daewoo E&C + Kyung Dong)

Assembly: At Surge Tank site all staff and workers will be gathered at **6:40 A.M**

Slogan Display: 06:50 -07:00

Zero Accident campaign banner shall be displayed by two persons. While all staff/workers shall stand behind the banner stretching their arm and stating out loud "Safety First" & "Our target-Zero Accident" In order to work safely and correctly.

Safety Education: 07:00-07:05 (by HSE staff)

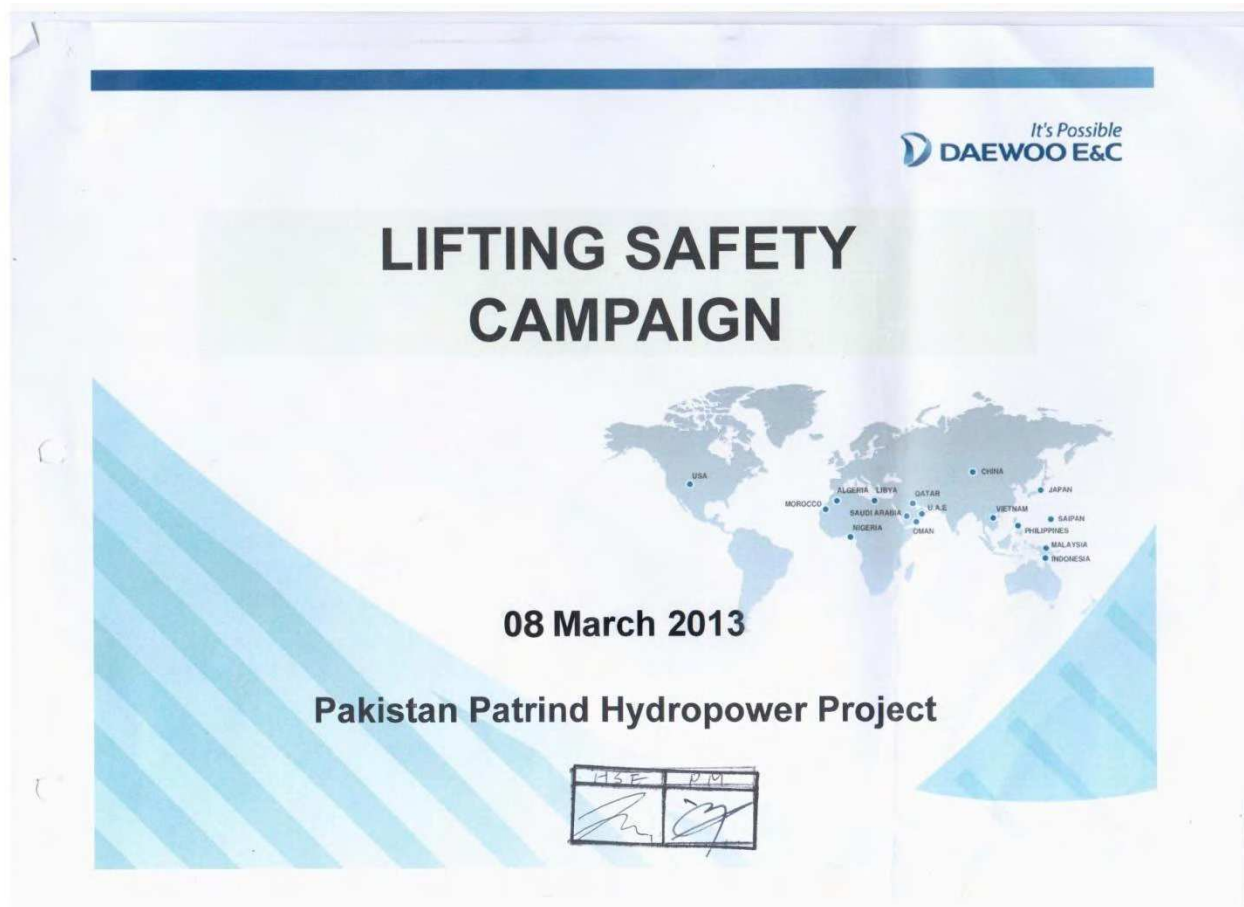
Safety Message: 07:05-07:10 (by the Project Manager Daewoo E&C)

Interpreter: Mushtaq Ahmed (Daewoo E&C)

- ❖ All employees shall participate in the campaign prior to morning shift, as the attendance shall be documented and retained.

