Environmental and Social Quarterly Monitoring Report

Project Number: 38928 (Loan 2198)
December 2012

PAKISTAN: New Bong Escape Hydropower Project
Environmental and Social Issues Compliance Report (October to December 2012)

Asian Development Bank

LARAIB Energy Limited

A HUBCO subsidiary

New Bong Escape Hydroelectric Power Project

Environmental and Social Issues Compliance Report

Quarterly Report

October 01, 2012 – December 31, 2012

Laraib Energy Limited

Islamabad

TABLE OF CONTENTS

A. Project/Business Name and Summary Information

a) Location of project/business

Village Lehri, Tehsil and District Mirpur, Azad Jammu and Kashmir.

b) Nature

Run of river, low head Hydropower Project.

c) Scale/size

84MW (4 bulb turbines of 21MW each) with average annual generation capability of 470GWh.

d) Date of construction/operation commencement

Construction commencement: December 29, 2009

e) Name, designation and signature of person responsible for preparing/reviewing the report

Prepared by: Mr. Jahanzeb Murad- Manager ESOHS

B. Relevant Environmental Permits or Compliance Certificates

a) Issued by which government agencies

1. Environmental Protection Agency Azad Jammu and Kashmir (EPA-AJ&K).

b) Issuance dates and duration of validity

1. February 26, 2007 for the Project term (the "Original NOC").
2. Revised NOC issued on August 25, 2010 for the Project term (the "Revised NOC")

c) Permit conditions and renewal requirements.

From Revised NOC

1. The Company will resolve all social issues if any? Like land compensation, human displacement etc at project site.
2. Appropriate land slope stabilization steps will be taken and maintenance of tailrace will be carried out as given in construction plan to forestall the possible soil erosion.
3. Training programs for the officers and workers will be organized under the supervision of AJK-EPA.
4. Periodic water sprinkling will be done to minimize the dust emission and Solid Waste will be properly managed at project site by practicing segregation at source.
5. As part of obligation under IEE, Plantation has been completed on flood protection dike, Total 14,000 plants has been planted at flood protection dike.
6. The Company and Contractor shall provide safe drinking water to all employees/workers. The ground water of the project site is chemically and biologically contaminated and not fit for human consumption hence is avoided for consumption and water analysis to be carried out on fortnightly basis to monitor its quality and results be furnished to EPA.
7. The machinery and all transport will be fixed with double chamber silencers and night time work shall be avoided and music will not be played in high volumes to avoid the noise pollution.
8. The Company and Contractor will be responsible for health and safety of the entire workforce and will provide good working environment. Occasional training programs will be conducted by the Company for the workers to meet with the emergences. Safety hand gloves, helmets, long shoes, goggles and masks will be provided to all the workers during working hours.

9. The Environmental Compliance Officer of the Company and the Contractor shall present all the time at project site to check/ensure the environmental performances of the project and also to check the progress towards EMP compliance.
10. The Company and the Contractor will provide un-skilled, semi-skilled and skilled Jobs to AJK Nationals on priority and especially to the Local people of the project area.
11. The AJK-EPA can make any surprise visit to check the environmental performances and also to check the progress on EMP.

C. Incidents of Violations or Non-Compliance

1. The following information regarding incidents of violations or non-compliance A has been recorded

   (i) Source of finding
   (ii) Description of finding
   (iii) Action required
   (iv) Target date
   (v) Responsibility

2. Status of Incidents of violation and non compliance along with its corrective actions in the form of ESOHS Corrective Action Plan (ESOHS CAP) are attached as "**Exhibit-01".** The following is the status of ESOHS CAP as of December 31, 2012.

   - Total number of observations 184
   - Number of Issues closed 173
   - Number of Issues In Progress 03
   - Number of Issues open 08

D. Incidents of Environmental and Safety Accidents

a) Environmental Accidents and Mitigation

1. No Environmental accident has been reported in this quarter.

b) Health and Safety Accidents and Mitigation

1. The summary of accidents encountered from October to December 2012, are as follows;

Type of incident	Oct	Nov	Dec	Total
LTI	**o**	**1**	**0**	**1**
Near Miss	2	2	2	6
First Aid Cases	1	2	2	5
Critical Injury	0	1	0	1
Occupational injury/illness	10	10	11	31
Incident Property damage	0	0	0	0
Medical Treatment case (routine checkups) (All these cases are seasonal diseases like nausea, flue and cough, headache etc)	61	47	56	164
Total Unsafe Acts/Unsafe Conditions (UA/UC) (All reported UA/UC have been incorporated in ESOHS CAP with the updated progress on each reported UA/UC)	10	10	11	31
Total number of man-hours without LTI &I	**4,22,340**			

2. Routine medical examinations were conducted for newly hired workforce and other sub-contractor's crew.

c) Near Miss:

1. A stone flow from the underneath of the tyre of dump truck and cross from very close to the worker.
2. During unloading of shuttering plates from self loading crane steel plate slipped and fell in the close proximity of the workers working there.
3. An aluminum gutter (drain) of 6m length and weighing 5 kg fell on ground during the construction of roof top of the parking shed, luckily missing the persons working there.
4. A steel tub of hot water fell on ground during handling it by the cooking helper, but no harm is reported.
5. Upper section of existing electric pole subsided during dismantling after the auxiliary boom of the under size crane crinkled because of heavy load. No damage or human injury is reported.
6. Dry grass and shrubs caught fire near old Bong and in front of residential area, no loss is reported

7.

All above near miss attached as ***"Exhibit 02"***.

d) First Aid Cases:

1. Mr. Imran hit by the steel pipe on his left leg; icepacks were applied at the swelling and then shifted to the clinic for further Assistance.
2. A laborer Mr. Nawaz got blunt trauma on left elbow, as a first aid medical jel was applied at site and sent to the site clinic.
3. A carpenter Mr. Mohsin got minor cut wound on the thumb of his left hand , as a first aid a pressure bandage was applied at cut wound at site later he visited the site clinic for further assistance.
4. A Chinese lady worker Ms Gaolin slipped during working at erection bay and developed swelling at lower part of the right leg, pain killer was provided her at site and shifted to site clinic.
5. A laborer Mr. Nazim's left foot twisted while working at site and got ankle sprained, pain killer jell was applied at site and then shifted to site clinic for further treatment.
   Detail of all above first aid cases is attached as ***"Exhibit 03".***

e) Incident Property damage

1. No property damage reported.
2. **Loss Time Injury**
3. One case of loss time injury occurred in this quarter on Nov 01, 2012 when a fitter fell from 7 meters height during the erection of electric pylons. He was provided first aid at site clinic later; he was referred to Lahore General Hospital Lahore and remained under treatment till Nov 7, 2012.
   Nature of injuries, fractures and medical treatment is described in the accident investigation report which is attached as ***"Exhibit 04"***

f) Report of Unsafe Acts/Unsafe Conditions

UA/UC reported in October: Ten unsafe acts/ unsafe conditions (UA/UC) are reported in October. All reported UA/ UC along with their corrective actions are mentioned below:

1. A worker was observed throwing scaffolding pipes on ground from height without bank man there. Activity was brought to a halt till the deployment of bank man there.
2. A welder was observed welding the metal piece without face shield. He was advised to wear the mandatory PPE's before welding activity.
3. A worker was observed riding the tripod stand without safety harness, he was advised to wear the safety harness and then start the activity.
4. Some workers were observed working directly under the lifted load at erection bay; a tool box talk was given the working crew about safe crane operations.
5. A worker was observed working at height wearing the safety harness but not hooked during the erecting the electric pylon. He was advised to avoid such unsafe acts that put life in danger.

6. Mid railing was observed missing at downstream openings of gates, as a corrective action railing was arranged there.
7. A naked wire observed directly plugged in the socket, as a corrective action a proper plug was arranged to minimize the electric shock hazard.
8. Over speeding was observed in front of office area, as a corrective action driver was advised to follow the safe driving procedure.
9. Opening of access lift observed missing the guard railing, as a corrective action guard railing has been installed there.

Sharp edges of cable trays observed unattended at transformer area, as corrective action all unattended pieces were collected and placed at one place.

UA/UC reported in November:

Ten unsafe acts/ unsafe conditions (UA/UC) are reported in November. All reported UA/ UC along with their corrective actions are mentioned below:

1. Flammable material observed in warehouse along with other items as corrective action flammable materials have been removed and shifted to designated places. A safety sign board for flammable items have installed there.
2. Smoking points were found inside the working area as a corrective action smoking point have been shifted outside the power house and office building to avoid any untoward fire incident.
3. A worker was observed grinding the concrete wall of stop log storage area without safety goggles as a corrective action he was advised to ensue the use of mandatory PPE's before the commencement of such activities.
4. A steep ramp at headrace with the risk of overturning of vehicles as a corrective action a gradual slope was maintained for easy access of dump trucks.
5. A worker was observed swimming in water on a rubber tube at head race, as corrective action a disciplinary action was taken against him and he was fired from site to teach the lesson to other workers so that no one should dare to repeat the practice
6. A worker was observed walking over slope of embankment wall at downstream, as a corrective action he was given a verbal warning and advised to avoid such type of practice, warning signs has also been installed on both side embankment wall.
7. Team of worker busy in installation of railing at embankment wall with poor housekeeping, as a corrective action they were advise to arrange all items properly on ground instead of keeping on embankment wall.
8. A group of workers were busy in the maintenance of NBE gates without any kind of guard railing, as a corrective action work activity stopped and advice to arrange railing before the commencement of the work.
9. Poor lighting arrangements at public road, new lights have been installed there to illuminate the area.
10. Solid waste observed outside the waste drums placed along the bank of old bong, as corrective action rubbish was placed inside the waste drums.
11.

UA/UC reported in December:

Eleven unsafe acts/ unsafe conditions (UA/UC) are reported in current month. All reported UA/ UC along with their corrective actions are mentioned below.

1. Wall opening for elevator inside the office building observed missing the guard railing, as a corrective action hand railing has installed to avoid personal fall.
2. A disk insulator fixed on electric pole of 11 kV line observed broken, as a corrective action WAPDA (Line owner) was informed and was replaced with the new one on same day.
3. Fabricator observed without life jacket while fixing guard railing at right embankment wall at head race as a corrective action area supervisor was advised to avoid such practices near deep waters and he was provided a life jacket.

4. Smoking butts observed inside the gear insulated switchyard (GIS) room thrown by some unknown worker as a corrective action area supervisor advised to keep vigilance on smokers and take a stern action.
5. Erection of electric pylons in progress without proper anchoring of safety harness by the erection crew, as a corrective action a tool box talk was delivered on use of safety harness.
6. A canister with flammables observed near the smoking point in the back side of Laraib office, as a corrective action ESOHS officer Laraib was informed and within no time he removed the diesel canister and advised the employees concerned to avoid the practice in future.
7. Used oil drums observed placed on soil having chances of spillage, as a corrective action triple layer of polyethylene sheet has been laid beneath the drums.
8. Naked wire observed plugged in electric socket, as a corrective action two pin electric shoe arranged to make the proper arrangement.
9. Missing of safety sign near oil storage areas, as a corrective action respective safety signs have been installed at site.
10. Passage of workers through transformer deck has been checked by installing hard railing on both entrances.
11. A bulk quantity of Mud observed on the public road spilled from tailgate of dumper as a corrective action the road is cleaned by removing the mud to avoid any slipping hazard.

E. Labor Relations and Conditions

S. No	*Parameter*	*Actions Taken*
I.	Nature of labor dispute or grievance	Since the start of the construction activity, no incidents of violation took place.
II.	Permit conditions and renewal requirements	No new requirements
III.	Authorities in charge of investigation/recording	No new requirements
IV.	Media or community reactions (if any)	• Work on jeepable Tailrace Bridge has been started after award of contract to a third party contractor. • In nearby government girl's school, Laraib have constructed 5 wash rooms.
V.	Corrective actions, deadlines, identification of responsible parties	No new requirements

F. Environmental Capacity

a) Record of Trainings:

1. Officer ESOHS Laraib and the Contractor delivered a total 8 trainings to its staff. The distribution is described below.

i.

ii. Fire fighting and emergency response training and drill have been conducted in Laraib office by third party trainer (FIST).

iii. Mandatory Personal Protective Equipments (PPE's) and Housekeeping

iv. Fire Fighting

v. Welding Safety

vi. Floor holes and Openings Safety

vii. working near water body

viii. Fire Fighting & Responsibilities of ERT

Food Safety and Hygiene Matters

ix. The training agenda is attached as ***"Exhibit-05".***

b) Toolbox Talks:

1. The Contractor delivered total of 40 toolbox talks to staff. The distribution is described below.

i. The Contractor conducted 13 tool box talks in October, 11 in November and 16 in December 2012. The toolbox talk manual is attached as ***"Exhibit-06"***.

ii. Keeping in view the established procedures of Environmental Management System (EMS), the Employer has placed UA/UC Card in Site Office for creating awareness about Health and Safety inside the office employees.

G. Stakeholder Consultation/CSR Activities

a) Details of consultations

1. A Community Complaint Register (CCR) is placed at the entrance gate of the Site along with the sign board to communicate its location. All complaints in CCR have been addressed and resolved for developing good relations with the nearby community.
2. Efforts have been made by the Company by the Contractor in developing good relations with the nearby communities.
3. Company's community liaison officers are in closed coordination with community of the project surroundings. Verbal complaints are also received and recorded.
4. Pursuant to the Community complaint regarding water flow from Surat siphon, the Contractor replaced the gabion structure with the flat structure in order to avoid movement of water in nearby private lands. Laraib has also allocated additional funds to take further measures to mitigate any residual impacts of this issue even beyond the project area
5. As a standard practice, the Contractor checks the CCR on daily basis. Additionally, the Company checks the register regularly to ensure smooth functioning of Construction period.
6. Company is promoting community relations as on June 2012, all emerged community complaints have been addressed and no complaint is pending.
7. Local employment has been created to enhance the local employment and community relations.
8. As per the EPC Contract Clause K-B- 4.1, the Contractor will provide facilities for the locals and their cattle's i.e. washing, bathing and animal's drinking water facility along the tail race channels. As the way forward, the Contractor identified three locations for providing such facility. The identified locations are located at RD 6+150 Pindi Siphon, RD 5+400 Chohan Siphon and RD 4+650. Activity has been completed.
9. As CSR activity 5 washrooms is have been constructed in government girls school Village Lehri, which is basic requirement of the school. Following are the pictures of constructed Toilets.

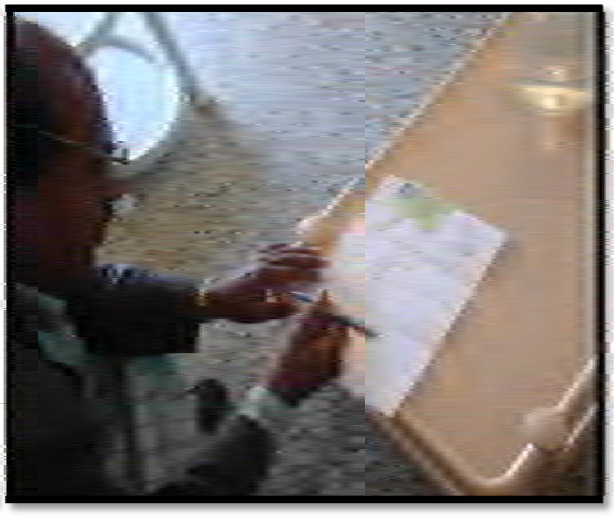

10. As part of obligations under the IEE, Plantation at flood protection dike has been completed. Total 14,000 plants have been planted at flood protection dike. Maintenance of plants is in progress following are the pictures of plantation.


11. As CSR activity, Construction of bridge for community access at the location of RD 4+600 is in progress. As CSR activity, filling of ditches of play ground and graveyard of LEHRI village

has been completed, Approximately 200 dumpers have unloaded there, Picture are below.


12. As a CSR activity, repairing and gabion placing work of LEHRI village graveyard dyke has been completed.


13. As a CSR activity Laraib contributed 400,000 PKR for the construction of protection dyke in near village Gandy Sarwani. Laraib ESOHS Manager handed over the Cheque to the community representative

14.

15.

H. Monitoring and Compliance

1. Environmental Management Plan (EMP) is the document providing the description of methods and procedures for mitigating and monitoring the impacts of the Project activities. Thus, it acts as a tool which provides assurance of implementing the Project activities in an Environment friendly manner.
2. The Contractor reported Environmental Social Issue Management Plan (ESMP) / Environmental Management Plan (EMP) after incorporating updated status of Environmental Sampling of drinking water, surface water and waste water quality and noise level. Also, the quantification of generated Solid Waste has been included in update ESMP/EMP, attached as ***"Exhibit-07".***
3. Laraib and Contractor devised the way of implementing EMP by conducting periodic Audits, Inspections and walkabouts. In order to track the level of implementation of Audits and Inspections, Laraib and the Contractor has formally signed the ESOHS Corrective Action Plan (ESOHS CAP). The Contractor has provided timeframes for completion of actions in various ESOHS weekly meetings held on Site and clearly identified responsibilities for implementation across all parties.
4. In order to reduce soil erosion, culverts have been constructed on the siphon's outlet, joining the tail race. It helps to reduce the soil erosion as well as speed of rain water falling in the tailrace channel.
5. To reduce soil erosion alongside the tail race channel coble and boulders have been placed, after placing geo-textile layer of non woven fabrication at the interface of gravel.

a) Recommendations

1. As per MM recommendation Scaffolds are inspected by a competent person, in the current month two inspections are conducted, proper fall protections i.e. railings and braces have been provided at accesses and egresses.
2. As per MM recommendation a local contractor has been hired from Mirpur for the transportation and disposal of non recyclable waste at Mirpur Municipality approved site. The contractor has started services from June 05, 2012 and collecting all the waste from dumping pit also for its safe disposal.
3. In order to eliminate the tripping and falling hazard at project site, housekeeping has been ensured by managing the same kind of items at same place and it is a continuous activity. More over in order to avoid falling hazard permanent guard railing has been installed along the stairs in the office building of power house
4. As per MM recommendation different kinds of incidents are recategorized and guidelines have been developed again for better understanding, for brief description the document naming "Categorization of Incidents" is attached as ***"Exhibit 08"***. All incidents are reported accordingly.

5. As per MM recommendation documented chain of custody of recyclable waste is maintained at project site as a continuous activity. It comprises complete address of the contractor, quantity of the waste delivered, date of delivery and receipt of handing over and taking over of the waste.
6. As per MM recommendation smoking area has been designated outside the office, power house and Labor camp.
7. As per MM recommendation new format of risk assessment has been developed including residual risk and is being implemented and implemented accordingly.
8. As per MM recommendation frequency of scaffold inspection has been increased from monthly to weekly basis and will be implemented from 1st October 2012.
9. As per MM recommendation community complaint record included in monthly report if reported and summary of complaints attached as ***"Exhibit 09"***.

b) Air

1. Ensuring the dust suppression due to transportation activity, all paved roads are being sprinkled with water on continuous basis. Water is also sprinkled in construction areas regularly.
2. Regular servicing has been conducted, in order to control the smoke emission from the construction vehicles.
3. Keeping in view the dust emissions, speed limits for HTV and LTV vehicles have been communicated and monitored.
4. Loading and unloading of trucks is being carried out at appropriate places on Project Site away from receptors for dust during activity.
    1. Emission of SOx, NOx, CO and CO2 has been minimized by regular servicing of the light and heavy transport vehicles. Physical monitoring is carried out in this regard.

c) Water (Surface and Groundwater)

5. The Contractor conducts service of the drinking water treatment plant, according to its supplier's instruction. The general method of servicing includes replacement of water filters with the pore size 1 micron and 5 micron, in order to maintain the water quality. Also, all pipes, joints and taps were rinsed with hot water and reaffixed for usual working.
6. Though, the Contractor has properly stored fuel in fuel tank, but, as pro-active approach and standard practice, the Contractor is checking the level difference (if any) of the liquid fuel on monthly basis for determining any leakage. This pro-active approach helps to determine any groundwater contamination.
7. Fuel station and used lubricant storage areas are properly maintained, in order to prevent contamination of surface and ground water sources by accidental spillages of oil and fuel.

8. In order to check any leakage, Level difference (if any) of the liquid fuel in underground fuel storage tanks is measured twice a month at the end and before start of shift. It helps to check whether there is any kind of contamination to the ground water.