Annex F-4

LIFTING SAFETY CAMPAIGN AND SAFETY
AWARD





(6) 행사식순 및 행사 장소

| Agenda | Time | | Content | Location |
|------------------|-------------|----|--|-----------|
| 행사준비 | 06:40-06:50 | 10 | - 앰프, 베너 준비, 대열정리 | Site Area |
| Tool box talk | 06:50~06:55 | 5 | - Lifting Safety (HSE) 상부지 : Ghauri, 하부지 : Mr. Chung | Site Area |
| Best Labor Award | 06:55~07:00 | 5 | - February Best Labor, Manager 상부지 : Mr. Lee, 하부지 : PM Mr. Shin | Site Area |
| DEC PM Speech | 07:00~07:10 | 5 | - Encouragement Speech 상부지 : Mr. Lee, 하부지 : PM Mr. Shin | Site Area |
| 구호제창 및 체조 | 07:10~07:20 | 10 | - HSE Team 상부지 : Ghauri, 하부지 : Mr. Chung | Site Area |
| Site Inspection | 08:00~17:30 | | - HSE Team (Lifting Safety) | Site Area |

* 행사 식순은 상하부지 동일

(Interpreter : 상부지 : Raja(Kyung Dong), 하부지 : Mushtaq Ahmed(Daewoo))



BEST SAFETY MANAGER, ENGINEER AND WORKER OF THE MONTH OF FEB, 2013

LOWER SITE

| NO | NAME | DESIGNATION | COMAPNY | S. NO |
|----|-----------------|---------------|------------|--------|
| 1 | KIM JEA YOUNG | SITE ENGINEER | KYUNG DONG | 13-001 |
| 2 | MAJID KHAN | GEOLOGIST | DAEWOO | 13-002 |
| 3 | ARSALAN AURESHI | SURVEYOR | KYUNG DONG | 13-003 |
| 4 | TABARK ALI | FOREMAN | KYUNG DONG | 13-004 |

BEST SAFETY MANAGER, ENGINEER AND WORKER OF THE MONTH OF FEB, 2013

UPPER SITE

| NO | NAME | DESIGNATION | COMAPNY | S. NO |
|----|---------------|---------------|------------|--------|
| 1 | LEE HO JUN | SITE ENGINEER | SUNGBO | 13-005 |
| 2 | MUSHTAQ AHMED | SITE ENGINEER | DAEWOO | 13-006 |
| 3 | HAKIM DIN | FOREMAN | KYUNG DONG | 13-007 |
| 4 | M ZAMAN | FOREMAN | KYUNG DONG | 13-008 |

제 13-002 호



CERTIFICATE OF MERIT

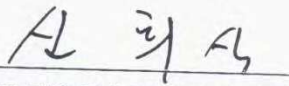
PROJECT : Pakistan Patrind Hydropower PJ
NAME : MAJID KHAN
COMPANY : DAEWOO
TRADE : GEOLOGIST

MANAGEMENT HEREBY CONGRATULATES YOU FOR
BEING ONE OF THE WINNERS OF "BEST ENGINEER"
AWARD FOR THE MONTH OF FEBRUARY, 2013.

WE APPRECIATE YOUR OUTSTANDING PERFORMANCE IN YOUR
DUTY AND PROPER ADHERENCE TO THE PROJECT SAFETY
REQUIREMENTS.

WE WISH YOU GREATER ACHIEVEMENTS IN THE MONTHS AHEAD.




HEE-SIK, SHIN/ PJ MANAGER

Annex F-5

SEMINAR ON INFECTIOUS/SEASONAL DISEASES

Treatment

- › Symptomatic treatment ..
- › Rehydration
- › Medication like chloroquine
- › Mefloquine
- › sulfonamides

Prevention is better than cure

1. Awareness of the risk (1) Pre-travel – Prior to travel to the site or malarial area, all personnel shall be advised about the hazards associated with travel to a malarial area and basic measures that must be taken to protect themselves from contracting malaria. Prior to leaving the site – Prior to leaving the site, all personnel shall be given by the site medical staff a briefing that includes what the signs of malaria infection look like and a letter for them to give to their physician should they develop a feverish illness, or other malaria symptoms.

1. education can also inform people to cover over areas of stagnant still water, water tanks that is ideal breeding ground for mosquito
 2. Use of the mechanical barriers such as insecticides(ddt)
 - › Provide bed nets over beds
 - › Residual spraying of housing and buildings.
 - › Insecticide fogging and spraying of open water with chemicals
 1. Avoid bites of mosquitoes by wearing clothing which limits the amount of exposed skin)
 2. Avoid perfume, scented soaps and wear bright colored clothes, all of which the unfriendly mosquitoes find extremely attractive
- Prophylaxis(take medicine to reduce the risk of malaria)

prophylaxis

- Its important to take medicine that can reduce the risk of catching malaria
- It should be given to full time resident of malaria endemic areas...
- The potential risk of side-effects from anti-malaria is certainly smaller than the risk of Malaria.
- **doxycycline** 100 mg once daily (started one day before travel, and continued for four weeks after returning);
- **mefloquine** 228 to 250 mg once weekly (started two-and-a-half weeks before travel, and continued for four weeks after returning);
- **atovaquone/proguanil** (Malarone) 1 tablet daily (started one day before travel, and continued for 1 week after returning).
- In areas where chloroquine remains effective:
- **chloroquine** 300 to 310 mg once weekly, and **proguanil** 200 mg once daily (started one week before travel, and continued for four weeks after returning);
- Vaccination...under development

Responsibilities

- **Project Manager**
- Has the overall responsibility for ensuring the Site and the temporary facilities is free from the risk of Malaria. He shall provide all necessary support including suitable staff, services and necessary materials required by the medical team to control the Malaria

HSE Manger







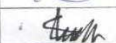


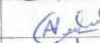
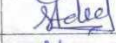



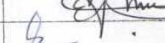



- Shall be responsible for the preparation of the Health Plan in coordination with the client HSE Manager and local authorities to establish the Health requirements of DEC and subcontractor personnel.
- The HSE Manager is responsible for the implementation and management of the Malaria Control Plan at the Site.