1.1.1 Waste Generation and Management

The Contractor has quantified produced Solid waste for the months of October, November, and December 2012. Different types of waste produced at site are as follows;

October 2012:

General Waste:

Type	*No. of solid waste generated*	*Total weight of generated waste (Kg)*
Used engine oil	1 drums of 200 liter each	165.6
Cement/ Slag Bags	1053 bags of 0.35 kg each	368.5
Waste Tires	2 number of 62 kg each	124
Used batteries	• 1 LTV battery of 13 kg • 1 HTV batteries of 30 kg each	43
Total		**701.1 (Kg)**

Food Waste:

Description	*Tetra packs (Kg)*	*Plastic bags (Kg)*	*Paper (Kg)*	*Metal*	*Food (Kg)*
Local Staff Mess hall	3.50	2.50	07.75	3.75	110.00
Local Labor Mess hall	6.50	1.80	13.80	7.50	157.00
Korean Staff Mess hall	3.00	1.50	05.50	4.25	49.00
Offices	1.50	1.00	16.50	2.50	06.00
Sub Total	**14.50**	**6.80**	**43.55**	**18.00**	**222.00**
Total		**304.85**			

November 2012:

General Waste:

Type	*No. of solid waste generated*	*Total weight of generated waste (Kg)*
Used engine oil	1 drums of 200 liter each	165.6

Cement/ Slag Bags	560 bags of 0.35 kg each	196
Waste Tires	2 number of 62 kg each	124
Used batteries	• LTV battery of 13 kg each(0) • HTV batteries of 30 kg each(0)	0
Total		**485.6 (Kg)**

Food Waste:

Description	*Tetra packs (Kg)*	*Plastic bags (Kg)*	*Paper (Kg)*	*Metal*	*Food (Kg)*
Local Staff Mess hall	3.00	2.00	6.00	3.00	97.00
Local Labor Mess hall	5.50	1.30	11.00	6.00	125.00
Korean Staff Mess hall	2.50	1.50	4.50	4.00	41.00
Offices	1.25	1.00	15.00	2.00	5.50
Sub Total	**12.25**	**5.80**	**36.5**	**15.00**	**268.50**
Total		**338.05 Kg**			

December 2012:

General Waste:

Type	*No. of solid waste generated*	*Total weight of generated waste (Kg)*
Used engine oil	1 drums of 200 liter each	165.6
Cement/ Slag Bags	1530 bags of 0.35 kg each	535
Waste Tires	1 number of 62 kg each	62
Used batteries	• LTV battery of 13 kg each(0) • HTV batteries of 30 kg each(0)	0
Total		**762.6 (Kg)**

Food Waste:

Description	*Tetra packs (Kg)*	*Plastic bags (Kg)*	*Paper (Kg)*	*Metal*	*Food (Kg)*
Local Staff Mess hall	2.50	2.00	5.30	3.50	93.00

Local Labor Mess hall	4.50	1.25	9.00	5.00	113.00
Korean Staff Mess hall	1.75	1.25	4.00	3.50	37.00
Offices	1.00	1.00	12.00	1.50	5.00
Sub Total	**9.75**	**5.50**	**30.30**	**13.50**	**248**
Total			**307 Kg**		

a) Noise and vibration

1. Noise prone activities are avoided during night time.
2. Four (4) samples for noise monitoring have been collected, three samples from the nearest communities and one sample from the project site
3. The test results are compared with the Pak NEQS and IFC guide lines, and all results found satisfactory within the limits. The comparison of test results against NEQS and IFC.
4. Provision of necessary safety and personal protective equipment such as ear plugs, ear muffs etc are ensured at high noise area like Powerhouse.
5. Excavators and all heavy machines are lubricated in a routine matter to minimize the noise and to increase the life of equipment.

b) Labor relations and living conditions for construction labor force

1. As per Annual Management Plan and Company's observation, the Contractor has conducted medical examinations of all appointed food handlers. The examination has been conducted based on following parameters; Hepatitis B&C, Chest X-Ray, blood and Erythrocyte Sedimentation Rate (ESR) test. The results showed absence of any contagious diseases in food handlers.
2. The Contractor has already developed a labor grievance redressal mechanism as per IEE.
3. Keeping in view the Security of the staff, the Contractor issued service cards to its employees.
4. Guard house has been constructed on entrance gate of the Project Site and deputed security guards maintain records of incoming staff, visitors and vehicles.
5. To collect safe drinking water from installed water treatment plant, workers and vehicles have been deputed to supply chill drinking water to whole Project Site.
6. The Contractor conducted spraying in labor camp and offices, in order to avoid mosquito breeding.

c) Occupational health and safety

October 2012

1. Mess halls are being visited along with the site Doctor on regular basis and hygienic conditions of food handlers and food items observed satisfactory. Moreover food handlers were advised to cover the food items and don't place the raw items and cooked food together in refrigerator. They were advised to keep the surroundings clean while cooking as dirt and waste around the cooking area might pollute the food and While cutting and peeling vegetables the peels should not be dropped on floor but should be kept in the bins.
2. To promote the safety awareness among staff and to encourage the workers Safety Awards are distributed on monthly basis. In the current month an award distribution ceremony held at Andritz mess hall, Dinner was arranged for staff and workers and awards were distributed by Management among the workers. It comprises shields and appreciation

letters. Photographs are attached below.

3. HSE key performance indicator report for current month has been prepared and is attached as ***"Exhibit 10".***
4. The non recycle able waste is collected and transported from site on regular basis, this is a continuous activity. All kinds of food and camp waste are transferred to the designated area by the Mirpur Municipality for the final disposal.
5. Through tool box talk's workers are informed about the hazards and their preventive measures at site. Tool box talks related to work at work at height and using the safely harness and wearing of PPE's are conducted at project site.
6. In order to reduce the breeding of mosquitoes, mosquitoes repellent are being used on regular basis as a continuous activity, Further more all supervisors are advised to instruct their workforce to wear full sleeve shirts and paints to protect themselves.
7. The existing procedures for working at height, over scaffoldings already provides for wearing of safety harnesses. As per IFC recommendations all sub-contractors are also advised for strict compliance of procedures and standards on working at height. ESOHS officer of Sambu carries out daily inspections to ensure compliance.


8. In order to eliminate the tripping and falling hazard at project site, housekeeping has been ensured at site by collecting the rubbish and waste.
9. Regular inspections of local staff, labor and Korean staff's mess hall are performed in order to monitor the health and hygienic conditions, and it had been observed that all the cooking staff was well aware about the hygienic situations. Furthermore they are briefed them about best practices of hand washing before cooking, serving or washing the utensils
10. Annual Management Plan Performance year 2012 is attached as ***"Exhibit 11",*** clearly describing the status for the month of Oct 2012.

November 2012

1. Mess halls are being visited along with the site Doctor on regular basis and hygienic conditions of food handlers and food items observed satisfactory. Moreover food handlers were advised to cover the food items and don't place the raw items and cooked food together in refrigerator. They were advised to keep the surroundings clean while cooking as dirt and waste around the cooking area might pollute the food and While cutting and peeling vegetables the peels should not be dropped on floor but should be kept in the bins.
2. In order to provide safe drinking water to man power, the water filters of purification plant has been replaced with the new ones. Moreover service of the plant is done on regular basis as per the instructions of manufacturer.
3. To promote the safety awareness among staff and to encourage the workers Safety Awards are distributed on monthly basis. In the current month an award distribution ceremony held at Andritz mess hall, Dinner was arranged for staff and workers and awards were distributed by Management among the workers. It comprises shields and appreciation letters.
4. All Fire Extinguishers locations are marked with the proper signs to make it clear and visible for the general workers in order to cope with any fire hazards inside at project site. More over all Fire extinguishers are marked with unique identity numbers.
5. Smoking zones are arranged at different locations at project site, Further smoking zones placed at erection bay and inside the office building have been removed and placed outside the building to avoid any fire hazard.

6. HSE key performance indicator report for current month has been prepared and is attached as ***"Exhibit 10".***
7. The non recycle able waste is collected and transported from site on regular basis, this is a continuous activity. All kinds of food and camp waste are transferred to the designated area by the Mirpur Municipality for the final disposal.
8. Through tool box talk's workers are informed about the hazards and their preventive measures at site.
9. In order to eliminate the tripping and falling hazard at project site, housekeeping has been ensured at site by collecting the rubbish and waste.
10. In order to make the working site safe all openings are barricaded with hard guard railing and safety signs have been displayed at locations with potential hazards to create awareness among the workforce.
11. Excavation of head race is in progress to remove the barrier between and bong pond and head races pond, the following measures have been ensured to make the area hazards free.
    - Both sides of the earth plug are guarded with the warning taps and safety cones.
    - Flagmen's and bank men are deployed throughout the length of plug to control the traffic and dump trucks movement at site; they are also provided the life jackets.
    - Spoils, materials, and equipments set back at adequate distance from the edge of the excavation. Highly visible clothing's like reflective jackets and has been provided and worn by all employees exposed to public vehicular traffic.
    - Employees prohibited from working on the faces of slopes or benched excavations above other employees.
    - Prohibit employees under loads that are handled by lifting or digging equipment. To avoid being struck by any spillage or falling materials, require employees to stand away from vehicles being loaded or unloaded
12. Accesses to the pond is controlled by installing permanent fencing almost 1.2 meters in height for embank walls at head race and downstream as well. Fencing along the embankments and overall project boundary is in progress and hopefully it will be

completed in December. However the locations of potential hazards missing the railings have been protected by providing temporary railing and warning taps. All location with potential hazards has been barricaded to avoid any untoward incident in future.

13. Following measure are employed to check the entrance of general public at project site/ working area

    - Entry points have been guarded by deploying the security guards to check the entrance of public, only site staff and workers are allowed to enter the site.
    - Patrolling of the area is enhanced, Security supervisor has strictly instructed to all guards to check any public entry.
    - Safety signs have been installed at different locations to create the awareness among workers

14. Suitable rescue equipment such as a reach rope and life jackets have been arranged at site and placed at head race working area; more over floating equipments like tubes with the safety ropes of adequate length have also placed inside water.

15. Safety signs give a specific message to those who may be exposed to hazards in the workplace; the following measures have been adopted at site.
    - A number of safety signs have been displayed at different locations to create awareness and understanding regarding the hazards.
    - For the health and safety of the public the activities like swimming, boating and fishing are prohibited.
    - Safety/warning signs have been placed at each of our facilities to inform the public of prohibited activities.
    - Preparation of some signboards is in progress and will be installed soon.

16. To make the activities smooth and accident free scores of tool box talks and awareness sessions have been conducted at site, the participants are drivers, operators and bank men. The practice will be continued till the completion of activity.
17. Regular inspections of local staff, labor and Korean staff's mess hall are performed in order to monitor the health and hygienic conditions, and it had been observed that all the cooking staff was well aware about the hygienic situations. Furthermore they are briefed them about best practices of hand washing before cooking, serving or washing the utensils
18. Annual Management Plan Performance year 2012 is attached as ***"Exhibit 11"***, clearly

describing the status for the month of November 2012.

December 2012

1. Mess halls are being visited along with the site Doctor on regular basis and hygienic conditions of food handlers and food items observed satisfactory. Moreover food handlers were advised to cover the food items and don't place the raw items and cooked food together in refrigerator. They were advised to keep the surroundings clean while cooking as dirt and waste around the cooking area might pollute the food and While cutting and peeling vegetables the peels should not be dropped on floor but should be kept in the bins.
2. In order to provide safe drinking water to man power, the water filters of purification plant has been replaced with the new ones. Moreover service of the plant is done on regular basis as per the instructions of manufacturer.
3. To promote the safety awareness among staff and to encourage the workers Safety Awards are distributed on monthly basis. In the current month an award distribution ceremony held at Andritz mess hall, Dinner was arranged for staff and workers and awards were distributed by Management among the workers. It comprises shields and appreciation letters.
4. All Fire Extinguishers locations are marked with the proper signs to make it clear and visible for the general workers in order to cope with any fire hazards inside at project site. More over all Fire extinguishers are marked with unique identity numbers.
5. Smoking zones are arranged at different locations at project site. Workers are briefed through tool box talk to avoid smoking here and there except smoking zones and it has been observed that workers are following the condition.
6. HSE key performance indicator report for current month has been prepared and is attached as **"*Exhibit 10*"**.
7. The non recycle able waste is collected and transported from site on regular basis, this is a continuous activity. All kinds of food and camp waste are transferred to the designated area by the Mirpur Municipality for the final disposal.
8. In order to eliminate the tripping and falling hazard at project site, housekeeping has been ensured at site by collecting the rubbish and waste as a continuous activity.
9. Energized areas are properly guarded with hard railing to check the entrance of irrelevant workers or staff in the area to avoid any electric shock hazards. Safety signs have been installed on both sides of entrance inscribed in Urdu and English languages to create awareness among the workers at site. Further the area is fully secured by deploying guards on both sides of transformer deck.

Entrance in the Energized area is prohibited with hard barricades and sign inscribing “high voltage and no entry” are displayed.

10. In order to make the working site safe all openings are barricaded with hard guard railing and safety signs have been displayed at locations with potential hazards to create awareness among the workforce.
11. Flag men and bank men deployed at head race during excavation of earth plug to control the traffic. A number of safety sign board displayed there to generate awareness among the workers. All entrances have been guarded by deploying securing guards to check the entrance of irrelevant people.
12. Permanent guard Railings have been fixed along embankment walls at head race and downstream to prevent personal fall hazard.
13. Regular inspections of local staff, labor and Korean staff’s mess hall are performed in order to monitor the health and hygienic conditions, and it had been observed that all the cooking staff was well aware about the hygienic situations. Furthermore they are briefed them about best practices of hand washing before cooking, serving or washing the utensils.
14. To avoid any fire hazard during the testing phase of transformers a fire tender was called at site. Keeping in view the severity of the fire hazard a fully equipped fire tender with well trained fire fighting team was arranged at site during the energizing of step up transformers. Photographs are attached below.

Fire tender ready to face any emergency at transformer deck.

15. Annual Management Plan Performance year 2012 is attached as **“*Exhibit 11”***, clearly describing the status for the month of December 2012.
16. Objective and targets for the 4th quarter of 2012 are attached as **“*Exhibit 12”***. It shows that 200 score out of 200 has been gained till completion of third quarter.
17. A trend analysis for 4th quarter of year 2012 with a description of the adverse events, Non Compliances, First Aid cases. Minor injuries, major injuries and routine medical cases have been conducted which provides an overview of the quarter. Furthermore a separate trend analysis from January 2012 to December 2012 has also been carried out and both analyses are attached as “***Exhibit 13”.***

18. A safety update is issued on "Fire Extinguishers and its Use" and is displayed at notice boards and all important locations to create awareness among the workforce. It is attached as ***"Exhibit 14".***
19. Fire stands fully equipped with sand buckets and fire extinguishers have been arranged at site at prominent locations at fire prone locations to face fire emergency. Moreover a firefighting team has been nominated & deputed at site to face fire hazards. Photographs

Photographs shows the Fire stand at different locations

Use oil storage drums existing facility had demolished because of construction of concrete road there, it has been stored at new location and a triple layer polyethylene sheet is laid underneath the drums to avoid ground contamination because of spill or leakage from drums.

d) Audits/Inspections

October, 2012

Following Inspections were carried out during the month of October:

Weekly

1. Scaffolding Inspection

Fortnightly

2. Spraying and Fogging Record

Monthly

3. Fire Extinguishers
4. Hygiene of Food Handlers
5. Kitchen Hygiene
6. Electric Panels/ Subpanels

7. Crane Inspection

The inspection check lists are attached as **"Exhibit 15".**

"Project waste Audit" has been conducted in October and is attached as **"Exhibit 16"**

August, 12

Following Inspections were carried out during the current month:

Weekly

1. Scaffolding Inspection

Fortnightly

2. Spraying and Fogging Record

Monthly

3. Fire Extinguishers
4. Hygiene of Food Handlers
5. Kitchen Hygiene
6. Lifting Equipments Inspection
7. Crane Inspection

The inspection check lists are attached as **"Exhibit 15".**

December, 12

Following Inspections were carried out during the current month

Weekly

1. Scaffolding Inspection

Fortnightly

2. Spraying and Fogging Record

Monthly

3. Fire Extinguishers
4. Hygiene of Food Handlers
5. Kitchen Hygiene
6. Lifting Equipments Inspection
7. Crane Inspection

The inspection check lists are attached as ***"Exhibit 15".***

e) Community Safety and Security

9. Community complaint register (CCR) has been placed on the Project Site along with the placement of sign board. As per MM recommendation, the Contractor has inserted all telephone complaints in CCR to follow up the complaints.
10. All complaints on CCR have been addressed and resolved by the Company through Contractor.
11. Necessary road safety sign boards have been affixed to communicate to the community about the temporary diversion road.

12. As routine activity, surprise security checking at night time by the Contractor's Security Manager has been executed with the aim to strengthen the security surveillance.
13. Site security audit was not conducted during this period.
14. The Contractor developed cordial liaison with concerned Government Departments for explaining Site Security arrangements. For this purpose, Contractor Security Manager conducted various meetings with the Government officials.

a) CO2 displacement by the Project

15. The qualitative outcome of potential Carbon dioxide (CO2) emission sources and its mitigation measures to ensure CO2 displacement by the Project activities is attached as ***"Exhibit-17".***

1.

Exhibit 01 – ESOHS CAP

(Please see the next page)

ESOHS RECOMMENDED ACTION ITEMS/ CORRECTIVE ACTION PLAN										
Source	**No**	**Location**	**Finding**	**Reference/Date**	**Action Required**	**Target Date**	**Priority**	**Responsibility**	**Status**	**Remarks**
Recommendations from EP-AJK	1	Site	Appropriate land slope stabilization steps will be taken and maintenance of tailrace will be carried out as given in construction plan to forestall the possible soil erosion.	Letter on 25/8/2010	Boulder placing and gabians at tail race are complted to forestall the possible soil erosion. An extention of the tailrace has now been initiated. The same engineering and management measures will be implemented.	COD	High	ESOHS Manager	In-progress	Backfilling of the powerhouse is progress. Work for landscaping at headrace and tailrace has been initiated
Recommendations from EP-AJK	2	Site	Plantation be started in ongoing rainy season and proper protective measures shall be taken to enhance their survival rate.	Letter on 25/8/2010	Small scale implementation is underway. Large scale implementation shall be done after completion of talrace channel (i.e. after availability of the required land for planatation)	Ongoing activity		ESOHS Manager	Completed	Platation has been Completed and total 14,000 trees/Shrub has been planted. Maintenence Period has been started.
Recommendations from EP-AJK	3	Site	Necessary Environmental, OHS training are yet not provided to the Project staff and EPC Contractor in presence of EPA AJK staff	Monitoring Report on November 27, 2010	A full scale effective training program is under implementation on Site, however, training under EPA supervision shall be done after fixation of appropiate date	Ongoing activity		ESOHS Manager	In-progress	A raining plan has been developed and approved. The same shall be shared with EPA for their participation upon their availability.
Recommendations from MM	1	Site	Provide NEBOSH training to ESOHS officers	Lenders' Engineer Comments of September, October & November 2011 MPR	This observation have been communicated to Management and shall be reported accordingly	6/1/2012		ESOHS Manager	Completed	Reference to MM September report alternative training to the NEBOSH training recommended was satisfactorily undertaken.
Recommendations from MM	2	Site	The contractor should contact the Municipality and reinstate their services in disposing of general waste, paying the appropriate levy for this service	Lenders' Engineer Comments of November 2011 MPR	Services re-instated	6/16/2012		ESOHS officer/ Sambu Management	Completed	Contractor has been hired and services are in-progress
Recommendations from MM	3	Site	A comprehensive waste audit is to be carried out by the ESOHS Officer and all arising actions included on the ESOHS Corrective Action Plan with responsibilities assigned for their early implementation.	Lenders' Engineer Comments of November 2011 MPR	A comprehensive waste Audit has been carreid out and reproted in the MPR of May 2012.	5/1/2012		ESOHS officer/ Sambu Management	Completed	Included in May report

ESOHS RECOMMENDED ACTION ITEMS/ CORRECTIVE ACTION PLAN										
Source	**No**	**Location**	**Finding**	**Reference/Date**	**Action Required**	**Target Date**	**Priority**	**Responsibility**	**Status**	**Remarks**
Recommendations from MM	4	Site	The third party contractor must remove the enclosure and open fire and use the mess facilities provided on site, this situation must be monitored to ensure compliance	Lenders' Engineer Comments of November 2011 MPR	The polyethylene sheath was used to protect the facility from rainwater. At this stage this ployethylene sheet has been removed hence removing the confined facility.	3/31/2012		Head of Labor Camp/ESOHS officer/ Sambu Management	Completed	It has been removed and all the workers using this facility have been shifted to othe mess facilites. For further detail referred to MPR of April 2012.
Recommendations from MM	5	Site	To bring sanitary waste water within the recommended COD limits, a grease trap should be installed prior to the septic tank and the use of non-biological detergents for cleaning purposes implemented	Lenders' Engineer Comments of November 2011 MPR	Pits have been installed and in opearation	5/6/2012		ESOHS officer/ Sambu Management	Completed	Grease and oil trap pits for effluents discharged from mess hall has been constructed for each mess hall.
Recommendations from MM	6	Site	Mott MacDonald to explore the potential for the Project to satisfy NEQS for BOD rather than IFC	Lenders' Engineer Comments of November 2011 MPR				Mott MacDonald	Completed	MM explain in July MPR that waste water result is accoring to the IFC and NEQS so this point is closed Now.
Recommendations from MM	7	Site	PPE has improved considerably and the Project is commended on its ongoing efforts;	Lenders' Engineer Comments of January 2012 MPR	Maintain the current practices	On-going		SAMBU	Completed	100 % PPE's compllliance has been esured at site and had been observed by MM during their site visit in April.
Recommendations from MM	8	Site	Toe boards should be installed on all working platforms to prevent objectives falling from height;	Lenders' Engineer Comments of January 2012 MPR	Agreed to be istalled by contractor	On-going		SAMBU	Completed	Scaffoldings were temporarily there and have been removed now.
Recommendations from MM	9	Site	A clean up of the litter and debris on the Old Bong River bank is to be implemented immediately and any resulting waste to be recorded;	Lenders' Engineer Comments of January 2012 MPR	To be cleaned immediately and actions to be taken to ensure no recurrance in the entire project area.	On-going		SAMBU	Completed	Refer to MPR Feb 2012
Recommendations from MM	10	Site	Andritz should be tasked with tidying up their work area before it becomes a more significant issue;	Lenders' Engineer Comments of January 2012 MPR	Clean-up activities to go parallel with other activities	On-going		ANDRITZ	Completed	Satisfactory house keeping had been ensured at site

ESOHS RECOMMENDED ACTION ITEMS/ CORRECTIVE ACTION PLAN										
Source	**No**	**Location**	**Finding**	**Reference/Date**	**Action Required**	**Target Date**	**Priority**	**Responsibility**	**Status**	**Remarks**
Recommendations from MM	11	Site	To demonstrate the Project's Duty of Care, a high level waste form should be developed that includes key information regarding any waste consignment. Relevant staff must be trained in the requirement to complete this for all waste consignments and the records must be collated and held on site;	Lenders' Engineer Comments of January 2012 MPR	A chain of custody to be recorded and traingings to be provided to all related personnel.	On-going		SAMBU	Completed	As per MM recommendation documented chain of custody of recyclable waste is attached as Annex. It comprises complete address of the contractor, quantity of the waste delivered
Recommendations from MM	12	Site	This may be sufficient to reduce the levels of COD and further sampling is recommended to ascertain how effective these controls are;	Lenders' Engineer Comments of January 2012 MPR	Sampling was carried out on June 16, 2012 by SGS and report are expected by 29th of June 2012.	March		SAMBU	Completed	Sampling has been conducted after the construction of oil and grease pits.
Recommendations from MM	13	Site	Further waste streams need to be reported along with the quantities and their disposal routes i.e. recycled, re-used, landfill etc. Mott MacDonald is pleased that the Project responds well to all recommendations made and endeavors to maintain a well managed site from an EHS perspective. However, some unsatisfactory issues raised during the site monitoring visit in January should have been picked up and dealt with more proactively.	Lenders' Engineer Comments of January 2012 MPR	To be implemented	March		SAMBU	Completed	As per MM recommendation documented chain of custody of recyclable waste is attached as Annex. It comprises complete address of the contractor, quantity of the waste delivered
LEL Comments	1	Workshop	Soil contamination has been observed inside workshop.	Inspection by LEL Feb 14, 2012	Contaminated soil has been removed and disposed off accordingly.	25-Feb		H/ E Chief	Completed	Removed and burnt
LEL Comments	2	Lubricant storage area	Soil contamination has been observed.	Inspection by LEL Feb 14, 2012	Contaminated soil has been removed and disposed off accordingly.	25-Feb		H/ E Chief	Completed	Removed and burnt
LEL Comments	3	Oil change facility	Soil contamination has been observed	Inspection by LEL Feb 14, 2012	Contaminated soil has been removed and disposed off accordingly.	25-Feb		H/ E Chief	Completed	Removed and burnt
LEL Comments	4	Besides Workshop	Soil contamination has been observed besides workshop.	Inspection by LEL Feb 14, 2012	Contaminated soil has been removed and disposed off accordingly.	25-Feb		H/ E Chief	Completed	Removed and burnt

ESOHS RECOMMENDED ACTION ITEMS/ CORRECTIVE ACTION PLAN										
Source	**No**	**Location**	**Finding**	**Reference/Date**	**Action Required**	**Target Date**	**Priority**	**Responsibility**	**Status**	**Remarks**
LEL Comments	5	Besides Workshop	Poor solid waste management has been observed besides workshop. It was also observed that a big container was placed having mixed solid waste comprising of steel waste, wires, drums, plastic bags etc. This activity depicted that segregation at source is not accomplishing.	Inspection by LEL Feb 14, 2012	All kind of waste has been dumped inside the container, and also it has been divided in three segments to store different kind of waste in different segments	20-Feb		H/ E Chief	Completed	waste has been sold to the recyclic ontractor. Refer to MPR Apr
LEL Comments	6	Powerhouse	Poor housekeeping has been observed in general.	Inspection by LEL Feb 14, 2012	Housekeeping will be maintained by collecting waste and debris,	20-Mar		Site Engineers	Completed	Refer to MPR Mar & Apr 2012
LEL Comments	7	Powerhouse	It was observed that workers were taking their lunch in an open air inside the powerhouse.	Inspection by LEL Feb 14, 2012	Some local workers bring their meal with them, it will be communicated them use mess hall to take their lunch	22-Feb		Site Engineer	Completed	Refer MPR Feb 2012
LEL Comments	8	Powerhouse	It was found that electricity panel with high voltage wires were placed unattended.	Inspection by LEL Feb 14, 2012	It has been noted and the issue will be rectified by placing loose cables in rolls over the wooden planks.	3-Mar		Electrical Engineer	Completed	Refer to MPR Mar 2012
LEL Comments	9	Powerhouse	It was found that high voltage bare electricity wires were placed unattended.	Inspection by LEL Feb 14, 2012	It has been noted and the issue has been rectified.	20-Feb		Electrical Engineer	Completed	Refer to MPR Mar 2012
LEL Comments	10	Powerhouse	It was found that employees were working without wearing proper PPEs.	Inspection by LEL Feb 14, 2012	More safety items will be arranged at site to close the observation.	10-Mar		Electrical Engineer	Completed	Refer to MPR Mar & Apr 2012
LEL Comments	11	Powerhouse	It was found that employees were working in the dust without wearing dust masks.	Inspection by LEL Feb 14, 2012	Dust masks have been provided to the workers working in the dusty environment.	20-Feb		|Site Engineer	Completed	All the employees have been provided the dust masks.
LEL Comments	12	Powerhouse	It was found that workers were taking rest on wooden plank inside powerhouse.	Inspection by LEL Feb 14, 2012	All workers have been communicated to avoid sleeping at working area through Tool Box Talk.	20-Feb		Site Engineer	Completed	Refer to TBT Feb 2012
LEL Comments	13	Powerhouse	It was found that gas cylinders were being used without proper protective measures. As, all cylinders were found to be lying down without protective measures.	Inspection by LEL Feb 14, 2012	It has been communicated to the authorities concerned and proper arrangements would be made to fix the cylinders vertical.	5-Mar		Site Enigineer	Completed	Refer to TBT Feb & Mar 2012
LEL Comments	14	Powerhouse	Workers were working inside the turbine housing without proper PPEs.	Inspection by LEL Feb 14, 2012	The observation has been noted and will be implemented soon.	10-Mar		Site Engineer	Completed	Refer to MPR Mar & Apr 2012
LEL Comments	15	Powerhouse	It was found that bare high voltage wire joined by tape has been used.	Inspection by LEL Feb 14, 2012	Damaged cables will be replaced with the new one.	3-Mar		Electrical Engineer	Completed	The observation has been rectified
LEL Comments	16	Powerhouse	Workers were working inside the powerhouse in gougers, without safety boots.	Inspection by LEL Feb 14, 2012	The observation has been noted and will be implemented soon.	10-Mar		Site Engineer	Completed	Refer to MPR Mar & Apr 2012

ESOHS RECOMMENDED ACTION ITEMS/ CORRECTIVE ACTION PLAN										
Source	**No**	**Location**	**Finding**	**Reference/Date**	**Action Required**	**Target Date**	**Priority**	**Responsibility**	**Status**	**Remarks**
LEL Comments	17	Powerhouse	A worker was found to use stairs for moving inside the powerhouse without protective equipment. Also, the same worker was moving while talking on mobile phone.	Inspection by LEL Feb 14, 2012	It has been communicated through tool box talk to avoid using mobile phones during work at height.	20-Mar		Site Engineer	Completed	Refer to TBT Feb & Mar 2012
LEL Comments	18	Powerhouse	Workers at near the entrance gate doing the welding work without goggles and other PPEs. Workers belong to Sambu Pakistan	Inspection by LEL June 06, 2012	A tool box talk was conducted on the use of face shield during work, all have been issued the required PPE's at site.	7-Jun		Site Engineer	Completed	
LEL Comments	19	Powerhouse	Workers doing the concrete work of the wall outside the powerhouse near Andrits Expatriates camp wearing no PPEs like coveralls and Harnesses or safety shoes. These workers belong to Sambu Korea.	Inspection by LEL June 06, 2012	All the man power working at site have been issued PPE's.	9-Jun		HSE	Completed	
LEL Comments	20	Headrace	Heavy dust emissions at site around the headrace area.	Inspection by LEL June 06, 2012	Sprinkling frequency has been enhanced to control the dust emissions.	7-Jun		Site Engineer	Completed	
LEL Comments	21	Main Entrance	Safety tap not installed near working area and near slope next to the road in public use.	Inspection by LEL June 06, 2012	Safety tap has been installed at the mentioned locations.	6-Jun		Site Engineer	Completed	
LEL Comments	22	Power house	A worker was observed welding without using face shield.	Inspection by LEL June 20, 2012	He was advised to wear face shield during welding, further a warning letter has been issued.	20-Jun		Site Suprevisor	Completed	
LEL Comments	23	Power house	Crane rigger was observed smoking at power house near the transformers.	Inspection by LEL June 20, 2012	A tool box talk on "No smoking" has been conducted, signs installed there and also a warning letter has been issued to the rigger	20-Jun		Site Suprevisor	Completed	
LEL Comments	24	Power house	A worker was observed busy in grinding work in the office building without wearing dust masks.	Inspection by LEL June 20, 2012	He was orientated to ensure the use of required PPE's, further warning letter has also been issued to the individual.	20-Jun		Site Suprevisor	Completed	

ESOHS RECOMMENDED ACTION ITEMS/ CORRECTIVE ACTION PLAN										
Source	**No**	**Location**	**Finding**	**Reference/Date**	**Action Required**	**Target Date**	**Priority**	**Responsibility**	**Status**	**Remarks**
Reported Accidents By Contractor	1	Power house	The workers were found to use the instrument with coal (angethe) for heating purposes. When one the worker belonging to this room came back after offering his prayer, he found one person vomiting in the room. Another person was found to become dizzy.	Accident in february 2012	• Opened the windows and doors, switched on the fans. • Coal burning stove was brought out of the room • Security guard deputed and assigned the task to check all the rooms before the employees sleep and not allowed any employee carrying coal burning stoves inside the rooms. A notice from Project Manager for the strict compliance not using the stoves in the rooms has been circulated and displayed at different location in the labor camp and it was also communicated through Tool box talk. • All employees were briefed about the hazards associated with the burning coal through tool box talks	3/1/2012		ESOHS Officer	Completed	Refer to Accident Investigation report of February 2012.
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	1	Power house	Workers were working at turbine housing, at area level 245m near round 15 meter deep openings for turbines, without any guard railing. .	UA/UC of Feb MPR 2012	As a corrective measure guard railing was being installed to rectify the falling hazard	Immediately		ESOHS Officer	Completed	It has been verified by Laraib that guard railing has been provided
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	2	Power house	A naked electric cable was observed inside the power house	UA/UC of Feb MPR 2012	as a corrective measure, electrician was informed about it and damaged cable was replaced with the new one.	Immediately		ESOHS Officer	Completed	Damaged cable has been replaced with new one
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	3	Power house	A crew of local workers was observed taking their lunch at working area while sitting on ground. .	UA/UC of Feb MPR 2012	As a corrective measure, workers were briefed to avoid taking their meal in unhygienic place and use the mess hall building for taking their meals	Immediately		ESOHS Officer	Completed	Refer to tool box talk records of feb 2012
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	4	Power house	Workers were observed sleeping at the worksite during lunch break.	UA/UC of Feb MPR 2012	As a corrective measure, tool box talk was conducted to avoid sleeping at workplace	Immediately		ESOHS Officer	Completed	Refer to tool box talk records of feb 2012
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	5	Power house	Workers observed busy in working at turbine housing area level 245m near 15 meter deep openings for turbines without any guard railing there.	UA/UC of Mar MPR 2012	As a corrective measure guard railing was installed there to rectify the falling hazard.	Immediately		ESOHS Officer	Completed	Refer to tool box talk records of Mar 2012
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	6	Power house	One worker found working at height without safety harness.	UA/UC of Mar MPR 2012	As a corrective action he was strictly advised to avoid work at height without safety harness.	Immediately		ESOHS Officer	Completed	Refer to tool box talk records of Mar 2012
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	7	Power house	A damaged ladder with improper railing was observed at power house	UA/UC of Mar MPR 2012	As a corrective action damaged ladder was replaced with the new one and proper railing has also been installed.	Immediately		ESOHS Officer	Completed	It has been verified by Laraib

ESOHS RECOMMENDED ACTION ITEMS/ CORRECTIVE ACTION PLAN										
Source	**No**	**Location**	**Finding**	**Reference/Date**	**Action Required**	**Target Date**	**Priority**	**Responsibility**	**Status**	**Remarks**
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	8	Power house	A plank was found missing at a platform while workers were working there. .	UA/UC of Mar MPR 2012	As a corrective action the plank had arranged to fill the gap	Immediately		ESOHS Officer	Completed	it has been verified by Laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	9	Power house	Two laborers were observed handling the heavy wooden sheet during dismantling the form work.	UA/UC of Mar MPR 2012	As a corrective action all the workers working in the vicinity were given tool box talk on safe manual handling of material.	Immediately		ESOHS Officer	Completed	Refer to tool box talk records of Mar 2012
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	10	Office building	Poor housekeeping observed at 4th floor of the office building which may cause slip, trip and fall.	UA/UC of Apr MPR 2012	As a corrective measure the area in charge has been advised to make the area neat and clean.	Immediately		ESOHS Officer	Completed	Refer to tool box talk records of MPR Apr 2012
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	11	Office building	One worker found working at height without safety harness	UA/UC of Apr MPR 2012	He was called down and advised to wear the safety harness always while working at height.	Immediately		ESOHS Officer	Completed	Refer to tool box talk records of MPR Apr 2012
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	12	Power house	A damaged ladder was observed at unloading bay which one used as access and egress to the units at an elevation of 245m.	UA/UC of Apr MPR 2012	As a corective action the damaged ladder has been replaced with the new one	Immediately		ESOHS Officer	Completed	It has been verified by Laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	13	Power house	One bore hole was observed open at left side of power house building directly under the scaffolding form work and the workers were busy in working at platform vertically above the borehole.	UA/UC of Apr MPR 2012	As a corrective measure the Area Supervisor was called there and advised to place planks or ply wood sheets to cover the open hole and it was covered in the mean time.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	14	Power house	Damaged cable was found lying in the wet floor thay may cause shock hazard	UA/UC of Apr MPR 2012	This cable was replaced with the new one and wooden supports were used there to keep the cable at some higher level to keep it safe from wet surface	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	15	Office building	Some spare steel nails observed lying unattended at 2nd floor making the situation unsafe.	UA/UC of Apr MPR 2012	Area supervisor was informed about and nails were collected there to make the area safe for working.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	16	Power house	Electrical distribution panel's door was observed open near the stop lock storage area with a potential of Electric Shock.	UA/UC of May MPR 2012	As a corrective action electrical supervisor was informed and action has been taken.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	17	Power house	Workers were observed busy in grinding work in the GIS room without wearing dust masks.	UA/UC of May MPR 2012	As a corrective action dust masks have been issued to the workers working in the area.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	18	Power house	Workers were observed working at height without guard railing with a potential of falling hazard there.	UA/UC of May MPR 2012	As a corrective action railing has been provide to the workers working at height.	Immediately		ESOHS Officer	Completed	It has been verified by laraib

ESOHS RECOMMENDED ACTION ITEMS/ CORRECTIVE ACTION PLAN										
Source	**No**	**Location**	**Finding**	**Reference/Date**	**Action Required**	**Target Date**	**Priority**	**Responsibility**	**Status**	**Remarks**
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	19	Steel Yard	Mr. Maqsood store helper was found washing hands in the river while sitting at slope of the bank by putting himself in danger	UA/UC of May MPR 2012	Area supervisor was advised to strictly ensure the compliance that no one should be allowed to move near the deep waters.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
IFC	1	Safety at work	a. Sub-contractors' staff during civil works found working at height, over scaffoldings, at several locations without safety harnesses in violation to the procedures for 'working at height' thereby engendering potential risk of fatal accident.	Visit May 22, 2012	The existing procedures for working at height, over scaffoldings already provides for wearing of safety harnesses. The sub-contractors will be advised for strict compliance of procedures and standards on working at height. ESOHS officer of Sambu shall carry out daily inspections to ensure compliance.	27/05/12	Hight	Sambu	Completed	100% issuance of Safety harnesses. Regular inspections on daily basis are carried out. Trainnngs and toolbox talks have been conducted. See photographs for reference
IFC	2	Safety at work	b. No safety rails were noted on the scaffoldings for protection of falling tools or construction materials.	Visit May 22, 2012	The sub-contractors shall strictly be advised to revive the practice of installing safety railings on urgent basis and also Sambu shall install safety rails where required. This practice shall not be discontinued during the entire construction phase.	27/05/12		Sambu	Completed	Safety raillings have been provided at each necessary location. Please provide the photgraphs of safety railings.
IFC	3	Safety at work	c. Tripping hazards and obstruction due to leftover construction materials observed at several locations, especially in the regular and expected movement trails of workers.	Visit May 22, 2012	Sambu shall ensure a clear passage for each working area. Sambu shall identify and remove all tripping hazards and obstructions. Daily inspections shall be carried out for strict compliance.	27/05/12		Sambu	Completed	Hose keeping has been imprved. All triping hazards have been removed. At least one passage for the movment of workers and matrial has been ensured. Dailly inspections are carried out to check the compliance. Photgraphs
IFC	4	Safety at work	d. Sub-contractors' staff were using exhausted PPE, especially safety shoes of many workers were worn out due to overuse. Some workers were not wearing coverall and were casually dressed.	Visit May 22, 2012	The subcontractors will immediately be provided new PPEs and strict compliance shall be ensure through inspection on daily basis.	15/06/12		Sambu	Completed	100% issuance of new PEEs to all contractor and sub-contractor staff working at site. 100% compliance. Data

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IFC	5	Solid waste management	a. Contractor selected for solid waste management is not an approved/authorized person from the concerned authorities.	Visit May 22, 2012	The EPA of AJ&K has not approved any recycling contractor in its jurisdiction. Sambu shall approach an approved waste recycling contractor in other cities like Jhelum or Rawalpindi and finalize the arrangement by June 15, 2012.	15/06/12		Sambu	Open	No aprroved recyling contractors found also in Jehlum, Rawalpindi and othr cities in the surroundings.
IFC	6	Solid waste management	b. The contractor also does not provide necessary evidence for safe disposal of waste item being handed over to him	Visit May 22, 2012	The current recycling contractor shall be advised to start providing the safe disposal records with immediate effect to maintain the evidence of chain of custody.	6-Oct-12		Sambu	In-progress	Currently contractor has been provided the Bank account detail, Brusher and purpose of the recycling of waste.
IFC	7	Occupational health	a. Areas in the main building where welding operations were in progress had very poor circulation of fresh air resulting in high concentration of toxic fumes in ambient air. Welding workers were also not using appropriate safety masks to prevent inhalation of hazardous fumes.	Visit May 22, 2012	The mitigation measures for this issue have already been initiated. Movable exhaust fans shall be used to ensure circulation of fresh air in confined areas. Training shall also be conducted on use and benefits of dust masks and ventilation.	15/06/12		Sambu	Completed	Movable exhaust fans have been installed in this working area. Masks have been issued are in use.
LEL Comments	25	Occupational health	Few worker obseved without dust Mask.	Inspection by LEL Feb 14, 2012	The Sambu shall carry out daily inspection to ensure that the workers are using dust masks	20-Feb-12		ESOHS Officer	Completed	
IFC	9	Occupational health	b. Poor ventilation conditions in the switch gear room was causing high dust levels during abrasion work of interior walls and ceiling in due course of painting process.	Visit May 22, 2012	Same as above	5/6/2012		Sambu	Completed	Two blowers have been provided and four exhaust fans have been issued in this area.
IFC	10	ESOHS System	a. Gaps were observed in ESOH system coordination and enforcement process. Present ESOH staff of EPC Contractor needs to enforce the provisions of EMP and HSE related procedure on Sub-contractors' workers in a more persistent and diligent manner.	Visit May 22, 2012	Sambu will ensure enforcement of the requirements of the EMP and HSE related procedures by the sub-contractors' workers. The requirement shall be reiterated through a strong official communication.	27/05/12		Sambu	Completed	Evidence of communications to be provided by SAMBU