- **Doctor/Nurse**
- The Site Doctor and Nurses are responsible for providing first aid, conducting medical examinations and inspections

Healthy citizens are the
greatest asset any country
can have

Thanks
Dr .Asma Malik

HSE TRAINING ATTENDANCE RECORD

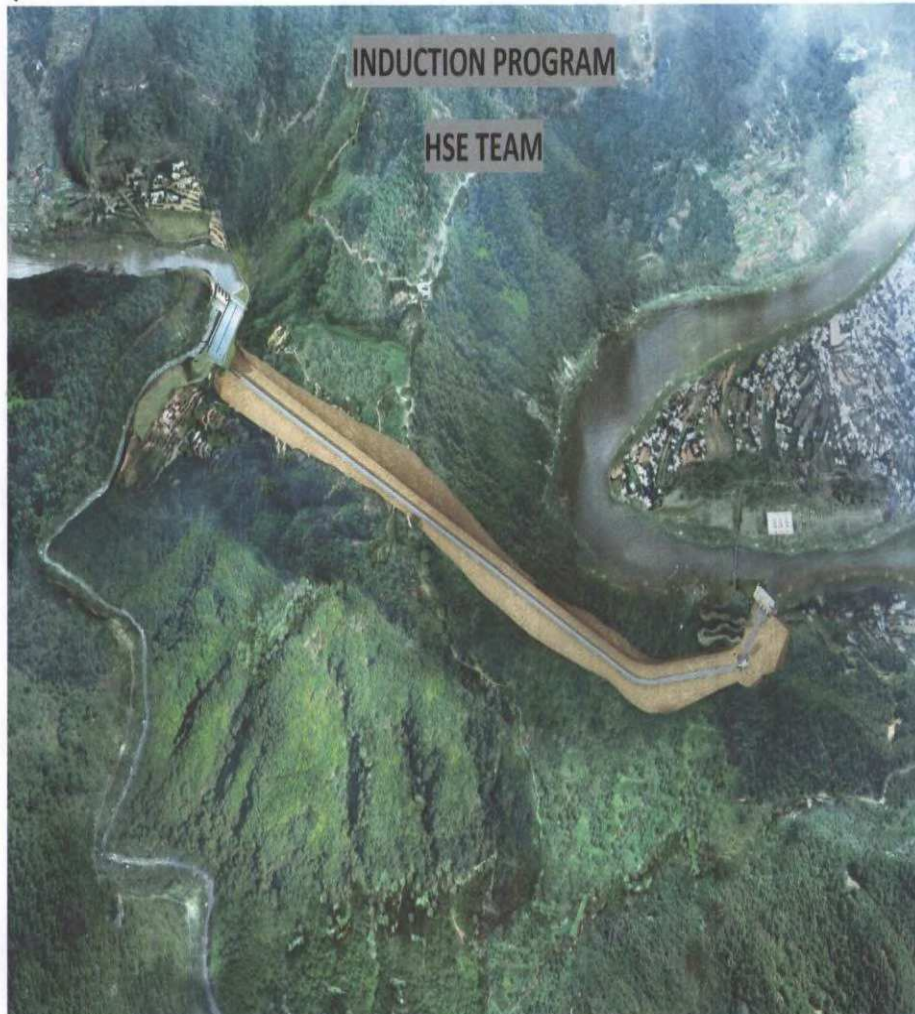
| Course Title | | infectious/seasonal diseases & prevention | Trainer's Name | Dr. Asma Malik |
|-------------------|--------------------------|---|--|--|
| Training Location | | HSE Training Hall | Trainer's Signature |  |
| Date | | 28 March, 2013 | Time | 11:45 AM |
| S/N | Name | Badge No. | Signature | |
| 1 | M. Shahid. | Daewoo |  | |
| 2 | Azmat Hussain Shah. | EJ Tech |  | |
| 3 | Naheem Ahmed Gurashi. | |  | |
| 4 | Aftab Ahmed | PES |  | |
| 5 | Adeel Mughal | Daewoo |  | |
| 6 | Abdul Aziz. | " |  | |
| 7 | Sabir Hussain Shah. | " |  | |
| 8 | Muhammad Munir. | " |  | |
| 9 | M. Hameed. | " |  | |
| 10 | Nasir Shah. | Daewoo |  | |
| 11 | Adeel Manzoor | DAEWOO |  | |
| 12 | Adil yusuf | " |  | |
| 13 | Azom Burchari | " |  | |
| 14 | Gamar Abbas | |  | |
| 15 | EJAZ AHMED | DAEWOO |  | |
| 16 | Syed Dildar Hussain Shah | DAEWOO |  | |
| 17 | Abdul Arif | PES |  | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |

Annex F-6

SAFETY INDUCTION TRAINING MANUAL

DAEWOO E&C

PAKISTAN PATRIND HYDROPOWER PROJECT



COMPLIANCE STATEMENT

1. Must participate in Tool Box Meeting.
2. At the workplace, must wear the proper PPEs. (Personal Protective Equipment)
3. While in a work, needless actions are strongly prohibited.
4. Use only permitted instruments, equipment and machinery.
5. Always keep clear the access way.
6. Always be seated and fasten your seat belt while in motion. (Work at height)
7. Don't approach to high voltage cable and touch with wet hand.
8. Don't use the fire nearby flammable or explosive materials.
9. Only use the access way and don't approach to the dangerous area without permission.
10. Do not allow to ignore or skip the HSE procedures during the work.
11. Comply with HSE regulations of company and requirements.
12. You have to comply with the advice from your supervisor.
13. Housekeeping when necessary at the workplace. (10 minutes before working finish)
14. Alcohol and drug are strictly prohibited.

EMERGENCY RESPONSE

FIRE FIGHTING

Pull the Pin

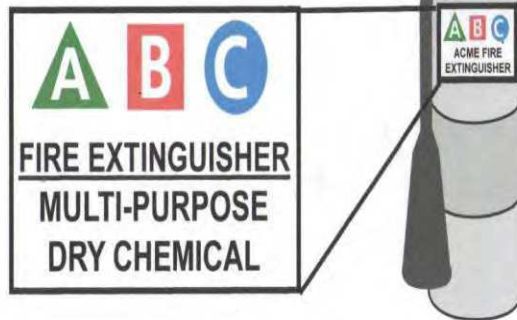
Aim the hose at the base of the fire

Squeeze the nozzle

Sweep the nozzle side to side

IDENTIFYING THE PROPER FIRE EXTINGUISHER

☒ LOOK AT THE FACEPLATE



- Only eliminate the fire if you have adequate means of escape.
- Do not attempt to eliminate fire if gas cylinders are involved, keep distance.
- If a fire is too big (cannot be put out by a portable fire extinguisher) back away.
- Try to contain fire.
- Remove any combustible material around fire if possible.
- Give the location of incident, type, size of fire to Supervisor.

WHEN YOU WORK NEAR THE HOT WORK AREA, CHECK WHERE THE EXACT LOCATION OF FIRE EXTINGUISHER IS.

EMERGENCY RESPONSE

PATIENT

AT FIRST CONTACT YOUR SUPERVISOR

Next you need to make sure the area around the victim is safe, so take a quick look.

If the area is ok, then you can go ahead – but if it's not safe – don't attempt a rescue!

We don't need any dead heroes.

When you first get to the victim you must see if the injured party responds. Tap them on the shoulder lightly and ask them, "Are you ok?" if they respond, tell them that you are there to help them. Move him safe and clean area.

If there no response then you must check the ABC'S. Check their Airway, check for Breathing, and then check for circulation. If you find that there is no pulse present then need to start CPR. When administering CPR a rescuer maintains a steady flow of oxygen and circulates the blood for the victim. CPR should only be given by someone who has completed the training. Once you start this rescue method don't stop until relieved by a medical professional.

Annex F-7

**MONTHLY SCHEDULE
FOR DAILY TOOL BOX TALK / SAFETY
MANGER& SAMPLE REPORT**



**Camp Site Daily Tool Box Talk
(January 2013)**

| Date/Day | HSE Topic | Delivered by | Remarks |
|-----------------|--------------------------------|-----------------|------------------|
| 1/1/2013 (Tue) | | | New Year Holiday |
| 2/1/2013 (Wed) | Zero accident campaign | All staff | Campaign |
| 3/1/2013 (Thu) | Risk Assessment & Management | Majid Khan | |
| 4/1/2013 (Fri) | Environmental Management | Aftab Alam | |
| 5/1/2013 (Sat) | | | Weekend |
| 6/1/2013 (Sun) | | | Weekend |
| 7/1/2013 (Mon) | Fire Prevention and Protection | Yasir Ghauri | |
| 8/1/2013 (Tue) | Concrete work safety procedure | Abdul Mannan | |
| 9/1/2013 (Wed) | Excavation Work Safety | Muhammad Shahid | |
| 10/1/2013 (Thu) | Fall prevention and Protection | Muhammad Aslam | |
| 11/1/2013 (Fri) | Confined Space Entry Procedure | Qazi Rashid | |
| 12/1/2013 (Sat) | | | Weekend |
| 13/1/2013 (Sun) | | | Weekend |
| 14/1/2013 (Mon) | Importance of PPEs | Muhammad Ishfaq | |
| 15/1/2013 (Tue) | Fuel Storage and handling | Majid Khan | |
| 16/1/2013 (Wed) | Electrical Safety | Ahsin Gillani | |
| 17/1/2013 (Thu) | Waste Management | M Rashid Awan | |
| 18/1/2013 (Fri) | Health Management | Khurram Javaid | |
| 19/1/2013 (Sat) | | | Weekend |
| 20/1/2013 (Sun) | | | Weekend |
| 21/1/2013 (Mon) | Office Safety/Security | Iftikhar Rauf | |
| 22/1/2013 (Tue) | Traffic Management | Israr Ahmed | |
| 23/1/2013 (Wed) | Safe Driving | Yasir Ghauri | |
| 24/1/2013 (Thu) | | | Public Holiday |
| 25/1/2013 (Fri) | Site House Keeping | Athar Zubair | |
| 26/1/2013 (Sat) | | | Weekend |
| 27/1/2013 (Sun) | | | Weekend |
| 28/1/2013 (Mon) | Recycling | Aftab Alam | |
| 29/1/2013 (Tue) | Controlled blasting | Majid Khan | |
| 30/1/2013 (Wed) | Electric fire | Ahsin Gillani | |
| 31/1/2013 (Thu) | Fall prevention & protection | Yasir Ghauri | |