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IFC	11	ESOHS System	b. Additionally, LEL has to appoint appropriate number (at least two) of fulltime well qualified field officers to coordinate, monitor and supervise EHS related performance of the EPC Contractor and Sub-contractors.	Visit May 22, 2012	Action in this respect has already been initiated by Laraib. The hiring process is expected to take some time to comply with HR policy requirements.	30/06/12		Laraib	Completed	ESOHS Officer and Inspector has been appointed.
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	20	Power house	A single plank was observed being used as an access missing the safety railing.	UA/UC of May MPR 2012	As a corrective action the plank was removed and workers were advised to arrange a safe access with proper railings.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	21	Power house	A laborer was observed descending down from roof of power house via slope of embankment wall.	UA/UC of May MPR 2012	As a corrective measure his supervisor was informed and he verbally warned to avoid unsafe practices.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	22	Power house	An electrician was observed installing the light at embank wall with out any safe access	UA/UC of May MPR 2012	He was advised to use Crane bucket or proper ladder to reach there.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	23	Power house	Over head falling hazards observed at entrance of office building area of Power house	UA/UC of May MPR 2012	As a corrective action a platform with plywood sheets & wooden batons had been arranged to eliminate the over head falling hazard.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	24	Power house	Openings for elevators observed unguarded with the potential of falling hazard of maximum severity,	UA/UC of May MPR 2012	as a corrective action guard railing has been installed	Immediately		ESOHS Officer	Completed	It has been verified by laraib
LEL Comments	26	Tailrace	Overspeeding dumpers found emitting excessive dust	Inspection by LEL June 27, 2012	Drivers shall be warned and water shall be sprikled.	10-Jul-12		ESOHS Officer	Completed	Verbally warned and a toolbox talk provided
LEL Comments	27	General	No routine inspection of heavy equipments working at site are conducted by contractor. This activity has been discontinued without information.	Inspection by LEL July 11, 2012	Checklist for inspection for all eqiupments including cranes, dozers, loaders, dumpers etc shall be developed and monthly inspection shall be carried out	20-Aug-12 01-Sep-12 18-Sep-12		ESOHS Officer	Completed	Inspection check list has been share with laraib ESOHS officer.
LEL Comments	28	Andritz Warehoue	General and packing waste found scattered outside the warehouse area	Inspection August 01, 2012	A general clean up activity to be undertaken in the entire area	13-Sep-12		ESOHS Officer	Completed	Mr. Sardar Azam comment that waste has been segrigated and Now this a responsibilty of sambu to remove it.
LEL Comments	29	Solid waste management	Mix Costruction waste was observed in Batching plant area.	Inspection August 08, 2012	Proper dispose off the waste.	16-Aug-12 28-Aug-12 15-Sep-12 30-Sep-12		ESOHS Officer	Completed	

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LEL Comments	30	Head Race	No safety sign boards observed at head race to avoid any public entrance at site.	Inspection August 08, 2012	Arrange sign boards of " No admitance for public" at open places of head race.	18-Aug-12		ESOHS Officer	Completed	Sign Board have been Installed.
LEL Comments	31	Transforme r Area	One supervisor found without PPEs	Inspection August 01, 2012	Complete PPEs to be issues to all personnel at site	10-Aug-12		ESOHS Officer	Completed	
LEL Comments	32	Office building	Personel of a third party contractor found without PPEs (ear plugs, gloves, and safety shoes) in an excessive noise area	Inspection August 01, 2012	Ensure issuance of complete PPEs prior mobilization at site	10-Aug-12		ESOHS Officer	Completed	
LEL Comments	33	Office building	General housekeeping of the area found unsatisfactory	Inspection August 01, 2012	Area needed to be cleaned and housekeeping to be improved	10-Aug-12		ESOHS Officer	Completed	
LEL Comments	34	Andritz Warehoue	A lot of scrap and store item observed in emergency exit way and way almost block	Inspection August 10, 2012	Emergency way needed to be clean and clear.	10-Aug-12		ESOHS Advisor	Completed	

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LEL Comments	35	All Areas	PPEs compliance at site	Inspection August , 2012	Compile the data of employee without PPEs and share Ensure the issuance and 100 % compliance at site.	10-Aug-12 27-Aug-12 15-Sep-12		ESOHS Officer	Completed	ESOHS Officer visited the project site and PPEs compliance found satisfactory.
LEL Comments	36	Infront of Offices	Visibility of speed breker with marking	Inspection by LEL Aug 27, 2012	Speed Breaker should be clearly mark with florescent paint.	29-Aug-12		ESOHS Officer	Completed	
LEL Comments	37	Water Treatment Plant	Poor House in water treatment plant	Inspection by LEL Aug 27, 2012	Waer Treatment plant should be clear and properly managed by competant person.	1-Sep-12		ESOHS Officer	Completed	
LEL Comments	38	Mess Area	Wild growth arround Mess and Residance Area of sambu.	Inspection by LEL Aug 27, 2012	Grass cutting activity needed to be expedite	08-Sep-12 18-Sep-12 30-Sep-12		ESOHS Officer	Completed	
LEL Comments	39	Mess Area	Safety cage are not available for LPG cylender and pressurized cylender in sambu labor mess and workshop area.	Inspection by LEL Aug 27, 2012	Arrange safety cages on immediate basis and cylender should be placed in their safety cages.	15-Sep-12		ESOHS Officer	Completed	
LEL Comments	40	General	covers of electrical DBs are missing. This is very hazardous condition.	Inspection by LEL Sep 03, 2012	Contractor must arrange the covers of DBs to avoid any accident	08-Sep-12 18-Sep-12 25-Sep-12 30-Oct-12		ESOHS Officer	Completed	
LEL Comments	41	General	Depressurized Fire Extinguishers are observed at different locations of the site	Inspection by LEL Sep 03, 2012	Replace the extinguisher with new one or refill the existing fire extinguisher	12-Sep-12 18-Sep-12 25-Sep-12		ESOHS Officer	Completed	
LEL Comments	42	General	Large No. of old oil Barrels, Batteries and tires observed near work shop	Inspection by LEL Sep 03, 2012	Contractor need to be auction the observed material as soon as possible	25-Sep-12 05-Oct-12		ESOHS Officer	Completed	
LEL Comments	43	Transforme r Area	An open hole observed at transformer area.	Inspection by LEL Sep 03, 2012	Hole must be cover with the suitable slab	5-Sep-12		ESOHS Officer	Completed	
LEL Comments	44	Transforme r Area	Poor Housekeeping observed in Transformer area.	Inspection by LEL Sep 03, 2012	Remove the waste from entire area and arrange all using equipment.	5-Sep-12		ESOHS Officer	Completed	
LEL Comments	45	Headrace stop log storage area.	An electrical DB installed in open air/ There is no shed.	Inspection by LEL sep18,2012	Shed is needed to be fabricated over the DB or relocate the DB inside the building.	22-Sep-12 01-Oct-12		ESOHS Officer	Completed	DB has relocated.
LEL Comments	46	General	Unattended HSE at night shift	Inspection by LEL sep18,2012	Contractor depute a person who will look after HSE issues at night shift.	25-Sep-12		ESOHS Officer	Completed	Night Shift has been closed.
LEL Comments	47	Andritz warehouse	General Cleaning condition is unsatisfactory	Inspection by LEL sep 25,2012	general cleaning activity need to be performed.	2-Oct-12		ESOHS Officer	Completed	
LEL Comments	48	Andritz warehouse	MSDS of chemicals and flameable liquids is not available in warehouse.	Inspection by LEL sep 25,2012	Place MSDS with every chemical and flameable liquid.	27-Oct-12		ESOHS Officer	Completed	
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	25	Transforme r Area	Cover of Manhole of oil collection pit was found missing with a clear danger of falling in the pit,	UA/UC of Sep MPR 2012	as a corrective action manhole was covered with the plywood temporarily, later it was replaced with the permanent steel cover	Immediately		ESOHS Officer	Completed	It has been verified by laraib

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Reported Unsafe Acts/Unsafe Conditions (UA/UC)	26	labor camp,	Wild grass and shrubs observed along the labor camp,	UA/UC of Sep MPR 2012	as a corrective action the grass and shrubs have been scratched.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	27	mess facility	Gas cylinders used for cooking were observed without safety cage outside the mess facility,	UA/UC of Sep MPR 2012	as a corrective action safety cage has been provided for proper protection of gas cylinders.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	28	Project Site	During inspection Empty fire extinguishers were observed at some places,	UA/UC of Sep MPR 2012	as a corrective action fire cylinders were collected immediately and disputed for refilling. After refilling cylinders have been placed at appropriate locations again.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	29	Transformer Area	Poor housekeeping observed at level 260m (transformer area), some packaging wooden and steel items were observed causing the tripping and falling hazard.	UA/UC of Sep MPR 2012	As a corrective action the house keeping of area has been ensured the same day.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	30	labor camp,	Water was observed leaking from water pipes that delivers water supply to electric water coolers, the spilled water was falling on electric cables behind the water coolers which enhancing the potential of electric shock for users.	UA/UC of Sep MPR 2012	As a corrective action damaged pipes have been replaced with the new one to reduce the leaking.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	31	main entrance of power house	Poor housekeeping near main entrance of power house was observed causing tripping and falling hazard,	UA/UC of Sep MPR 2012	as a corrective action the rubbish has been removed.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	32	near the public road	Excavator found working near the public road without proper safety measures	UA/UC of Sep MPR 2012	as a corrective action the area was properly cordoned off with reflective road safety cones to make the area safe.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	33	Power House	Two workers were observed painting in the confined space without any fresh air circulation; it was hard to breath there.	UA/UC of Sep MPR 2012	Immediately the activity was halted and area supervisor was advised to make proper arrangements for fresh air.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	34	workshop	A small quantity of oil was found spilled over the soil near workshop,	UA/UC of Sep MPR 2012	as a corrective action the soil was removed for proper disposal.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	35	headrace	Some workers were observed working at headrace without safety shoes.	UA/UC of Sep MPR 2012	as a corrective action the workers were warned to ensure the use of mandatory PPE's	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	36	Power House	A worker was observed cutting the cemented tiles without wearing dust masks,	UA/UC of Sep MPR 2012	as a corrective action the dust masks were issued him	Immediately		ESOHS Officer	Completed	It has been verified by laraib

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Reported Unsafe Acts/Unsafe Conditions (UA/UC)	37	electric pylon	A worker was observed working at height wearing the safety harness but not hooked during erecting the electric pylon.	UA/UC of Sep MPR 2012	He was advised to avoid such unsafe acts that put life in danger	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	38	Near road	A wooden baton was found unattended in the way with the tips of steel nails out of surface,	UA/UC of Sep MPR 2012	as a corrective action it was removed from passage and then nail were bent and leveled with the surface.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
LEL Comments	49	Fuel Station	Wild growth near fuel station.	Inspection by LEL sep16,2012	Grass cutting is needed in entire area to avoid the fire.	21-Oct-12		ESOHS Officer	Completed	
LEL Comments	50	Near Batch Plant	Some wooden,plastic and metalic waste observed near Batch plant.	Inspection by LEL sep15,2012	Dump the whole waste at identified location, Segregate and removed frequently.	24-Oct-12 2-Oct-12 31-Dec-12		ESOHS Officer	Completed	Although It is contonuous activity But Mr. Azam give a tentitive date of completion of this issue.
LEL Comments	51	GIS Room, Work shop, HVAC Room	Pressurized Gas cylenders was observed without safety cages OR any fall pretection.	Inspection by LEL Nov 06,2012	Collect all cylenders at desinated place and chained or all cylenders placed into the safety cages.	20-Nov-12 24-Nov-12 30-Nov-12		ESOHS Officer Sambu and HSE Advisor Andritz	Completed	Maj sb said that this point tomorrow will close But This point remains same status.
LEL Comments	52	General	Tags of scaffolding found missing.	Inspection by LEL Nov 06,2012	Prepare the scaffolding tags and must hang with every scaffolding.	15-NOV-12 24-Nov-12		ESOHS Officer	Completed	Tags has been prepared But currently not display on scoffolding.
LEL Comments	53	Andritz WareHouse	Some inflamable item like paits and hydrolic oil placed with the general items of store.	Inspection by LEL Nov 06,2012	Segregate all hazardious and flamable matirial and store at designated and control condition.	15-Nov-12		ESOHS Officer Sambu and HSE Advisor Andritz	Completed	
LEL Comments	54	Andritz WareHouse	Oil spilage observed infront of andritz store.	Inspection by LEL Nov 06,2012	Remove the contaminated soil from entire area and properly dispose off.	15-Nov-12		ESOHS Officer Sambu and HSE Advisor Andritz	Completed	
LEL Comments	55	Andritz WareHouse	Corrosive and Non corrosive matiral placed with each other.	Inspection by LEL Nov 06,2012	Store, Corrosive and Non corrosive matirial seperately	14-Nov-12		ESOHS Officer Sambu and HSE Advisor Andritz	Completed	
LEL Comments	56	General	Fire Exit and fire extinguisher sign & Numbers are missing.	Inspection by LEL Nov 06,2012	Fire exit and extinguisher sign must displays at all locations and designate the number to every extinguisher.	14-Nov-12		ESOHS Officer	Completed	
LEL Comments	57	Unloading Bay	Fall protection railing was missing.	Inspection by LEL Nov 06,2012	Install railing in identified area	14-Nov-12		ESOHS Officer	Completed	

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LEL Comments	58	General	Currently inspection of slings, chains and shakel not in practice.	Inspection by LEL Nov 06,2012	Prepare the inspection check list of lifting equipment and inspect on monthly basis and also introduce the colour code system for power tool and lifting equipments.	15-NOV-12 24-Nov-12		ESOHS Officer	Completed	Check list has been prepared and shall be reported with November MPR.
LEL Comments	59	General	Some workers was observed in loss dress and without safety shoes and helmet at different areas of site.	Inspection by LEL Nov 06,2012	Ensure the 100 % compliance of PPEs and restrict the entry in project site without PPEs and tight dress in early morning before start the duty of workers.	18-NOV-12 27-Nov-12		ESOHS Officer	Completed	PPEs compliance is stisfactory but strickt inspection and compliance is necessary for 100 % compliance.
LEL Comments	60	General	Smoking areas are designated inside the building and some people observed that they are smoking away from the designated area.	Inspection by LEL Nov 06,2012	Designate all smoking area outside the building and educate the employee about the smoking area and keep check on employees.	14-Nov-12		ESOHS Officer	Completed	
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	39	Power House	A worker was observed throwing scaffolding pipes on ground from height without bank man there.	UA/UC of Oct MPR 2012	. Activity was brought to a halt till the deployment of bank man there.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	40	Power house	A welder was observed welding the metal piece without face shield.	UA/UC of Oct MPR 2012	He was advised to wear the mandatory PPE's before welding activity.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	41	Infront of Workshop	A worker was observed riding the tripod stand without safety harness	UA/UC of Oct MPR 2012	he was advised to wear the safety harness and then start the activity.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	42	Erection Bay	Some workers were observed working directly under the lifted load at erection bay	UA/UC of Oct MPR 2012	As a corrective action, a tool box talk was given the working crew about safe crane operations	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	43	electric pylon	A worker was observed working at height wearing the safety harness but not hooked during the erecting the electric pylon	UA/UC of Oct MPR 2012	He was advised to avoid such unsafe acts that put life in danger.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	44	Transforme r Area	Mid railing was observed missing at downstream openings of gates	UA/UC of Oct MPR 2012	as a corrective action railing was arranged there.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	45	Power house	A naked wire observed directly plugged in the socket	UA/UC of Oct MPR 2012	as a corrective action a proper plug was arranged to minimize the electric shock hazard	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	46	Office building	Over speeding was observed in front of office area	UA/UC of Oct MPR 2012	as a corrective action driver was advised to follow the safe driving procedure.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	47	Power house	Opening of access lift observed missing the guard railing	UA/UC of Oct MPR 2012	as a corrective action guard railing has been installed there.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	48	Transforme r Area	Sharp edges of cable trays observed unattended at transformer area,	UA/UC of Oct MPR 2012	as corrective action all unattended pieces were collected and placed at one place.	Immediately		ESOHS Officer	Completed	It has been verified by laraib

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LEL Comments	61	General	Fire fighting and evacuation Drill inside the power House.	-	-	10-Jan-12		ESOHS Officer	Completed	Mr. Azam contact to civil Defence Mirpur and invite their fire experts for training at site on Jan 11, 13
LEL Comments	62	General	Hiring of HSE inspector for night time compliance.	-	Recruit a HSE Inspect to increase the vegilance of HSE.			ESOHS Officer	Completed	
LEL Comments	63	Andritz WareHouse	Leakage of oil drum valve	Inspection by LEL Nov 27,2012	Proper maintenance of valve and place the tray under the leekage.	28-Nov-12		ESOHS Advisor	Completed	
LEL Comments	64	General	Housekeeping in Andritz warehouse and Erection Bay.	Inspection by LEL Nov 27,2012	Arrage all store items and remove the useless items.	4-Dec-12		ESOHS Advisor	Completed	
LEL Comments	65	Transforme r Area	ANDRITZ worker was smoking in transformer area.	Inspection by LEL Dec 12,2012	As per Instruction on John Methews and revised procedure termite him from services.	-		ESOHS Advisor ANDRITZ	Open	ANDRITZ give a warning letter to him but this action is not fullfill the revised procedural requirments.
LEL Comments	66	Power house	Cable tray used as a ladder at different location of power House.	Inspection by LEL Dec 12,2012	Use Proper Ladder to minimize the accidents.	14-Dec-12		ESOHS Officer	Completed	
LEL Comments	67	Power house	Unbalance postable Scaffolding obeser at 255 elevation.	Inspection by LEL Dec 12,2012	Hang the Red tag with this portable Ladder.	14-Dec-12		ESOHS Officer	Completed	
LEL Comments	68	Power house	Tags of scaffolding found missing.	Inspection by LEL Dec 12,2012	Display the tags with updated status of inspection.	14-Dec-12		ESOHS Officer	Completed	
LEL Comments	69	Power house	Use LPG cylender for tea making near inflamable liquids in Fire pump House.	Inspection by LEL Dec 12,2012	Remove the LPG cylender and stop the work of that contractor.	13-Dec-12		ESOHS Officer	Completed	
LEL Comments	70	Power house	Cigeratte Buds Observed in Power House	Inspection by LEL Dec 12,2012	Inestigate this matter and terminate the smoker who is smoking inside the power House.	14-Dec-12		ESOHS Officer	Completed	
LEL Comments	71	Power house	Exit Sign are not Visible in darkness/Power shutdown.	Inspection by LEL Dec 12,2012	Exit Sign must be made with refecting matirial.	14-Dec-12		ESOHS Officer	Completed	
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	49	Ware House	Flammable material observed in warehouse along with other items	UA/UC of Nov MPR 2012	as corrective action flamable materials have been removed and shifted to designated places. A safety sign board for flammable items have installed there.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	50	Power house	Smoking points were found inside the working area	UA/UC of Nov MPR 2012	as a corrective action smoking point have been shifted outside the power house and office building to avaoid any untoward fire incident.	Immediately		ESOHS Officer	Completed	It has been verified by laraib

ESOHS RECOMMENDED ACTION ITEMS/ CORRECTIVE ACTION PLAN										
Source	**No**	**Location**	**Finding**	**Reference/Date**	**Action Required**	**Target Date**	**Priority**	**Responsibility**	**Status**	**Remarks**
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	51	stop log storage area	A worker was observed grinding the concrete wall of stop log storage area without safety goggles	UA/UC of Nov MPR 2012	as a corrective action he was advised to ensue the use of mandatory PPE's before the commencement of such activities	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	52	Headrace	A steep ramp at headrace with the risk of overturning of vehicles	UA/UC of Nov MPR 2012	as a corrective action a gradual slope was maintained for easy access of dump trucks	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	53	Headrace	A worker was observed swimming in water on a rubber tube at head race,	UA/UC of Nov MPR 2012	as corrective action a disciplinary action was taken against him and he was fired from site to teach the lesson to other workers so that no one should dare to repeat the practice	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	54	Tailrace	A worker was observed walking over slope of embankment wall at downstream	UA/UC of Nov MPR 2012	as a corrective action he was given a verbal warning and advised to avoid such type of practice, warning signs has also been installed on both side embankment wall.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	55	Headrace	Team of worker busy in installation of railing at embankment wall with poor housekeeping	UA/UC of Nov MPR 2012	as a corrective action they were advise to arrange all items properly on ground instead of keeping on embankment wall.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	56	Headrace	A group of workers were busy in the maintenance of NBE gates without any kind of guard railing	UA/UC of Nov MPR 2012	as a corrective action work activity stopped and advise to arrange railing before the commencement of the work.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	57	public road	Poor lighting arrangements at public road	UA/UC of Nov MPR 2012	as a corrective action new lights have been installed there to illuminate the area.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	58	Residance Area	Solid waste observed outside the waste drums placed along the bank of old bong	UA/UC of Nov MPR 2012	as corrective action rubbish was placed inside the waste drums.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
LEL Comments	72	General	Weekly ESOHS meeting is preplaned and informed through email as well But Participants of contractor does not well prepared for weekly ESOHS meeting.	Inspection by LEL Dec 19,2012	1-They must be Updated with all CAP issues and try to resolve within the target date. 2-Provide the manpower status before the meeting. 3-Provide activity list of upcoming week for risk assesment.	26-Dec-12		ESOHS Officer	Completed	
LEL Comments	73	Sambu Workshop	Oil spillage due to Improper storage of used oil drum.	Inspection by LEL Dec 18,2012	Permanently; Used oil drums must store on concrete floor. Temporarily: Oil Drum Stored on polythene sheet or any other sheet to avoid direct contact of oil and land.	1-Jan-13		ESOHS Officer	Completed	
LEL Comments	74	Sambu Workshop	Sign Board of used oil Drum obseved mising during site visit.	Inspection by LEL Dec 18,2012	Install sign board at identified location.	26-Dec-12		ESOHS Officer	Completed	

ESOHS RECOMMENDED ACTION ITEMS/ CORRECTIVE ACTION PLAN										
Source	**No**	**Location**	**Finding**	**Reference/Date**	**Action Required**	**Target Date**	**Priority**	**Responsibility**	**Status**	**Remarks**
LEL Comments	75	Assembly Point No 1	Assembly point is hide behind the grass and many workshop material scattered around the assembly point.	Inspection by LEL Dec 22,2012	Grass cutting and Housekeeping need to be done in entire area.	31-Dec-12		ESOHS Officer	Completed	
LEL Comments	76	239 Elevation	water pit obseved overfill Near the Open and unsafe electric power supply.	Inspection by LEL Dec 22,2012	Water needed to pump out and electrical connection will be channelize in safe manner.	31-Dec-12		ESOHS Officer	Completed	
LEL Comments	77	General	PTW system not implemented yet.	Inspection by LEL Dec 22,2012	Conduct a training, Prepare the procedure and implement Urgently.	4-Jan-13		ESOHS Officer	Open	
LEL Comments	78	Near Parking Area	Reverse siren of Vehicale No 03D-3116 is out of order.	Inspection by LEL Dec 22,2012	Install the alarm ASAP to avoid any emergency and deploy helper with the driver.	9-Jan-13		ESOHS Officer	Completed	HSE deparment of sambu stop the all activities of this vehicle and vehicle 02D will perform the activities of Vehicle No 03D.
LEL Comments	79	Landscaping Area	Soil erosion observed at tailrace	Inspection by LEL Dec 31,2012	Refill the eroded area with sweet soil.	12-Jan-13		ESOHS Officer	Open	
LEL Comments	80	Near Parking Area	No barication observed at excavated area infront of offices.	Inspection by LEL Jan 01,2012	Baricade the excavated area infront of offices.	2-Jan-13		ESOHS Officer	Completed	
LEL Comments	81	Generator Infront of Security Cabin.	Extinguisher Inpection is due and No is also missing.	Inspection by LEL Dec 31,2012	Updated the card after Inspection and assign No to extinguisher.	10-Jan-13		ESOHS Officer	Completed	
LEL Comments	82	General	Numbering and Inspection is required of all slings and riggings equipments.	Inspection by LEL Jan 08,2013	Updated the Inspection check list and assign No to rigging equipment.	18-Jan-13		ESOHS Officer	Open	
LEL Comments	83	Near Batch Plant	A Heap of waste observe several time near Batching Plant	Inspection by LEL Jan 08,2013	Dump the whole waste at designated location, and removed ASAP.	15-Jan-13		ESOHS Officer	Completed	
LEL Comments	84	Near Entry Gate	A deep excavated area observe without barication.	Inspection by LEL Jan 09,2013	Baricade the excavated area to avoid any accident.	10-Jan-13		ESOHS Officer	Completed	
LEL Comments	85	Transformer Area	Energized area obseved open for all.	Inspection by LEL Jan 09,2013	Restrict the entry of everyone except the relevent people as a sign board installed there.	12-Jan-13		ESOHS Officer	Completed	
LEL Comments	86	Headrace Bridge	Cover of Water Bore hole is not balance.	Inspection by LEL Jan 13,2013	Rectify the civers according to the bore hole	16-Jan-13		ESOHS Officer	Open	
LEL Comments	87	workshop	Used oil drum store in very casual manner.	Inspection by LEL Jan 13,2013	All used oil drum needed to auction /properly cover and store.	17-Jan-13		ESOHS Officer	Open	
LEL Comments	88	Erection Bay	Balance of 30 ton rigging crane is out of calibration	Inspection by LEL Jan 13,2013	Calibrate the balance	22-Jan-13		ESOHS Officer	Open	
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	60	11 kV pole	A disk insulator fixed on electric pole of 11 kV line observed broken,	UA/UC of Dec MPR 2012	as a corrective action Wapda (Line owner) was informed and was replaced with the new one on same day.	Immediately		ESOHS Officer	Completed	It has been verified by laraib

ESOHS RECOMMENDED ACTION ITEMS/ CORRECTIVE ACTION PLAN										
Source	**No**	**Location**	**Finding**	**Reference/Date**	**Action Required**	**Target Date**	**Priority**	**Responsibility**	**Status**	**Remarks**
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	61	Headrace	Fabricator observed without life jacket while fixing guard railing at right embankment wall at head race	UA/UC of Dec MPR 2012	as a corrective action area supervisor was advised to avoid such practices near deep waters and he was provided a life jacket	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	62	GIS Room,	Smoking butts observed inside the gear insulated switchyard (GIS) room thrown by some unknown worker.	UA/UC of Dec MPR 2012	as a corrective action area supervisor advised to keep vigilance on smokers and take a stern action.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	63	Electric Pylon No 3	Erection of electric pylons in progress without proper anchoring of safety harness by the erection crew,	UA/UC of Dec MPR 2012	as a corrective action a tool box talk was delivered on use of safety harness.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	64	laraib office	A canister with flammables observed near the smoking point in the back side of laraib office,	UA/UC of Dec MPR 2012	as a corrective action ESOHS officer Laraib was informed and within no time he removed the diesel canister and advised the employees concerned to avoid the practice in future	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	65	Workshop	Used oil drums observed placed on soil having chances of spillage,	UA/UC of Dec MPR 2012	as a corrective action triple layer of polyethylene sheet has been laid beneath the drums.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	66	Power House	Naked wire observed plugged in electric socket,	UA/UC of Dec MPR 2012	as a corrective action two pin electric shoe arranged to make the proper arrangement.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	67	Workshop	Missing of safety sign near oil storage areas,	UA/UC of Dec MPR 2012	as a corrective action respective safety signs have been installed at site.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	68	Transformer Area	Passage of workers through transformer deck observed open	UA/UC of Dec MPR 2012	as a corrective action entry close by installing hard rail.	Immediately		ESOHS Officer	Completed	It has been verified by laraib
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	69	Public road	A bulk quantity of Mud observed on the public road spilled from tailgate of dumper	UA/UC of Dec MPR 2012	as a corrective action the road is cleaned by removing the mud to avoid any slipping hazard	Immediately		ESOHS Officer	Completed	It has been verified by laraib

Summary

Source	Total Issues	Closed	In-progress	Pending
Recommendations from EP-AJK	3	1	2	0
Recommendations from MM	13	13	0	0
LEL Comments	88	81	0	7
Reported Accidents By Contractor	1	1	0	0
Reported Unsafe Acts/Unsafe Conditions (UA/UC)	69	69	0	0
Recommendations from IFC	10	8	1	1
Total	184	173	3	8

Exhibit 02 – Near miss

(Please see the next page)

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Near Miss Report

Injured/ Involved Persons		
Name: *Mr. Azad Khan*	Occupation/Job Title: *Steel fixer*	
Location: ***Stoplog Storage Area***	Date Reported: *03/ 10/ 2012*	Time: *1050 hrs*

Describe what happened and, if applicable, describe injury. Attach an accident/incident diagram, if appropriate:

A stone flew from underneath the tyre of the moving dump truck and crossed from very close to the steel fixer Mr. Azad khan working at the stop log storage area.

According to details on October 02, 2012 a steel fixer Mr. Azad Khan was busy in the steel fixing at stop log storage area at head race where dump trucks were also moving in shifting the excavated soil. A small sized rounded stone slipped underneath the tyre of the moving dump truck, flew in the air and crossed from very close to the above mentioned worker just missing his shoulder. For the prevention of potential incidents loose surface was compacted with the roller to avoid any kind of such mishap.

Causes: Check (✓) all that are applicable

Conditions	**Practices**
❑ Congestion or restricted action	❑ Improper body position/posture
✓ Poor housekeeping; disorderly workplace	❑ Tasks not varied/micro breaks not taken
❑ Slip/trip hazards	❑ Unnecessary rushing
❑ Lack of or inappropriate furniture/equipment	❑ Improper lifting
❑ Design or arrangement of furniture/equipment	❑ Unsafe loading/placement
❑ Defective furniture, tools, equipment or materials	❑ Using defective equipment
❑ Inadequate or excessive illumination	❑ Using equipment improperly
❑ Inadequate ventilation	❑ Altering or modifying equipment
❑ Excessive noise	❑ Not using personal protective equipment or failing to use it properly
❑ Inadequate or improper protective equipment	❑ Not following appropriate procedures
	❑ Inappropriate conduct
	❑ Hazardous personal attire
	❑ Other (explain):

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❑Fire and explosion hazards ❑ Inadequate warning systems ❑ Irate client/employee action ❑ Adverse weather ❑ Other (explain):
Corrective Action
• The dirt roads and accesses were made clean by removing loose stones with the help of grader and then compacted with roller.
Persons Conducting Investigation:

Name	Signature	Date
Muhammad Azam		03/10/2012
Mr. Park Kesio		03/10/2012

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Near Miss Report

Injured/ Involved Persons		
Name: *Mr. Pervaiz*	Occupation/Job Title: *Labour*	
Location: ***Stop log Storage Area***	Date Reported: *19/ 10/ 2012*	Time: *1530 hrs*

Describe what happened and, if applicable, describe injury. Attach an accident/incident diagram, if appropriate:

During unloading the shuttering plates from truck mounted crane a steel plate slipped and fell in the close proximity of worker standing there near the crane.

According to details on October 17, 2012 truck mounted crane loaded the shuttering plates from stop log storage area to transport it to the form yard. On reaching there it started unloading the steel plates, crane helper tied the load with the sling as it lifted a loose plate slipped and fell on the ground just missing the foot of the laborer Mr. Pervaiz standing there near the crane.

Causes: Check (✓) all that are applicable

Conditions	**Practices**
❑ Congestion or restricted action	❑ Improper body position/posture
❑ Poor housekeeping; disorderly workplace	❑ Tasks not varied/micro breaks not taken
❑ Slip/trip hazards	❑ Unnecessary rushing
❑ Lack of or inappropriate furniture/equipment	❑ Improper lifting
❑ Design or arrangement of furniture/equipment	✓Unsafe loading/placement
❑ Defective furniture, tools, equipment or materials	❑ Using defective equipment
❑ Inadequate or excessive illumination	❑ Using equipment improperly
❑ Inadequate ventilation	❑ Altering or modifying equipment
❑ Excessive noise	❑ Not using personal protective equipment or failing to use it properly
❑ Inadequate or improper protective equipment	✓ Not following appropriate procedures
	❑ Inappropriate conduct
	❑ Hazardous personal attire
	❑ Other (explain):

❑Fire and explosion hazards

❑ Inadequate warning systems

❑ Irate client/employee action

❑ Adverse weather

❑ Other (explain):

Corrective Action

- A tool box talk has been conducted on " Safe Load Lifting with Crane" and following instructions were delivered
- Workers were advised to ensure the loads are safe and secure
- Never stand under a suspended load, and control movement under any such loads.
- Ensure load is lifted off the ground, free, and correctly slung before hoisting.
- Use cranes to lift and lower loads vertically – never drag loads.

Persons Conducting Investigation:

Name	Signature	Date
Muhammad Azam		19/10/2012
Mr. Park Kesio		19/10/2012

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Near Miss Report

Injured/ Involved Persons		
Name: *Mr. Zahid Khan*		Occupation/Job Title: *Fitter*
Location: ***Parking shelter***	Date Reported: *30/ 11/ 2012*	Time: *0910 hrs*

Describe what happened and, if applicable, describe injury. Attach an accident/incident diagram, if appropriate:

An aluminum gutter (drain) fell on the ground from a height of 3 meters almost during the construction of parking shelter in front of office building Luckily no one hurt as it just missed the worker working in the vicinity.

According to details on Nov 30, 2012 simultaneously work activities involving construction of metallic roof top of parking shed and digging of trench for electric cables were underway. A crew of workers was busy holding the metallic gutter (drain) at the lower side of roof top, when it fell on the ground. Luckily the digging of trench was suspended before initiating the fixing of gutter line so no injury or harm occurred. During installing the gutter line a piece of aluminum almost 6 meter and weighing 5 kg fell 3 meters to the ground. In the light of risk assessment conducted prior the start of installation of roof works the digging activity was suspended just before the fixing of aluminum gutter. Thus no loss, harm or human injury occurred at site. The main causes of incident were improper placing of aluminum sheet at the edge of the rooftop without securing properly with string or clamps and poor housekeeping at roof top.

Causes: Check (✓) all that are applicable

Conditions	**Practices**
❑ Congestion or restricted action	❑ Improper body position/posture
✓ Poor housekeeping; disorderly workplace	❑ Tasks not varied/micro breaks not taken
❑ Slip/trip hazards	❑ Unnecessary rushing
❑ Lack of or inappropriate furniture/equipment	❑ Improper lifting
❑ Design or arrangement of furniture/equipment	❑ Unsafe loading/placement
❑ Defective furniture, tools, equipment or materials	❑ Using defective equipment
❑ Inadequate or excessive illumination	✓ Using equipment improperly
❑ Inadequate ventilation	❑ Altering or modifying equipment
	❑ Not using personal protective equipment or failing to use it properly
	❑ Not following appropriate procedures

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❑ Excessive noise	❑ Inappropriate conduct
❑ Inadequate or improper protective equipment	❑ Hazardous personal attire
❑Fire and explosion hazards	❑ Other (explain):
❑ Inadequate warning systems	
❑ Irate client/employee action	
❑ Adverse weather	
❑ Other (explain):	

Corrective Action

.

1. Ensure Area Responsible Person is identified and coordinates simultaneous operations.
2. Ensure all crews are aware of simultaneous operations in the area where they are working.
3. Ensure simultaneous operations include a risk assessment for dropped objects.
4. Improve housekeeping on scaffolds and work platforms.
5. Do not allow people to work underneath scaffolders or cleaners, unless adequate protection for dropped objects is in place.
6. Establish clear HSE responsibilities for all activities at site.

Persons Conducting Investigation:

Name	Signature	Date
Muhammad Azam		03/10/2012
Mr. Park Kesio		03/10/2012

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Near Miss Report

Injured/ Involved Persons		
Name: *Mr. Ramzan*	Occupation/Job Title: *Cooking helper*	
Location: ***Mess Hall***	Date Reported: *27/ 11/ 2012*	Time: *1245 hrs*

Describe what happened and, if applicable, describe injury. Attach an accident/incident diagram, if appropriate:

A hot water steel tube fell on the ground by the cooking helper during keeping it down the stove. Hot water flooded on the floor. Luckily no injury is reported

According to details on Nov 27, 2012 cooking helper was busy in cooking works. He holds a steel pot fill of hot water to put it down the stove. As he lifted the steel tub one of his hand slipped, hot water fell on the ground. Luckily no loss, harm or human injury occurred at site. The major factors that contributed the incident are oily surface of pot and filled to top.

Causes: Check (✓) all that are applicable

Conditions	**Practices**
❑ Congestion or restricted action	❑ Improper body position/posture
❑ Poor housekeeping; disorderly workplace	❑ Tasks not varied/micro breaks not taken
❑ Slip/trip hazards	❑ Unnecessary rushing
❑ Lack of or inappropriate furniture/equipment	✓ Improper lifting
❑ Design or arrangement of furniture/equipment	❑ Unsafe loading/placement
❑ Defective furniture, tools, equipment or materials	❑ Using defective equipment
❑ Inadequate or excessive illumination	✓ Using equipment improperly
❑ Inadequate ventilation	❑ Altering or modifying equipment
❑ Excessive noise	❑ Not using personal protective equipment or failing to use it properly
❑ Inadequate or improper protective equipment	❑ Not following appropriate procedures
	❑ Inappropriate conduct
	❑ Hazardous personal attire

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❑Fire and explosion hazards	❑ Other (explain):
❑ Inadequate warning systems	
❑ Irate client/employee action	
❑ Adverse weather	
❑ Other (explain):	

Corrective Action

.

1. Ensure Proper housekeeping in the area
2. Never fill the pot to its maximum capacity, keep its level lower enough the top edges
3. Ensure the proper and balanced handling of equipment/ pot.

Persons Conducting Investigation:

Name	Signature	Date
Muhammad Azam		28/11/2012
Mr. Park Kesio		28/11/2012

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Near Miss Report

Injured/ Involved Persons		
Name: *M. Nadeem*	Occupation/Job Title: *Camp Supervisor*	
Location: ***Left bank Old bong escape***	Date Reported: *12/ 12/ 2012*	Time: *1435 hrs*

Describe what happened and, if applicable, describe injury. Attach an accident/incident diagram, if appropriate:

Dry grass and shrubs caught fire near old Bong and in front of residential area, no loss is reported.

According to details on 10th of the current month camp supervisor Mr. Nadeem was on his routine inspection when he witnessed smoke arising along the right bank of old bong escape. He rushed to the site immediately and observed dry shrubs on flames. He instantly along with cleaning staff doused the blaze. No loss or damage to property or human is reported. No one is witnessed who set the shrub or dry grass on fire. It is believed that someone might have thrown the burning cigarette there in shrubs and natural vegetation, and because of dry and autumn period these shrubs easily caught fire. No property or human loss is reported as fire was put out timely and also it was at safe distance from residential area.

Causes: Check (✓) all that are applicable

Conditions	**Practices**
❑ Congestion or restricted action	❑ Improper body position/posture
❑ Poor housekeeping; disorderly workplace	❑ Tasks not varied/micro breaks not taken
❑ Slip/trip hazards	❑ Unnecessary rushing
❑ Lack of or inappropriate furniture/equipment	❑ Improper lifting
❑ Design or arrangement of furniture/equipment	❑ Unsafe loading/placement
❑ Defective furniture, tools, equipment or materials	❑ Using defective equipment
❑ Inadequate or excessive illumination	❑ Using equipment improperly
❑ Inadequate ventilation	❑ Altering or modifying equipment
❑ Excessive noise	❑ Not using personal protective equipment or failing to use it properly
	❑ Not following appropriate procedures

❑ Inadequate or improper protective equipment ✓ Fire and explosion hazards ❑ Inadequate warning systems ❑ Irate client/employee action ❑ Adverse weather ❑ Other (explain):	✓ Inappropriate conduct ❑ Hazardous personal attire ❑ Other (explain):

Corrective Action

1. Camp supervisor was advised to improve the patrolling of camp and keep vigilance on smokers.
2. Tool box talk also conducted to avoid smoking in fire prone areas.
3. HSE update issued on use of fire extinguisher techniques and displayed on notice boards in mess halls.
4. Training also conducted in the current month on Fire Extinguishers and Responsibilities of ERT in case of any emergency.

Persons Conducting Investigation:

Name	Signature	Date
Muhammad Azam		13/12/2012
Mr. Park Kesio		13/12/2012

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Near Miss Report

Injured/ Involved Persons		
Name: *Mr. Asif*	Occupation/Job Title: *Operator*	
Location: ***Tower # 942***	Date Reported: *15/ 12/ 2012*	Time: *1700 hrs*

Describe what happened and, if applicable, describe injury. Attach an accident/incident diagram, if appropriate:

On December 15, 2012 at 1700 hrs a giant mishap occurred at site when auxiliary boom of a crane twisted while dismantling an existing Tower # 942 at site and tower landed on the same crane closely missing the two crew members working at tower.
Incident happened when a under size crane was being used by the contractor to dismantle the tower. Auxiliary boom of the crane folded and tower collapses from almost half of the length. The contractor was busy in the dismantling more than 30 meters long electric pylon with a crane of 20 Tons capacity. The crane was rigged with almost 80ft boom extended to hold the piece of tower. Two workers were on the tower just below the level where from the tower collapsed. As they lose the bolts, the crane could not hold the weight of the upper piece and extended boom creased. A section of almost 15 meter long floored on the same crane at off side the operator's cabin just missing the two crew members who were laboring on tower. On asking the crane operator Mr. Asif informed that crane has no third party certification and also the electronic system was out of order. Fortunately no harm or human injury is reported.
The major factor that caused the incident is the use of under size crane and was also contributed by the out of order electronic system of crane because of it crane operator was not able to judge the load properly.