HSE P.M.
[Signatures]



Daily Safety Manager




Monthly Schedule for Daewoo E&C Staff

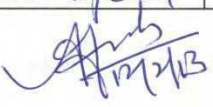
(February 2013)

| Date/Day | Safety Manager | Work Place | Remarks |
|------------------|-----------------|------------|---------|
| 1/2/2013 (Fri) | M.Saboor Khan | Upper Site | |
| 2/2/2013 (Sat) | | | Weekend |
| 3/2/2013 (Sun) | | | Weekend |
| 4/2/2013 (Mon) | Ishfaq Ahmed | Lower Site | |
| 5/2/2013 (Tues) | Seongbin Yoon | Lower site | |
| 6/2/2013 (Wed) | Muhammad Aslam | Upper site | |
| 7/2/2013 (Thur) | TaeHyoKim | Lower Site | |
| 8/2/2013 (Fri) | AhsinGillani | Upper site | |
| 9/2/2013 (Sat) | | | Weekend |
| 10/2/2013 (Sun) | | | Weekend |
| 11/2/2013 (Mon) | Joon Hyun yoon | Lower Site | |
| 12/2/2013 (Tues) | Qazi Rashid | Upper site | |
| 13/2/2013 (Wed) | Majid Khan | Lower Site | |
| 14/2/2013 (Thur) | YasirGhauri | Upper site | |
| 15/2/2013 (Fri) | Muhammad Shahid | Lower Site | |
| 16/2/2013 (Sat) | | | Weekend |
| 17/2/2013 (Sun) | | | Weekend |
| 18/2/2013 (Mon) | M Rashid Awan | Upper Site | |
| 19/2/2013 (Tue) | Su-Kwan Kim | Lower Site | |
| 20/2/2013 (Wed) | Aftab Alam | Upper site | |
| 21/2/2013 (Thur) | Chunghyun Cho | Lower Site | |
| 22/2/2013 (Fri) | Malik Kashif | Upper Site | |
| 23/2/2013 (Sat) | | | Weekend |
| 24/2/2013 (Sun) | | | Weekend |
| 25/2/2013 (Mon) | Israr Ahmed | Lower Site | |
| 26/2/2013 (Tues) | Mushtaq Ahmed | Upper Site | |
| 27/2/2013 (Wed) | Song Kheeseon | Lower Site | |
| 28/2/2013 (Thur) | Youngsik Jang | Upper Site | |

Patrind Hydro Power PJ
Project Manager
HeeSik,Shin

| Daily Safety Manager Report | | | | Patind Hydro Power PJ | |
|-----------------------------|------------|-------------------|--------------------|-----------------------|--------------|
| Date | 2013-02-11 | Daily Safety Mgr. | Philip Yoon (sign) | Safety Mgr. | Project Mgr. |
| Inspection Time | Area | Time | Remark | | |
| | Lower Site | 2:30 PM~4:00 PM | | | |
| | | | | | |

| Label | Description | Photo |
|------------------------|---|--|
| Main Inspection Action | <p>Observation</p> <p>- Steel bar placed on high position is dangerous for workers below. Site should be cleaned and organized.</p> |  |
| | <p>Observation</p> <p>- No signal person when dump truck backed that might cause the fatal accident.</p> |  |
| The Others | <p>Suggestion</p> <p>- Safety helmet should be attached personal information like blood type, name and etc. ✓</p> |  |
| Remarks | HSE Mgr. | Const. Site Mgr. |
| | <p>1) Sub contractor team has been instructed to adopt basic house keeping practices</p> <p>2) All heavy equipment operators have repeatedly warned to place signal person/helpers during movement.</p> <p>3) Stickers having indicated information shall be attached as already order is placed.</p> | <p>1. All Working Area should be Arranged for safety.</p> |



Annex G-1

Community Complaints

عذرات متاثرین رہائشی علاقہ موضع آلڑہ منصوبہ جو سو مہ پترینڈ ہائیڈرو پاور پراجیکٹ مظفر آباد