Causes: Check (✓) all that are applicable

Conditions	**Practices**
❑ Congestion or restricted action	❑ Improper body position/posture
❑ Poor housekeeping; disorderly workplace	❑ Tasks not varied/micro breaks not taken
❑ Slip/trip hazards	❑ Unnecessary rushing
❑ Lack of or inappropriate furniture/equipment	✓ Improper lifting
❑ Design or arrangement of furniture/equipment	❑ Unsafe loading/placement
❑ Defective furniture, tools, equipment or	❑ Using defective equipment
	✓ Using equipment improperly

materials

- ❑ Inadequate or excessive illumination
- ❑ Inadequate ventilation
- ❑ Excessive noise
- ❑ Inadequate or improper protective equipment
- ❑Fire and explosion hazards
- ❑ Inadequate warning systems
- ❑ Irate client/employee action

- ❑ Adverse weather
- ❑ Other (explain):

- ❑ Altering or modifying equipment
- ❑ Not using personal protective equipment or failing to use it properly
- ❑ Not following appropriate procedures
- ❑ Inappropriate conduct
- ❑ Hazardous personal attire
- ❑ Other (explain):

Corrective Action

.

1. Under size crane was replaced with a crane of adequate capacity to lift the load and area supervisor was advised to avoid lifting load beyond the capacity of crane.
2. Third party inspection certificate was obtained prior the start of job and also
3. Ensure crane used for lifting load having enough capacity to avoid any untoward incident.
4. No one allowed to work under the lifted load.
5. A tool box talk was conducted on crane safety.
6. Housekeeping in area has been ensured to avoid slip, trip hazards.

Persons Conducting Investigation:

Name	Signature	Date
Muhammad Azam		16/12/2012
Mr. Park Kesio		16/12/2012

Exhibit 03 – First aid

(Please see the next page)

SAMBU

First Aid Report

Injured/ Involved Persons		
Name: Mr. Imran		Job Title: Labor
Witnesses		
Name: Mr. Tahir Rasool		Job Title: Assistant Engineer
Location: Power house	Date Reported: *11/ 10/ 2012*	Time: *1545 hrs*

Describe what happened and, if applicable, describe injury. Attach an accident/incident diagram, if appropriate:

A laborer hit by a steel pipe on his left leg, ice packs were applied on the swelling at site and later he came to site clinic for further assistance.

According to details on 9th of the October a guy Mr. Imran working as a laborer was busy in collecting steel pipes at stop log storage at downstream side. A crew of five laborers was busy in collecting and arranging of pipes in bundles under the supervision of an assistant engineer Mr.Tahir Rasool. One guy throw a pipe from a little distance on the bundle, the pipe slipped and hit to the lower portion of left leg of Imran standing in the close vicinity, resultantly he sustained a minor blunt trauma on his leg. The working area was near the staff mess hall, one of the guy collected ice from freezers inside the mess facility. As a first aid Icepacks were applied on effected area there at site to minimize the pain and swelling. Later he visited the site clinic for further assistance; doctor applied some ointment and advised with pain killers.

Causes: Check (✓) all that are applicable

Conditions	**Practices**
❑ Congestion or restricted action	❑Improper body position/posture
❑ Poor housekeeping; disorderly workplace	❑ Tasks not varied/micro breaks not taken
❑ Slip/trip hazards	❑ Unnecessary rushing
❑ Lack of or inappropriate furniture/equipment	❑ Improper lifting
❑ Design or arrangement of furniture/equipment	❑ Unsafe loading/placement
❑ Defective furniture, tools, equipment or materials	❑ Using defective equipment
❑ Inadequate or excessive illumination	❑ Using equipment improperly
	❑ Altering or modifying equipment
	❑ Not using personal protective equipment or failing

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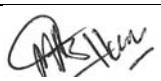
❑ Inadequate ventilation	to use it properly
❑ Excessive noise	✓ Not following appropriate procedures
❑ Inadequate or improper protective equipment	❑ Inappropriate conduct
❑ Fire and explosion hazards	❑ Hazardous personal attire
❑ Inadequate warning systems	❑ Other (explain):
❑ Irate client/employee action	
❑ Adverse weather	
❑ Other (explain):	

Corrective Action

- Area supervisor was advised to provide safety talks on safe work practices.

Reported by:			
Medical Officer	Dr. Muhammad Asif		
Review by:			
ESOHS Officer	Muhammad Azam		
Site & ESOHS Manager	Mr. Park Kessio		

SAMBU

First Aid Report

Injured/ Involved Persons		
Name		Occupation/Job Title
Mr. Mohsin		*Carpenter*
Location: Approach road	Date Reported: *10/ 11/ 2012*	Time: *1130 hrs*

Describe what happened and, if applicable, describe injury. Attach an accident/incident diagram, if appropriate:

Mr. Mohsin Carpenter suffered blunt trauma on the thumb of his left hand, he was provide first aid at site clinic.

According to details on Nov 10, 2012 Mr. Mohsin working in the capacity of carpenter was busy in preparation of form work for concrete works. He was busy in loosening the the nail in the ply wood with the help of screw driver when he got his attention distracted and it slipped and hit the thumb of his left hand. As a result he got a small wound on thumb. He was provided a dressing at site as a first aid to stop the bleeding, later he visited site clinic for further assistance where doctor cleaned his wound and applied anti septic dressing also advised some pain killer tablets.

Causes: Check (✓) all that are applicable

Conditions	**Practices**
❑ Congestion or restricted action	❑ Improper body position/posture
❑ Poor housekeeping; disorderly workplace	❑ Tasks not varied/micro breaks not taken
❑ Slip/trip hazards	❑ Unnecessary rushing
❑ Lack of or inappropriate furniture/equipment	❑ Improper lifting
❑ Design or arrangement of furniture/equipment	❑ Unsafe loading/placement
❑ Defective furniture, tools, equipment or materials	❑ Using defective equipment
❑ Inadequate or excessive illumination	✓Using equipment improperly
❑ Inadequate ventilation	❑ Altering or modifying equipment
❑ Excessive noise	❑ Not using personal protective equipment or failing to use it properly
❑ Inadequate or improper protective	✓ Not following appropriate procedures
	❑ Inappropriate conduct

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equipment	❑ Hazardous personal attire
❑ Fire and explosion hazards	❑ Other (explain):
❑ Inadequate warning systems	
❑ Irate client/employee action	
❑ Adverse weather	
❑ Other (explain):	

Corrective Action

A tool box talk has been conducted on screw drivers safety and following instructions have been passed on

- Use a slot screwdriver with a blade tip width that is the same as the width of slotted screw head.
- Keep the screwdriver handle clean. A greasy handle could cause an injury or damage from unexpected slippage.
- Always match the screwdriver to the screw head, both in terms of size and type.
- Do not hammer screws which cannot be turned.
- Do not hold the stock in one hand while using the screwdriver with the other. If the screwdriver slips out of the slot, you may cut your hand

Reported by:			
Medical Officer	Dr. Muhammad Asif		
Review by:			
ESOHS Officer	Muhammad Azam		
Site & ESOHS Manager	Mr. Park Kessio		

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First Aid Report

Injured/ Involved Persons		
Name: Mr. Nawaz		Job Title: Labor
Location: Power house	Date Reported: *11/ 11/ 2012*	Time: *1040 hrs*

Describe what happened and, if applicable, describe injury. Attach an accident/incident diagram, if appropriate:

A laborer hit by a steel pipe on his left elbow, pain killer jel were applied on the swelling at site and later he came to site clinic for further assistance.

According to details on 11th of the November a guy Mr. Nawaz working as a laborer was busy in collecting steel pipes at approach road near Andritz ware house. He was busy in loading the pipe on trolley when one of the pipes slipped and hit the elbow of his left arm; as a result he sustained a minor blunt trauma on left elbow. Victim's supervisor get the first aid box from nearby ware house and applied pain killer jel at effected potion. Later he visited the site clinic for further assistance; doctor applied some ointment and advised pain killer tablets.

Causes: Check (✓) all that are applicable

Conditions	**Practices**
❑ Congestion or restricted action	❑Improper body position/posture
❑ Poor housekeeping; disorderly workplace	❑ Tasks not varied/micro breaks not taken
❑ Slip/trip hazards	❑ Unnecessary rushing
❑ Lack of or inappropriate furniture/equipment	❑ Improper lifting
❑ Design or arrangement of furniture/equipment	✓ Unsafe loading/placement
❑ Defective furniture, tools, equipment or materials	❑ Using defective equipment
❑ Inadequate or excessive illumination	❑ Using equipment improperly
❑ Inadequate ventilation	❑ Altering or modifying equipment
❑ Excessive noise	❑ Not using personal protective equipment or failing to use it properly
❑ Inadequate or improper protective	✓ Not following appropriate procedures
	❑ Inappropriate conduct

equipment ❑ Fire and explosion hazards ❑ Inadequate warning systems ❑ Irate client/employee action ❑ Adverse weather ❑ Other (explain):	❑ Hazardous personal attire ❑ Other (explain):

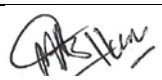
Corrective Action

- Area supervisor was advised to provide safety talks on safe work practices.

Reported by:

Medical Officer	Dr. Muhammad Asif		

Review by:

ESOHS Officer	Muhammad Azam		
Site & ESOHS Manager	Mr. Park Kessio		

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First Aid Report

Injured/ Involved Persons		
Name: Ms. Gaolin		Job Title: Design Engineer
Location: Power house	Date Reported: *16/12/ 2012*	Time: *1025 hrs*

Describe what happened and, if applicable, describe injury. Attach an accident/incident diagram, if appropriate:

A Chinese lady worker Ms Gaolin slipped during working at erection bay and developed swelling at lower part of the right leg, pain killer was provided her at site and shifted to site clinic.

According to details on 15th of the December Ms. Gaolin a Chinese lady engineer working with Andritz Hydro was busy in inspecting the electrical installations at erection bay, when she slipped over a piece of polyethylene sheet and developed swelling at lower part of the right leg. As a first aid measure anti pain jell was applied at effected part of the body at site and later she was removed to site clinic where doctor applied skin ointment and advised pain killer tablets.

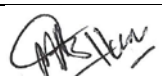
Causes: Check (✓) all that are applicable

Conditions	**Practices**
❑ Congestion or restricted action	❑Improper body position/posture
❑ Poor housekeeping; disorderly workplace	❑ Tasks not varied/micro breaks not taken
✓ Slip/trip hazards	❑ Unnecessary rushing
❑ Lack of or inappropriate furniture/equipment	❑ Improper lifting
❑ Design or arrangement of furniture/equipment	❑ Unsafe loading/placement
❑ Defective furniture, tools, equipment or materials	❑ Using defective equipment
❑ Inadequate or excessive illumination	❑ Using equipment improperly
❑ Inadequate ventilation	❑ Altering or modifying equipment
❑ Excessive noise	❑ Not using personal protective equipment or failing to use it properly
❑ Inadequate or improper protective	✓ Not following appropriate procedures
	❑ Inappropriate conduct

equipment	❑ Hazardous personal attire
❑ Fire and explosion hazards	❑ Other (explain):
❑ Inadequate warning systems	
❑ Irate client/employee action	
❑ Adverse weather	
❑ Other (explain):	

Corrective Action

- Ensure proper housekeeping of the working site
- Remove the items causing slip, trip and fall.

Reported by:			
Medical Officer	Dr. Muhammad Asif		
Review by:			
ESOHS Officer	Muhammad Azam		
Site & ESOHS Manager	Mr. Park Kessio		

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First Aid Report

Injured/ Involved Persons		
Name		Occupation/Job Title
Mr. Nazim		*Labour*
Location: Power house	Date Reported: *19/12/ 2012*	Time: *1450 hrs*

Describe what happened and, if applicable, describe injury. Attach an accident/incident diagram, if appropriate:

A laborer Mr. Nazim's left foot twisted while working at site and got ankle sprained, pain killer jel was applied at site and then shifted to site clinic for further treatment.

According to details on 18th of current month a laborer Mr. Nazim was deputed for cleaning of drainage gallery in power house, he got ankle sprain after his left foot twisted while he was climbing up the stairs. He was running on stairs when incident occurred due to improper foot position on stairs step. As a first aid pain killer jell was applied on his foot and later he removed to site clinic for further assistance where doctor applied skin ointment at effected part of body advised him some pain killer tablets

Causes: Check (✓) all that are applicable

Conditions	**Practices**
❑ Congestion or restricted action	❑ Improper body position/posture
❑ Poor housekeeping; disorderly workplace	❑ Tasks not varied/micro breaks not taken
✓ Slip/trip hazards	❑ Unnecessary rushing
❑ Lack of or inappropriate furniture/equipment	❑ Improper lifting
❑ Design or arrangement of furniture/equipment	❑ Unsafe loading/placement
❑ Defective furniture, tools, equipment or materials	❑ Using defective equipment
❑ Inadequate or excessive illumination	❑ Using equipment improperly
❑ Inadequate ventilation	❑ Altering or modifying equipment
❑ Excessive noise	❑ Not using personal protective equipment or failing to use it properly
❑ Inadequate or improper protective	✓ Not following appropriate procedures
	❑ Inappropriate conduct

equipment	❑ Hazardous personal attire
❑ Fire and explosion hazards	❑ Other (explain):
❑ Inadequate warning systems	
❑ Irate client/employee action	
❑ Adverse weather	
❑ Other (explain):	

Corrective Action

A tool box talk was conducted on Slip, Trip, and Fall and workers were advised to avoid unnecessary rushing at working site, especially at stairs to avoid slip trip and fall hazard.

Reported by:

Medical Officer	Dr. Muhammad Asif		

Review by:

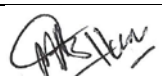
ESOHS Officer	Muhammad Azam		
Site & ESOHS Manager	Mr. Park Kessio		

Exhibit 04 – Loss time injury

(Please see the next page)

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Final Accident Investigation Report

Injured/ Involved Persons		
Mr. Ilyas		Occupation/Job Title: Fitter
Witnesses		
Mr. Mudassar Hussain		Occupation/Job Title: Foreman
Mr. Muhammad Ashraf		Occupation/Job Title: Technician
Location: Electric Pylon P1	Date Reported:*01/11/2012*	Time: *1610 hrs*

❑ Hazardous Situation	❑ Incident / Near miss	❑ First Aid	❑ Medical Aid	❑ Lost Time Injury	❑Major Injury

Describe what happened and, if applicable, describe injury. Attach an accident/incident diagram, if appropriate:

<u>On the job</u>

Initial investigation into the incident reveals the following information.

The accident took place on 01 November 2012 at 4.10 pm.Mr Ilyas a fitter of power line company (a subcontractor of Andritz) fell down from pylon from a height of about 7 meters. He was immediately shifted to site clinic in semi- conscious condition where the doctor provided him first aid and immediately he was shifted to District Head Quarter Hospital (DHQ) Mirpur in company ambulance.

According to details the services of a company naming Power Line Company were hired by Andritz hydro for the erection and assembling of electric pylons at project site. Mr. Ilyas is 30 years old as per details furnished by power line company and hailing from Gujranwala. He was working with the company for more than one and half year in the capacity of fitter.

On the day of incident, he mounted on the under construction Plylon P1 to assemble its parts and pieces. Mr Mudassar and Mr. Ashraf were also among the crew members who were working there to assemble the tower. Although he was wearing safety shoes and fixed the harness on his waste but he failed to couple it with rigid support. As his foot slipped he landed on the ground from a height of almost 7 meters. Other crew

SAMBU

Final Accident Investigation Report

members also affirmed that his foot slipped and he lost his control as a result he fell on the ground. He had cuts and bruises on his right hand and head. He was immediately picked up by his fellow workers and evacuated to Sambu clinic in no time as the pylon is hardly 20 meters from the clinic. Site doctor observed the Pulse rate, blood pressure and heart beat and found it normal but he was semiconscious. He was given first aid at site clinic and later referred to District Head Quarter (DHQ) Hospital Mirpur in the Company Ambulance. On reaching DHQ, the Doctor on duty checked the patient and directed him for a CT Scan. On receiving the result and the condition of the patient, he was referred to Pakistan Institute of Medical Sciences (PIMS) Hospital Islamabad. Meanwhile the Management of Power Line Company was contacted who desired that the injured be shifted to Lahore General Hospital (LGH) Lahore giving certain reasons and taking full responsibility. Accordingly company arranged an ambulance and the injured was transferred to LGH Lahore. Later on ESOHS officer along with site doctor visited the duty doctor at DHQ hospital and enquired about the injured. Doctor informed about his condition that he was out of danger but due to lack of some advanced arrangements he was referred to LGH Lahore hospital.

Investigations revealed that the major cause of accident was improper use of safety equipment and contributed by the failure of providing adequate supervision to the work activities. A number of tool box talks on work at height and use of safety harnesses were also conducted in the month of October, besides training on “Work at Height and Use of Safety Harness” on October 13, 2012, some days before the incident happened.

The work activities for the assembling of electric pylons were suspended after the occurrence of incident and the erecting company was directed to ensure certain arrangements for the workers safety in order to avert any untoward incident in future. The crew was called back by the owner of the company on the same day. The said activity is suspended till the filing of the final report.

Initial Examination by Duty Doctor

Patient unconscious for 2-3 hrs.

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Final Accident Investigation Report

Pulse: Slight rapid
Respiratory Rate; Normal
Cardiovascular System; Normal
Blood Pressure: Normal
Swelling + bruises over left eye
Bleeding from nose
Advised for Chest X-Rays, Right arm X-Ray, Ultrasound Abdominal and CT scan
Test reports for abdominal/ renal ultrasound observed Normal
No clots in brain, however head injury caused cerebral edema which lead to raising intra cranial pressure slightly. No abnormality is observed as such.
X –ray report revealed the fracture of ulnar bone of right forearm.

He remained under treatment for almost 6 days and was discharged from hospital on Nov 7, 2012 with some necessary prescriptions.

Statements of eye witnesses, admission and discharge certificates of injured from LGH Lahore showing the treatment, nature and type of injuries are attached with the report. Eye witnesses' statements are received through email in urdu Language, as no worker is available here to record the statement. However the statements translated in English language are also attached with the report.

Type of Accident/Incident:

Check off (✓) statements that best describe the accident/incident:

❑ Repetitive Strain	✓ Slip/fall	❑ Exposure to
❑ Acute Strain (lifting, pulling, carrying)	❑ Client/employee action	❑ Other (explain)
❑ Caught in/under/between	❑ Cut/bruise	
❑ Struck, contacted by/with/against		

Causes: Check (✓) all that are applicable

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Final Accident Investigation Report

Conditions	Practices
❑ Congestion or restricted action ❑ Poor housekeeping; disorderly workplace ✓ Slip/trip/ Fall hazards ❑ Lack of or inappropriate furniture/equipment ❑ Design or arrangement of furniture/equipment ❑ Defective furniture, tools, equipment or materials ❑ Inadequate or excessive illumination ❑ Inadequate ventilation ❑ Excessive noise ❑ Inadequate or improper protective equipment ❑ Fire and explosion hazards ❑ Inadequate warning systems ❑ Irate client/employee action ❑ Adverse weather ❑ Other (explain):	❑ Improper body position/posture ❑ Tasks not varied/micro breaks not taken ❑ Unnecessary rushing ❑ Improper lifting ❑ Unsafe loading/placement ❑ Using defective equipment ❑ Using equipment improperly ❑ Altering or modifying equipment ✓ Not using personal protective equipment or failing to use it properly ✓ Not following appropriate procedures ❑ Inappropriate conduct ❑ Hazardous personal attire ❑ Other (explain):

Corrective Action

Following Corrective action are recommended prior the recommencement of project activity

- Installation of Safety signs to create awareness among the working crew.
- Working activity should be conducted under the supervision of competent safety personal.

Final Accident Investigation Report

- Arrange Trainings and tool box talk sessions for workers working at height and use of safety harness and other necessary PPE's.
- Ensure proper housekeeping at work place to minimize the fall/ trip hazards.

Persons Conducting Investigation:

Name	Designation	Signature	Date
Muhammad Azam	ESOHS Officer Sambu		27/11/2012
Maj ® Sardar Azam Khan	HSE Advisor Andritz		27/11/12
. Dr. Muhammad Asif	M.O/ I/C Sambu Clinic		27/11/2012
Mr. Park Kesio	ESOHS Manager Sambu		27/11/2012

LAHORE GENERAL HOSPITAL, LAHORE.

Accident & Emergency Department

Yearly No. 17

Date 1-11-12 C.O.D. No. 266769

Time of Admission 11-05 AM/PM MLC/Non MLC

Name [illegible] S/O, D/O, W/O Age/Sex 40/

Presenting Complaints

H/o [illegible] Fell from height - 2 at 05 apprx

Patient not brought to ER.

Initial Management ol/u/lor

Referred from DHQ Mirpur AJ&K

Physical findings B.P.:

Pulse 130 Temp AF R/R/ 20

H/O fall, Swelling + Bruise over left eye

Investigation & bleeding from nose

Pt unconscious for 2-3 hrs

Resp NVB+0

CVS- S1+S2+0

Provisional Diagnosis

Discharged / Referred to D/E / N/E

Signature of C.M.O.

Time: at AM/PM

Management in Emergency Ward

Inj R/L 1000cc IV stat

Refund to N/S Referral to MOT

Refund to Ortho

Pass Tab PS

Admit in LOD

Tab Cipro to MOT

for drainage

Tab Augmentin

CT Brain

Investigations Advised

- X-ray Chest
- X-ray right arm
- Ultrasound Abd

Registrar / Medical Officer
Unit on call
Lahore General Hospital,
Lahore.

Inf RL 1000 mL @ 1/2 x

Mannitol 150 mL/h

Ceftriaxone 1/L

Diclofenac 75 mg IM

1 A.

6 a.m. 99°F 86 20 160/90

19

P/N 9yrs 40 yrs/m

COD 26/6/9

D.OA 01/11/12

DAI + R/4 #

H/O Fall for Height

D/C: 6/11: 9/15

Reyno

(R/4 fall from Height → R/forearm #)

Brain Star cortin → ij R/C IL 1/2 BD.

Adv

Spond OA Back Pain

→ ij Mannitol 150 ml 1/8 H

Issued (E) 3:50 AM 6/11/12

Issued (E) 2/11/12, 4:55pm

Issued (E) 3/11

Issued (E) 4/11

D/E 7/15

4:20 AM 7/11/12

→ ij Epival 500mg 1/2 BD 5/11 (E) 9:15pm

In 100cc RL

Flavir tab BD.

ij Diclofenac BD.

→ ij Amoxycillin (ATD) 500mg x 8hrs x 7 DS

ij Amplicillin 1/2 gm 1/BD.

→ ij Flagyl (Anti-anaerobic) 100ml x 8hrs BD.

→ ij Risek 40mg infusion 1 x 8hrs x OD

→ ij Toradol tx 8hrs BD

→ ij Kemodyn 2x 8hrs tab

→ ij ij Decadron 1cc 1/2 stat.

Dr [illegible]

H/c Roll fun Height - 5 DM Grave

C/c - LOC +.

- Vanity -

- ENT Bleed +.

EE = CS: EV 2 2. M 5 = 9/15.

CT =

H/c Roll fun Height - 5 DM Grave

C/c - LOC +.

- Vanity -

- ENT Bleed +.

EE = CS: EV 2 2. M 5 = 9/15.

CT =

2/11/12

	T		Resp	BP
→ A	99°		20	120/80
By c/o		oedema	oedema	Medium
3 months 15 days		N P O	-	Good
1 year	N P O		Good	3 months
1150			600	
c/o 3 months 150 days		N L	400	—
3 days	99.2°	96	20	130/80
6 days	3 months 180 days	N L	1000	3 months 3 years 3 years

2480 days

Lahore General Hospital, Lahore
ADMISSION CARD

14151

4T39

Registration No. 266769 Date 2-11-12 Time 5-32 AM/PM

Name [illegible] W/O S/O D/O [illegible]

Age/Sex [illegible] Address [illegible]

Admitted in Ward No. N/E Received Admission fee Rs. 20.00

Signature
Casualty Medical Officer

DEPARTMENT OF RADIOLOGY & IMAGING

LAHORE GENERAL HOSPITAL, LAHORE

NAME Shujan AGE & SEX _____ Sr. NO. _____

Ward / O.P.D. & Date 04/12/2016

ABDOMINAL / RENAL ULTRASOUND

LIVER

GALL BLANDDERS

PANCREAS

SPLEEN

RT. KIDNEY

LEFT KIDNEY

Normal

URETERS

URINARY BLADDER Partly

PELVIC

REMARKS: No free fluid in the Abd-Pelvic cavity at the time of Scan.

12:15 AM

RADIOLOGIST & SONOLOGIST

CENTRAL LAB

DEPARTMENT OF PATHOLOGY
LAHORE GENERAL HOSPITAL,
LAHORE.

CHEMICAL PATHOLOGY

Lab No.: 6

Name: Ilyas Age & Sex: _____

Ward Bed: _____ Date: 2/11/20

TESTS	RESULTS	NORMAL VALUE	TESTS	RESULTS	NORMAL VALUE
Sugar Random	82	60 - 180 mg/dl	Total Lipids		450 - 1000 mg/dl
Sugar Fasting		60 - 110 mg/dl	Triglycerides		80 - 150 mg/dl
½ Hr P.P			Cholesterol		150 / 200 mg/dl
1 Hr P.P			H.D.L		35 - 55 mg/dl
1 ½ Hr P.P			L.D.L		Up to 150 mg/dl
2 Hr P.P			V.L.D.L		Up to 25 mg/dl
2 ½ Hr P.P			Sodium		135 - 155 mmol/l
HbA1c			Potassium		3.5 - 5.5 mmol/l
Blood Urea		10 - 50 mg/dl	Chloride		95 - 108 mmol/l
Creatinine	0.9	0.4 - 1.4 mg/dl	Calcium		8.5 - 10.5 mg/dl
Creatinine Clearance		60 - 150 ml/min	Phosphorous		2.5 - 4.5 mg/dl
24 Hr Urine Protine		upto 140 mg/24Hr U	Magnesium		1.5 - 2.6 mg/dl
Direct Bilirubin		0.1 - 0.4 mg/dl	C.P.K		24 - 190 U/l
Indirect Bilirubin		0.1 - 0.7 mg/dl	CK-MB		Up to 25 U/l
Total Bilirubin	0.5	0.1 - 1.1 mg/dl	L.D.H		225 - 450 U/l
SGPT/ALT		upto 40 U/L	Uric Acid		3.5 - 7.0 mg/dl
SGOT/AST		upto 40 U/L	Amylase		Up to 95 U/L
Alk-Phosphatase		60 - 306 U/L	Lipase		Up to 190 U/L
Total Proteins		6.0 - 8.5 g/dl			
Albumin		3.4 - 5.5 g/dl			
Globuline		1.8 - 3.2 g/dl			

REMARKS:

Lab Technologist

Biochemist / Pathologist

3/11/12

T T P Resp Bp

By d/v oral output Medic

y/Metal 15ml o/p 1000ml

6pm y/Rice 1mm o/p 500ml y/Amplicin y/medry y/Diclin y/Cipro

1150ml 180ml

cap y/metB 150ml y/Rl 1000ml N O 400ml

Sicap y/Flagyl 100mm y/Rl 1000ml y/mannitol 6pm 8: 600ml y/Amplicin y/Declin y/omeg y/Tyrabon 1000ml

1400ml 1150ml 1500ml

4pm 100% 94% 20/ 130/80

D.F. 2550ml N 2500ml

9 yrs.

Date 7/11/12

I.V	Oral	Urine	medication
10 Am 9cc Manifed 180	0/p.	900/c	9 cc Ampicil

Accident & Emergency Department
Lahore General Hospital, Lahore

Discharge Slip

Patient's Name Ilyas S/O, D/O, W/O Shaf Au.

Age 30 Yr Sex Male Reg. No. 26678

Date of Admission 6/11/12 Date of Discharge 7/11/12

Diagnosis DAL

Brief Note	Treatment at Discharge
RTP Asc — ve WBC — ve 6 Refer to Ortho Dept	Cap Ximex 400 mg 1+1+0 1×7 Tab Wax G 1+1+0 1×R Tab Diclofix 50 mg 1+1+0 1×7

دوبارہ معائنہ کے لیے بروز _____

صبح 8.00 بجے آؤٹ ڈور کمرہ نمبر _____

میں تشریف لائیں۔

Registrar / Medical Officer

Unit on call

Lahore General Hospital, Lahore

میں مدثر حسین ولد محمد اشرف شناختی کارڈ
نمبر 33101-1783861-5 بیان کرتا ہوں کہ محمد الیاس
ولد سراج دین فٹر ہمارے ساتھ منگلا میں ایکسکیشن
کا کام کر رہا تھا۔ کہ دوران کام ٹاور پر
چڑھتے ہوئے اچانک وہ نیچے گر گیا۔
اس کو فوری طور ابتدائی طبی امداد دی گئی
بعد ازاں اس کو مزید علاج کے لئے ہسپتال
لے جایا گیا۔

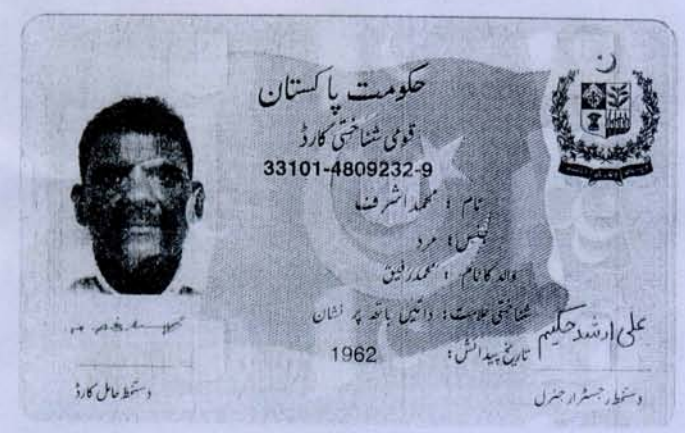
مدثر حسین

مدثر حسین ولد محمد اشرف۔

میں محمد اشرف ولد محمد رفیق ایڈریشن فورمین شناختی کارڈ نمبر 33101-4809232-9 بیان کرتا ہوں کہ مسٹر محمد الیاس ولد سراج دین دوران کام ٹمبر پر چڑھتے ہوئے 6-7 فٹ کی بلندی سے اچانک نیچے گر پڑا اور اسکو چوٹیں آئیں فوری طور پر موقع پر ابتدائی طبی امداد دی گئی اور بعد ازاں میو ہسپتال میں لے جایا گیا جبکہ بعد میں لاہور جنرل ہسپتال علاج کیلئے بھیج دیا گیا۔

M. Ashraf

محمد اشرف ولد محمد رفیق۔



SAMBU

STATEMENT FORM

NAME: Muhammad Ashraf **OCCUPATION: Erection Foreman**

LOCATION: Pylon P1 **DATE &TIME: 01/11/12 (1610 hrs)**

WRITE STATEMENT HERE

Muhammad Ashraf/ Muhammad Rafiq (CNIC # 33101-4809232- 9|) states that he is working as erection Forman with the company. Mr. Ilyas working in the capcity of fitter with them fell from a height of 6/7 meter from Pylon P1. He sustained some injuries, he was given first aid at site clinic, later shifted to DHQ hospital Mirpur where for further treatment. After wards he was referred to Lahore General Hospital Lahore for advance treatment.

Signed by: _____

Muhammad Asharf

Erection Foreman

SAMBU

STATEMENT FORM

NAME: Mudassar Hussain **OCCUPATION: Technician**

LOCATION: Pylon P1 **DATE &TIME: 01/11/12 (1610 hrs)**

WRITE STATEMENT HERE

Mudassar Hussain (CNIC # 33101-4809232- 9) stating that he is working as technician with the company. Mr. Ilyas working in the capcity of fitter with them fell from a height of 6/7 meter from Pylon P1 during erection work. He sustained some injuries; he was given first aid at site clinic, later shifted to DHQ hospital Mirpur where for further treatment.

Signed by: _____

Mudassar Hussain
Technician

Exhibit 05 – Training

(Please see the next page)

SAMBU

Training on Occupational Health and Safety
Training Agenda and Schedule
Mandatory Personal Protective Equipments and Housekeeping

Project: NBE Hydro Electric Power Complex

Date: 11/10/ 2012

Time	Session	Contents	Methodology	Expected Output	Resource Person
1230 –0100 hrs	Introduction to Personal Protective Equipments and Housekeeping	PPEs comprising of mandatory hard hats, hard boots, safety harness, dust masks and ear plugs. Additionally, importance of Housekeeping at work place.	Interactive Discussion/ Group Presentations	The participants will be able to understand the importance of Personal Protective Equipment and Housekeeping at workplace	Mohammad Azam
0100- 0130 hrs	Roles and Responsibilities of Supervisors and Management as per Health and Safety Program	Identification of roles and responsibilities of supervisors, Management and other work force	Interactive Discussion	The participants will be able to understand their duties regarding Health and Safety of their selves and other colleagues. Additionally, the participants will be able to identify hazards associated with workplace.	Mohammad Azam
0130- 0200 hrs	Violation of Procedure of wearing PPEs and Housekeeping	Identification of violation procedure on Project Site. It included communication of violation procedure, issuance of warning letters and copy of letter to higher Management.	Group Communication	The participants shall adhere to the procedure of wearing mandatory PPEs and keeping workplace clean.	Mohammad Azam
0200- 0230 hrs	Communication of Emergency Procedure	Emergency Procedure and roles and responsibilities of key personnel	Group Communication	The participants will be able to understand the Emergency Procedure & their roles and responsibilities.	Mohammad Azam
0230-0300 hrs	**Attendance Sheet**				
End of Session					

Mandatory PPE's & Housekeeping

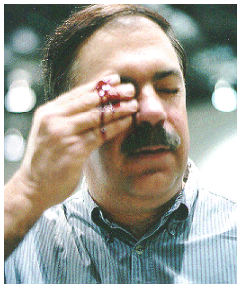
Control Hirarchy

- ***ERIC PD – Saves Lives!***
- ***There is a hierarchy of risk control, this is easy to remember, ERIC PD***
- **E – Eliminate**
- **R – Reduce**
- **I – Isolate**
- **C – Control**
- **P – Personal Protective Equipment**
- **D – Discipline**

Why PPE's Important

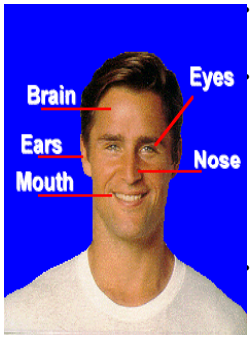
- PPE is the last resort in risk control
- It offers direct protection from hazards such as:
  - Noise induced hearing loss
  - Rough handling work
  - Hazardous vapours
  - Sharp objects
  - Ejected objects
  - Splashes into eyes
  - Crush/impact
- The correct use of PPE will prevent you from incurring an injury

Why Eye and Face Protection is Important?



- **Thousands of people are blinded each year from work related eye injuries. Injuries that could have been prevented, if only people would have used eye or face protection.**

Why Head Protection is Important ?



- **Your head is a very delicate part of your body. In and around your head are:**
  - Your eyes, with which you see;
  - Your ears, with which you hear;
  - Your nose, with which you smell;
  - Your mouth, with which you eat and speak; and
  - Your brain, with which you think.
- **Injuries to the head are very serious. For this reason, head protection and safety are very important.**

Why hand protection is important?

- **Take a moment to hold your hands out in front of you. Look at them. They are the only two hands you will ever have.**
- **It has been estimated that almost 20% of all disabling accidents on the job involve the hands. Without your fingers or hands, your ability to work would be greatly reduced.**
- **Human hands are unique. No other creature in the world has hands that can grasp, hold, move, and manipulate objects like human hands. They are one of your greatest assets. And, as such, must be protected and cared for**

Why Foot Protection is Important?

- **Scientists and engineers for centuries have marveled at the design and structure of the human foot. The human foot is rigid enough to support the weight of your entire body, and yet flexible enough to allow you to run, dance, play sports, and to take you anywhere you want to go. Without your feet and toes, your ability to work at your job would be greatly reduced.**

Workplace Housekeeping

Keeping your work area clean is the most important thing you can do to prevent accidents on the job.

Ask yourself:

- ✓ Do you keep your work area clean?
- ✓ Is your work area safe for others to enter?
- ✓ Do you regularly dispose of trash or debris?
- ✓ Do you put tools and equipment away when you are done?
- ✓ Do you put those tools and equipment away correctly?

Keep your work area clean:

- ✓ Dispose of excess trash or debris
- ✓ Keep aisles and passageways clear
- ✓ Never store anything in or around doorways or stairways
- ✓ Always close drawers and cabinet doors when not in use
- ✓ Never run loose cords or hoses across walkways
- ✓ Follow company procedures on trash disposal

Take care of your tools:

- ✓ Never disable or remove tool guards
- ✓ Always put your tools away when not in use
- ✓ Never store tools in a way that can cause damage while stored
- ✓ Use your tools only as they are intended to be used
- ✓ Follow company rules on tool storage and maintenance

Hazards and Routine Tasks:

- ✓ Never forget about hazards or become inattentive
- ✓ Never work around hazards – fix them or report them
- ✓ Never work around hazards just to get the job done quicker

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Attendance Sheet

Topic: Mandatory PPE's & Housekeeping

Venue: Headrace

Project: NBE Hydro Electric Power Complex

Date: 11/10/12

Sr. No	Name	Company	Designation	Signature
1	M. Irfan Khan.	Sambu-Const	Surveyor.	
2	AQeel Shehzad.		Helper.	
3	Ansar Mehmood.		F/M	
4	Zaka ullah		F/M	
5	M. Naeem.		Supervisor.	M. Naeem
6	Aftab Hussan shah.		Carpenter.	Aftab
7	Kamran Hussain		Carpenter	Kamran.
8	M. Ayub.		Labour.	M. Ayub
9	Aamir Ali		-"-	Aamir
10	Faisal Saleem		-"-	Faisal
11	Mohsan Ali		-"-	
12	M. Irfan		-"-	Irfan
13	M. Shoaib		-"-	M. SHOAIB.
14	Said Alam.		Steel Fixer	
15	M. Riaz		-"-	
16	Masud Ahmed		Mason	
17	Rashid Gohar.		-"-	

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Training on Occupational Health and Safety
Training Agenda and Schedule
Work at Height & Use of Safety Harness

Project: NBE Hydro Electric Power Complex

Date: 13/10/ 2012

Time	Session	Contents	Methodology	Expected Output	Resource Person
1230 –0100 hrs	Introduction to work at height, protection and roles and responsibilities of heads	Identification of roles and responsibilities of supervisors	Interactive Discussion/ Group Presentations	The participants will be able to identify their roles and responsibilities regarding their Safety at work place.	Mohammad Azam
0100- 0130 hrs	Need of equipments for preventing fall protection. For example; Safety Harness and proper platform	Identification of specifications and its implementation on Project Site. The content included; 1. Provision of safety harness. 2. Conditions of using safety Harness.	Interactive Discussion	The participants will be able to understand importance of Safety harness	Mohammad Azam
0130- 0200 hrs	Safety Procedures for Fall Protection	Communication of Safety procedure of using safety harness on Project Site. It included awareness on sequential procedure of using safety harness while working at height.	Interactive Discussion	The participants will be able to identify hazards associated with work at height at work place.	Mohammad Azam
0200- 0230 hrs	Communication of Emergency Procedure for fall	Emergency Procedure and roles and responsibilities of key personnel	Interactive Discussion	The participants will be able to understand the Emergency Procedure & their roles and responsibilities.	Mohammad Azam
0230-0300 hrs	Provision of PPEs and violation procedure	Importance of using PPEs and upon violation of the procedure, issuance of warning letters	Interactive Discussion	The participants will be able to understand the importance of PPE and awareness about warning letters upon non-compliance.	Mohammad Azam
0230-0300 hrs	**Attendance Sheet**				
End of Session					

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Attendance Sheet

Topic: Work at height & Use of Safety Harness
Project: NBE Hydro Electric Power Complex

Venue: Confrence Room
Date: 13/10/12

Sr. No	Name	Company	Designation	Signature
1	Mudassar Hussain	Power Line	Asstt-Supervisor	
2	M. Ashraf.	Power Line	Supervisor	
3	M. Pervaiz.	Power Line	Lineman	
4	M. Ilyas.	Power Line	Lineman (Fitter	Ilyas.
5	M. Imran.	Power Line	Lineman	Ilyas
6	Javed.	Power Line.	Lineman	
7	Abdul Rauf.	R.F.C.	Scaffolder.	
8	Safeer Ahmed.	Samba Const	Rigger	Safeer
9	Fazal Rehman	= =	Rigger	Fazal Rd.
10	Nazar Iqbal.	= =	Scaffolder	
11	Abdul Rehman	= =	Ferman.	