☆☆☆☆

- 1- یہ کہ پاور ہاؤس سے ملحقہ آبادی کے قریب ترین موجودہ ٹیل میں بارودی بلاسٹنگ کی وجہ سے گزشتہ ڈیڑھ سال سے رہائشی آبادی مکانات کو شدید نقصان ہو رہا ہے مزید برآں کسی بھی جانی و مالی نقصان کا اندیشہ ہے اب تک ٹیل میں کئے گئے دھماکوں سے ہونیوالے نقصانات کا مالی ازالہ کیا جائے۔
 - 2- یہ کہ رقبہ زیر بحث عرصہ 15 ماہ سے زیر التوا ہے جس کا نوٹیفکیشن 4 قانون حصول اراضی مورخہ 12-11-2011 کو جاری کیا گیا تھا۔ جس پر تاحال کوئی ایوارڈ کے حوالے سے پیش رفت نہیں ہو سکی۔ جسکی وجہ سے رہائشی آبادی اپنی تعمیر و مرمت کے حوالے سے گولگو غیر یقینی کا شکار ہے۔ مزید زرعی کاشتکاری سے بھی معذور ہیں جسکا سال با سال نقصان ہو رہا ہے لہذا رقبہ زیر دفعہ 4 بجٹ ملکہ حل کیا جائے۔
 - 3- متعلقہ کمپنی کی طرف سے Safety Enviroment والوں نے اس سے پہلے ساکنان کے مکانات سے متعلق کوئی واضح دلچسپی نہیں لی مزید یہ کہ بلاسٹنگ سے کسی بھی جانی و مالی نقصانات کی ذمہ دار کنسلٹنٹ کمپنی ہے جو کہ نقصانات کو پس پشت ڈال کر کام کر رہی ہے۔
 - 4- کمپنی میں متاثرین کو اہلیت کے باوجود ملازمت میں خاطر خواہ ترجیح نہیں دی جا رہی اور اب جبکہ کمپنی کی طرف سے پورے 15 ماہ کی تاخیر سے H,S,E کے نمائندے مکانات کی موجودہ کنڈیشن کو چیک کر رہے ہیں۔
- اس سلسلہ میں متاثرین سے متعلقہ کمپنی اور حکومتی انتظامیہ تحریری معاہدہ کرے جسکی روشنی میں آئندہ ہونیوالے نقصانات کے ازالہ کیلئے ثبوت بھی پیش کر کے مالی کلیم حاصل کر سکیں۔
- اس سلسلہ میں گزشتہ ڈیڑھ سال میں بارہا مرتبہ ساکنان حکومتی انتظامیہ اور متعلقہ کمپنی سٹار ہائیڈرو پاور کو تحریری آگاہی کروا چکے ہیں۔

العارضان

- | | |
|------------------------|---------------------|
| 1- عبدالقیوم عبدالغفور | 2- محمد اشرف |
| 3- محمد سرفراز خان | 4- ثار احمد عباسی |
| 5- وقار احمد عباسی | 6- راشد پرویز قریشی |
| 7- محمد فاروق عباسی | 8- اشتیاق احمد |
| 9- مشتاق احمد عباسی | 10- مبارک علی |
| 11- بشارت علی | 12- لیاقت عباسی |
- 13- عابد علی Abid

(Translated version of above mentioned complaint)

Concerns raised by Alda residents

1. It is to state that since last one and half year, residential houses adjacent to power house area have been damaged due to explosive blasting in nearest tunnel. Moreover, any life or property damage could happen and therefore may be compensated.
2. Land acquisition of aforementioned area is under adjournment despite the notification had been issued on 12/11/2011 but no further process for land acquisition has been carried out putting people in dilemma regarding rehabilitation activities.
Furthermore, due to lack of agricultural activities a considerable loss is being faced by the people therefore matter may be resolved soon.
3. Company safety department had not shown any interest regarding house damages and in future company shall be responsible for any loss.
4. Despite fulfilling qualification local have not been preferred for jobs and now HSE Department is checking houses after a considerable delay on part of company.

In this regard, we demand a contract in writing with the company, Government and the relevant people, so that it may be used as evidence in future to claim compensation.

In past one and half year, appellants have raised the issues many times verbally and in writing for information /action.

- | | |
|---------------------------|---------------------------|
| 1. Abdul Qayyum | 2. Muhammad Ashraf |
| 3. Muhammad Sarfraz Khan | 4. Nisar Ahmed Abbasi |
| 5. Waqar Ahmed Abbasi | 6. Rashid Pervaiz Qureshi |
| 7. Muhammad Farooq Abbasi | 8. Ishtiaq Ahmed |
| 9. Mushtaq Ahmed Abbasi | 10. Mubarik Ali |
| 11. Basharat Ali | 12. Liaqat Abbasi |
| 13. Abid Ali | |

Annex G-2

SURVEY OF POTENTIAL DAMAGE OF BLASTING ACTIVITIES TO HOUSES/STRUCTURES

1. Summary of House Survey at Weir Site

House survey at Weir site has been completed during 25th Feb to 05th Mar 2013 by Subcontractor, Sungbo & Kyungdong jointly, with attendees from EPA and OE.⁴⁷

Survey had been conducted for the houses which are located away 450~500m from the site after obtaining consent of house's owners. But some house's owners had rejected to survey on their houses which are one (1) house of Patrind village and one (1) house of Tarcheela village. Meanwhile, there were eight (8) dismantled houses in Sarati village.⁴⁷

Photos had been taken on the cracks and crack gauges had been installed on the main cracks. But measurement of each crack had not been measured due to rejection of house's owners and their signature also had not been able to taken on the survey sheets.⁴⁷

In conclusion, twenty-seven (27) houses had been surveyed and one (1) house had been rejected at Patrind village, seven (7) houses had been surveyed and two (2) houses had been rejected at Tarcheela village, seven (7) houses had been surveyed and eight (8) houses had been investigated as dismantled houses.⁴⁷

The purpose of house survey is to avoid the argument when construction works are started like blasting. Measurement equipment will be installed and measured to identify consistently on surveyed houses whether those data is satisfied with standard of vibration and noise.⁴⁷

House Survey Sheet

Patrind Hydropower PJ

| | | | |
|---------------------|-------------------------------------|--------------------|--------------------------------|
| Village Name | Patrind | No. | _____ of Total _____ Buildings |
| Owner | MOHAMMAD HASSAN | Survey Date | 25. Feb .2013 |
| Address | Number – 2 | | |
| Structure | RC Block Brick Wood Mud | | |
| Dimension | H () x W () x L () | | |

House Layout (Sketch and Cloud Mark on Major Crack Area)

[Owner of the house]



Photos



Crack No.01



Detail



Crack No.02



Detail



Crack No.03



Detail



Crack No.04



Detail

Annex G-3

Local Employment Status

Local Employment Status
PJ: Patrind Hydro Power Project
March 28, 2013

| Head | | Total | | AJ&K | | | | | | | KPK | | | | | | Punjab | |
|-----------|---------|-------|---------|-------|------|---------|-----------|--------|-----------|--------|--------|-----|--------|--------|-----------|--------|--------|--------|
| | | | | Thori | Alda | Patrind | Tarcheela | Others | Sub-Total | | Sarati | Boi | Dalola | Others | Sub-Total | | | |
| Daewoo | Total | 98 | 100.00% | 3 | - | 2 | - | 49 | 54 | 55.10% | - | 4 | 6 | 11 | 21 | 21.43% | 23 | 23.47% |
| | Manager | 10 | | - | - | - | - | 2 | 2 | | - | - | - | 1 | 1 | | 7 | |
| | Staff | 88 | | 3 | - | 2 | - | 47 | 52 | | - | 4 | 6 | 10 | 20 | | 16 | |
| | Labour | - | | - | - | - | - | - | - | | - | - | - | - | - | | - | |
| Sungbo | Total | 31 | 100.00% | - | - | 10 | - | 9 | 19 | 61.29% | - | 3 | 2 | 3 | 8 | 25.81% | 4 | 12.90% |
| | Manager | 1 | | - | - | - | - | - | - | | - | - | - | 1 | 1 | | - | |
| | Staff | 6 | | - | - | 1 | - | 1 | 2 | | - | 1 | 2 | 1 | 4 | | - | |
| | Labour | 24 | | - | - | 9 | - | 8 | 17 | | - | 2 | - | 1 | 3 | | 4 | |
| Kyungdong | Total | 143 | 100.00% | 3 | 10 | - | - | 68 | 81 | 56.64% | - | 2 | 14 | 29 | 45 | 31.47% | 17 | 11.89% |
| | Manager | 2 | | - | 1 | - | - | - | 1 | | - | - | - | - | - | | 1 | |
| | Staff | 21 | | - | 3 | - | - | 13 | 16 | | - | - | 1 | 2 | 3 | | 2 | |

Environmental & Social Monitoring Report (January-March 2013)

| Head | | Total | | AJ&K | | | | | | | KPK | | | | | | Punjab | |
|-------|---------|-------|---------|-------|------|---------|-----------|--------|-----------|--------|--------|-----|--------|--------|-----------|--------|--------|--------|
| | | | | Thori | Alda | Patrind | Tarcheela | Others | Sub-Total | | Sarati | Boi | Dalola | Others | Sub-Total | | | |
| | Labour | 120 | | 3 | 6 | - | - | 55 | 64 | | - | 2 | 13 | 27 | 42 | | 14 | |
| Total | Total | 272 | 100.00% | 6 | 10 | 12 | - | 126 | 154 | 56.62% | - | 9 | 22 | 43 | 74 | 27.21% | 44 | 16.18% |
| | Manager | 13 | | - | 1 | - | - | 2 | 3 | | - | - | - | 2 | 2 | | 8 | |
| | Staff | 115 | | 3 | 3 | 3 | - | 61 | 70 | | - | 5 | 9 | 13 | 27 | | 18 | |
| | Labour | 144 | | 3 | 6 | 9 | - | 63 | 81 | | - | 4 | 13 | 28 | 45 | | 18 | |

Annex H-1
CONFINED SPACE GASES CONCENTRATION

Environmental & Social Monitoring Report (January-March 2013)

GAS TEST RECORD

Location : Adit Tunnel And HRT, Power House Area

P1 : Inlet of the adit tunnel.

P2 : Inlet of HRT.

P3 : Middle of HRT.

| DATE | STATION | TIME | GAS TEST RESULT & ALLOWABLE LIMIT | | | | DAILY VALIDATION | |
|------------|---------|-------|-----------------------------------|----------|----------|-------------|------------------------------|------------------------------|
| | | | LEL | H2S | Co | O2 | AREA GAS TESTER | HSE Manager |
| | | | 0-10% | 0-10 PPM | 0-50 PPM | 19.5%-21.5% | SIGN | SIGN |
| 18/03/2013 | P1 | 8:26 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P2 | 8:29 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P3 | 8:31 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| 18/03/2013 | P1 | 16:34 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P2 | 16:36 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P3 | 16:39 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| 19/03/2013 | P1 | 9:52 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P2 | 9:56 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P3 | 9:58 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| 19/03/2013 | P1 | 17:06 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P2 | 17:09 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P3 | 17:11 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| 20/03/2013 | P1 | 9:55 | 0 | 0 | 6 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P2 | 9:59 | 0 | 0 | 4 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P3 | 10:02 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| 20/03/2013 | P1 | 16:21 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P2 | 16:24 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P3 | 16:28 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| 21/03/2013 | P1 | 07:40 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P2 | 07:43 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P3 | 07:46 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| 21/03/2013 | P1 | 16:36 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P2 | 16:38 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P3 | 16:41 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| 22/03/2013 | P1 | 9:16 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P2 | 9:19 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P3 | 9:22 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| 22/03/2013 | P1 | 17:14 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P2 | 17:16 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |
| | P3 | 17:19 | 0 | 0 | 0 | 20.9 | <i>Handwritten signature</i> | <i>Handwritten signature</i> |

Annex H-2

Blasting Checklist

| BLASTING CHECKLIST | | |
|---|---|---|
| Blast Date: <u>23/3/2013</u> | | Blast Location: <u>Adit Tunnel</u> |
| 1 | ONE (1) HOUR WARNING GIVEN TO DISPATCH Warning given to PIC, Area Authority as required | <input checked="" type="checkbox"/> Time Completed: |
| 2 | GUARDS POSTED (Not later than 15 minutes prior to blast) | <input checked="" type="checkbox"/> Time Completed: |
| 3 | ALL SITES CLEARED AND CONFIRMED BY RADIO WITH ON-SITE PARTIES (Not later than 15 minutes prior to blast) | <input checked="" type="checkbox"/> Time Completed: |
| 4 | AIRCRAFT DISPATCHER ACKNOWLEDGES 15-MINUTE WARNING, INCLUDING CONFIRMATION OF BROADCAST TO AIRCRAFT ON VHS & FM | <input checked="" type="checkbox"/> Time Completed: |
| 5 | ALL GUARDS REPORT THAT ALL TRAFFIC AND PERSONNEL HAVE BEEN HALTED SINCE 15-MINUTE WARNING (Immediately prior to 5-minute warning) | <input checked="" type="checkbox"/> Time Completed: |
| 6 | FIVE (5) MINUTE WARNING GIVEN TO DISPATCH | <input checked="" type="checkbox"/> Time Completed: |
| 7 | FIVE (5) MINUTE WARNING GIVEN | <input checked="" type="checkbox"/> Time Completed: |
| No blasting can occur till all above items have been completed | | |
| 8 | SHOT FIRED | <input checked="" type="checkbox"/> Time Completed: |
| 9 | ALL CLEAR SIGNAL GIVEN AND ACKNOWLEDGED BY PERSON IN CHARGE OF WORK, AREA AUTHORITY & AIRCRAFT DISPATCHER | <input checked="" type="checkbox"/> Time Completed: |

SHOT FIRER CONFIRMATION THAT SITE HAS BEEN INSPECTED AND SAFE:

Print Name: Muhammad Javed Signed: [Signature]
Date: 23/3/2013

SCL006

Revision : 0

Annex H-3
Payment Voucher/Sample Form

**Award
No.**

Date of Issuance:

**Project
Name:**

Register for the Compensation- Office of the District Land Collector (Rural) Muzaffarabad

* The person is getting the amount without any complaint and in future if any of the recipient launch any complaint or a court case then he has to return the received amount.

| Sr. No. | Sr. No. in Award | Page No. in Award | Type of acquisition | Name of the Owner | Total Amount to be paid PKR | Cheque Number | Signature/Thumb impression of the recipient | Witness Name, CNIC No. and signature/thumb impression | Officer's Signature and Stamp |
|---------|------------------|-------------------|---------------------|-------------------|-----------------------------|---------------|---|---|-------------------------------|
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

Total on this page

رجب من ربيع الأول (1440 هـ) إلى ربيع الثاني (1441 هـ) من ربيع الأول (1442 هـ) إلى ربيع الثاني (1443 هـ)

مظہرین بذیل کو تک کے ساتھ رقم معاوضہ بیع اعتراض وصول کرتے ہیں۔ بعد از وصول کسی بھی تفریق سے کوئی عذر و اعتراض ادا مقدمہ دائر عدالت کیا تو مظہر رقم معاوضہ واپس داخل دفتر جمع کرانے کا پابند ہوگا۔

[illegible]