Training on Occupational Health and Safety
Training Agenda and Schedule
Fire Fighting

Project: NBE Hydro Electric Power Complex Date: 19/10/ 2012

Time	Session	Contents	Methodology	Expected Output	Resource Person
0900 –0930 hrs	Introduction to Fire & Fie Fighting at work site and roles and responsibilities of heads	Identification of roles and responsibilities of supervisors	Interactive Discussion/ Group Presentations	The participants will be able to identify their roles and responsibilities in the implementation of Fire Fighting Program at work place.	Rescue Team
0930- 1000 hrs	Safety precautions of Fire and Use of Fire Extinguishers	Identification of Safety procedures and its implementation on Project Site	Group Presentations	The participants will be able to implement the safety procedures on Project Site	Rescue Team
1000- 1100 hrs	Training by videos/demonstration	The videos on Fire spreading and Fire Fighting have been demonstrated to participants for better understanding.	Group Videos	The participants will be able to understand the hazards of the Fire, proper use of Fire Extinguishers	Rescue Team
1100-1145hrs	Training by Practical Drill	Evacuation of building for fire and Fire Extinguishing Techniques	Practical demonstration	The participants will be able to understand evacuation in case of fire and proper use of fire Extinguishers and Fire blankets in case of fire	Rescue Team
1145-1200 hrs	**Attendance Sheet**				
End of Session					

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Fire Drill Procedure of

84-MW New Bong Escape
Hydro-Electric Power Project

Mohammad Azam (ESOHS Officer; Sambu)

SAMBU

Fire Drill - Purpose

- Prepare staff for actual events
  - Save lives
  - Reduce panic, makes response a routine matter
- To test the efficiency, knowledge and response of personnel in implementing the facility fire emergency plan.

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Verbal Evacuation Exit Drills For Activity & Field Trips

Location and use of the following:

- Fire Extinguisher
- First Aid Kit
- Warning Signs
- Emergency Exits (In process)
- Clear Walkways
- Personal Belongings

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Procedure For Emergency Evacuation Drill

1. Schedule of drill is Quarterly.
2. Call on alarm.
3. On hearing the alarm,
   - Close the door of your room.
   - Move to closest Muster Point.
4. Align yourself in 3 rows in front of the concerned names of Company.
5. Roll Call by HSE Representative.
6. A small discussion on drill as ***Lesson Learnt/ Suggestion***.
7. Signature of each employee participating in Evacuation/Drill Log.
8. Return to your offices when indicated by the HSE Representatives.

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Attendance Sheet

Topic: Fire Fighting
Project: NBE Hydro Electric Power Complex

Venue: Power house
Date: 19/10/12

Sr. No	Name	Company	Designation	Signature
1	M. Imran	Sambu-Const	Labor	
2	Zulf Khan		Mason	
3	Ansar Mehmood.		F/M.	
4	Chanmanay		Carpenter.	
5	M. Riaz		S/fixer.	
6	Shafiq		S/fixer.	
7	M. Rafi		Labor.	
8	Sarfraz		Welder	
9	Mubashar		Welder.	
10	Abass Khan		S/folder.	
11	Sajjad Ali		Labor.	
12	Afsar		S/fixer	
13	Akhtar Munir		Carpenter	
14	Fatah Khan		Helper.	
15	Abid		Mason.	
16	Waheed		Labor.	
17	Umair		Mason	
18	Shakeel		Carpenter	

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Attendance Sheet

Topic: Working near Water
Project: NBE Hydro Electric Power Complex

Venue: Head Race
Date: 03/11/12

Sr. No	Name	Company	Designation	Signature
1	Khurram Shahzad	Sambu.	Helper	
2	Tanvir Ali		Excavator optr	
3	Azmat Khan		Supervisor	
4	Abdul Rauf		Helper. Rigger	
5	Gulab Shah		Forman	
6	Haider Khan		Carpenter	
7	Muhammad Bilal		Foreman/supervisor	Bilal
8	Nihar Ali		Electrician	N-Ali.
9	Tanveer		EXCAVATOR-OPTR	
10	Shamzeb		Carpenter	

SAMBU

Attendance Sheet

Topic: Welding Safety
Project: NBE Hydro Electric Power Complex

Venue: Confrence Room
Date: 6/11/12

Sr. No	Name	Company	Designation	Signature
1	Malik Riaz	SAMBU.	S/Welder.	
2	Sarfraz Zahid		Welder.	Sarfraz
3	Mubashar		Welder.	Mubashar
4	M. Rafi		Helper.	
5	Zulfqar Ali		Welder.	
6	Dofam Hussain		Welder.	IRFAN
7	M. Shabir.		Welder	
8	Aamir Raza		Helper	
9	Akhtar Munir		Carpenter	Akhtar
10	M. Asif Khan		Farman.	
11	Zafar Iqbal		Fitter.	
12	Abdul Waheed		Mechanic	A. WAHEED
13	Nasar		Mechanic.	
14	Zulqarnain		Welder.	

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Attendance Sheet

Topic: Floor Holes and Openings
Project: NBE Hydro Electric Power Complex

Venue: Confrence Room
Date: 18/11/12

Sr. No	Name	Company	Designation	Signature
1	Forman Khan.	Sambu.	Mason.	
2	Mohsan Ali		Scaffolder	MOHAN Ali
3	Ahigur Rahman.		Welder	
4	Shakeel Ahmed.		Carpenter	Shakeel
5	Abid		Mason.	
6	Zulf Khan.		Carpenter.	
7	Zabaa-Ullah.		Forman.	Zakaullah
8	Abid Zaman.		Steel fixer	
9	M. Saeed.		Helper.	
10	Chanawaz.		Carpenter	
11	Asjad Ali		Labor.	Asjad Ali
12	Faisal		Helper.	Faisal
13	Azmat		Forman.	Azmat
14	Said Alam		Steel fixer.	Saeed Alam
15	Rafaqat Ali		Carpenter.	
16	Abdul Rahman		F/M.	
17	Zeeshan		Helper.	

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Training on Occupational Health and Safety
Training Agenda and Schedule
Welding Safety

Project: NBE Hydro Electric Power Complex

Date: 6/11/ 2012

Time	Session	Contents	Methodology	Expected Output	Resource Person
1230 –0100 hrs	Introduction to Welding and its different types.	Identification of process of welding and its functions and its effects on human health.	Interactive Discussion/ Group Presentations	The participants will be able to identify their roles and responsibilities regarding their Safety at work place.	Mohammad Azam
0100- 0130 hrs	Different equipments used in welding	Information of different kinds of elements involved in welding process like torch, nozels and gas cylinders.	Interactive Discussion	The participants will be able to understand the functions of different elements involved in the process.	Mohammad Azam
0130- 0200 hrs	Health and Safety hazards and mitigation measures	Communication of health and safety hazards during working at different locations like confined spaces and its control measure during the welding works.	Interactive Discussion	The participants will be able to identify hazards associated with the welding activities at different locations like confined spaces and open spaces and control measures to minimize the hazard.	Mohammad Azam
0200- 0230 hrs	Necessary Personal Protective Equipments	Importance of using PPEs and upon violation of the procedure, issuance of warning letters	Interactive Discussion	The participants will be able to understand the importance of PPE and awareness about warning letters upon non-compliance.	Mohammad Azam
0230-0235 hrs	**Attendance Sheet**				
End of Session					

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Training on Occupational Health and Safety
Training Agenda and Schedule
Working near Waters

Project: NBE Hydro Electric Power Complex

Date: 03/11/ 2012

Time	Session	Contents	Methodology	Expected Output	Resource Person
0100 –0130 hrs	Introduction to hazards related to working near water body	Introductions to the dangers associated with working on or near water	Interactive Discussion/ Group Presentations	The participants will be able to identify their roles and responsibilities regarding the hazards associated with water	Mohammad Azam
0130 – 0200 hrs	General Precautions,	Information of different kinds of elements involved in general precautions like housekeeping, lighting and safety signages	Interactive Discussion	The participants will be able to understand the different types of precautions and arrangements that should be in place and their importance involved in the process.	Mohammad Azam
0200– 0230 hrs	Environmental Precautions	Communication of environemental precautions, lighting, adverse weather and fall preventions etc	Interactive Discussion	The participants will be able to understand the different types of Environmental precautions and arrangements that should be in place and their importance involved in the process	Mohammad Azam
0230- 0300 hrs	Necessary Personal Protective Equipments	Importance of using PPEs and upon violation of the procedure, issuance of warning letters	Interactive Discussion	The participants will be able to understand the importance of PPE and awareness about warning letters upon non-compliance.	Mohammad Azam
0300-0310 hrs	**Attendance Sheet**				
End of Session					

Training on Occupational Health and Safety
Training Agenda and Schedule
Floor Holes and Openings

Project: NBE Hydro Electric Power Complex Date: 18/11/ 2012

Time	Session	Contents	Methodology	Expected Output	Resource Person
1000 –1020 hrs	Introduction to Floor holes and openings &roles and responsibilities of heads	Identification of roles and responsibilities of supervisors	Interactive Discussion	The participants will be able to identify their roles and responsibilities in the implementing the safety measures for floor holes and openings	M. Azam
1020–1050 hrs	Introduction to Openings at project site	Identification of roles and responsibilities of supervisors	Interactive Discussion	The participants will be able to understand the immediate measures to reduce the risk.	Mr. Azam
1050–1120 hrs	Safety precautions of Floor holes and openings	Identification of Safety procedures and its implementation on Project Site	Interactive Discussion/	The participants will be able to implement the safety procedures on Project Site	Mr. Azam
1120–1140 hrs	Necessary PPEs required working near holes and openings	Awareness about the necessary PPE' required while working near main holes.	Interactive Discussion/	The participants will be able to understand the importance of personal protective equipments and use of PPE;s requiring for working at project site.	Mr.Azam
1140–1200 hrs	**Attendance Sheet**				
End of Session					

Item # G-10

ویلڈنگ سیفٹی

Prepared by:
Muhammad Azam ESOHS Officer

Sambu Construction Co., Ltd

ویلڈنگ اس عمل کو کہتے ہیں جس کے دوران دھات کی دو اشیاء کو حرارت یا دباؤ یا دونوں کے ذریعے نرم کر کے آپس میں جوڑ دیا جاتا ہے۔ ویلڈنگ کا کام، تمام صنعتوں خصوصاً، چھوٹی صنعتوں میں ریڑھ کی ہڈی کی حیثیت رکھتا ہے ہمارے ہاں بے شمار چھوٹی چھوٹی ورکشاپوں میں ویلڈنگ کا کام ہوتا ہے۔ کیا آپ نے کبھی غور کیا کہ ویلڈنگ کے دوران کیا عوامل ہو رہے ہوتے ہیں، اس سے کارکنوں اور قریبی افراد کی صحت سلامتی اور وہاں کے ماحول پر کیا اثرات نمودار ہوتے ہیں؟

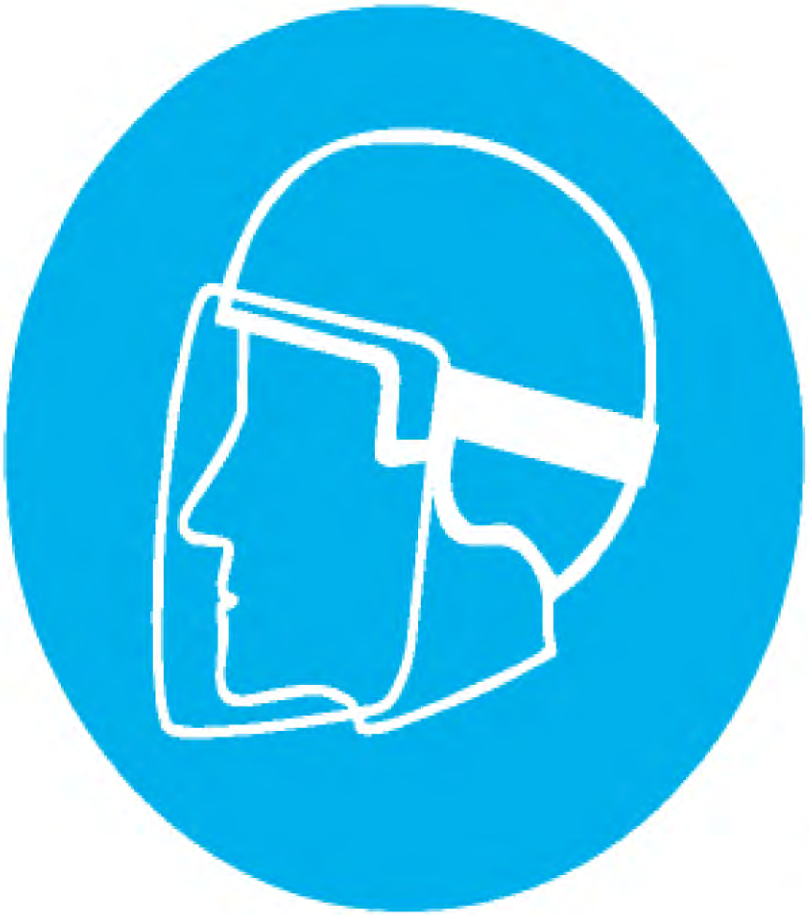
آیئے ان اثرات کا جائزہ لیں اور ان سے بچنے کی تراکیب پر غور کریں۔

ویلڈنگ عموماً دو طرح کی ہوتی ہے۔

گیس ویلڈنگ

اس کے دوران آکسیجن یا ہوا کے ساتھ کسی جلنے والی گیس کو ملا کر ایک ٹارچ میں جلایا جاتا ہے۔ شعلے کی حدت سے مطلوبہ دھات کے سروں کو پگھلایا جاتا ہے۔ اس دوران کسی بھرت وغیرہ کی آمیزش بھی کی جاتی ہے جو کہ کم درجہ حرارت پر پگھل کر مطلوبہ حصوں کو جوڑ دیتا ہے۔ اس دوران بعض کیمیکل (سہاگہ وغیرہ) بھی ڈالے جاتے ہیں جو کہ دھات کو پگھلانے میں مدد کرتے ہیں۔

ویلڈنگ کے وقت نکلنے والی روشنی میں بالائے بنفشی شعاعیں ہوتی ہیں جو اگر آنکھ میں چلی جائیں تو فوراشدید درد اور جلن کا باعث بنتی ہیں۔ان سے بچنے کے لیے ویلڈر کو مناسب شیشے والی شیلڈ استعمال کرنی چاہیے



صحت و تحفظ
کے خطرات
اور بچاؤ
کے طریقے

ہمارے ہاں زیادہ تر گیس ویلڈنگ کے لیے ایک ٹینک میں کیلشیم کاربائیڈ (مسالہ) ڈال کر اس پر پانی ڈال کر ایسی ٹیلین گیس بنائی جاتی ہے جس کو سلنڈر میں بھری ہوئی آکسیجن کے ساتھ ملا کر جلایا جاتا ہے۔ایسی ٹیلین پیدا کرنے والے ٹینک پھٹنے کے واقعات ہوتے رہتے ہیں اس کی وجہ عموما ٹینک کا ناقص ڈیزائین اور کام کے دوران بے احتیاطی ہے۔جس کی وجہ سے ایسی ٹیلین گیس ان کے گرد جمع ہو جاتی ہے جو بجلی کے سوئچ یا ویلڈنگ کے شعلے کو جلاتے ہی دھماکے سے پھٹ جاتی ہے۔ایسے ٹینکوں کے قریب سگریٹ نوشی، ویلڈنگ، آگ جلانے یا بجلی کے سوئچ لگانے سے سختی سے پرہیز کرنا چاہیے۔

ویلڈنگ ٹارچ اور ٹینک کے درمیان اچھی قسم کا بیک پریشر والو Pressure Valve (Back) لگا ہونا چاہیے تا کہ بیک فائر نہ ہو سکے اس والو کو روزانہ چیک کرتے رہنا چاہیے۔

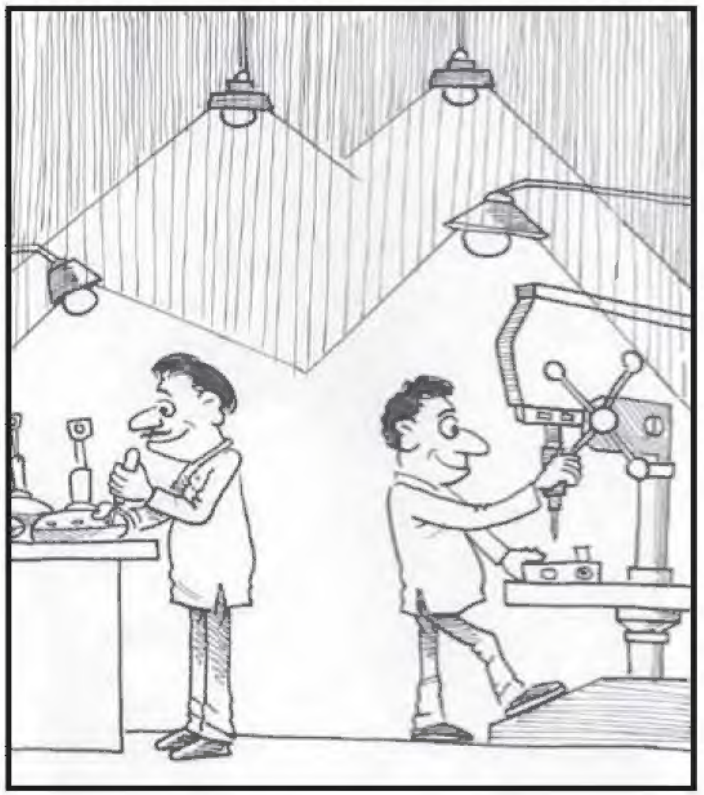
ویلڈنگ ٹارچ ہمیشہ اچھی کوالٹی کی استعمال کرنی چاہیے۔

اگر نوزل کسی وجہ سے بند ہو جائے تو دھماکہ ہو سکتا ہے۔ لہذا نوزل کو کبھی بھی بند نہیں ہونے دینا چاہیے اس کو پگھلی ہوئی دھات یا پینٹ میں نہیں ڈبونا چاہیے۔

کیلشیم کاربائیڈ کو ہمیشہ
خشک اور اونچی جگہ پر
رکھنا چاہیے۔ جہاں یہ مادہ سٹور کیا جائے وہاں ہوا کی آمدرفت
کا بندوبست کیا جائے اور وہاں آگ سے بچاؤ کے انتظام کئے
جانے چاہیں۔

گیس کے ٹینک میں لیک کو چیک کرنے کے لیے صرف صابن والا پانی استعمال کرنا چاہیے۔

آگ پر قابو پانے والے آلات مہیا کئے جانے چاہئیں ایسے بھرت جن میں میکنیشم موجود ہو شعلے سے دور رکھے جائیں۔



کام کی جگہ پر قدرتی اور برقی روشنی کا مناسب انتظام ہونا چاہیے۔

ویلڈنگ ہمیشہ آنکھوں پر حفاظتی عینک چڑھا کر کرنی چاہیے۔

اگر دھات کے پگھلے ہوئے ٹکڑے اڑتے ہوں تو چمڑے کا ایپرن پہن کر ویلڈنگ کریں۔

آرک ویلڈنگ

ویلڈنگ کرتے وقت برقی جھٹکے کا خطرہ لاحق ہوتا ہے خصوصا تنگ جگہوں میں ویلڈنگ کے وقت برقی جھٹکے کا احتمال زیادہ ہوتا ہے۔ ویلڈنگ شروع کرنے سے پہلے تمام پلانٹ اور اشیاء کا ارتھ چیک کریں کام کرنے کی جگہ نمی اور رکاوٹوں سے پاک ہونی چاہیے۔

ویلڈنگ راڈ کو جکڑنے والے ہولڈر کو بار بار صاف کرنے اور
کسنے سے گرم ہونے کا احتمال کم ہو جاتا ہے۔ جب ہولڈر استعمال
نہ ہو رہا ہو تو اسے ایک غیر موصل کیل یا ہک پر لٹکا دینا چاہیے۔

ویلڈنگ کے دوران مناسب حفاظتی آلات ضرور پہنیں۔

ایسے ڈرموں اور ٹینکوں وغیرہ کی ویلڈنگ کے وقت بے حد احتیاط کرنی چاہیے جن میں آتشگیر اشیاء ذخیرہ کی گئی تھیں۔

آرک ویلڈنگ

اس عمل کے دوران ایک برقی الیکٹروڈ (ویلڈنگ راڈ) کے ذریعے مطلوبہ دھات کے درمیان برقی شرارہ پیدا کیا جاتا ہے اس دوران درجہ حرارت 4000 سنٹی گریڈ تک پہنچ جاتا ہے جس سے دھاتی حصے پگھل کر جڑ جاتے ہیں۔ ویلڈنگ راڈ بھی پگھل کر جوڑ کا حصہ بن جاتا ہے۔

ان کے علاوہ ویلڈنگ کے بہت سے دیگر طریقے ہیں لیکن چونکہ یہ صنعتوں میں عام استعمال نہیں ہیں لہذا ان کا ہم یہاں ذکر نہیں کریں گے۔

اردگرد کام کرنے اور گزرنے والے افراد کے بچاؤ کے لیے ویلڈنگ

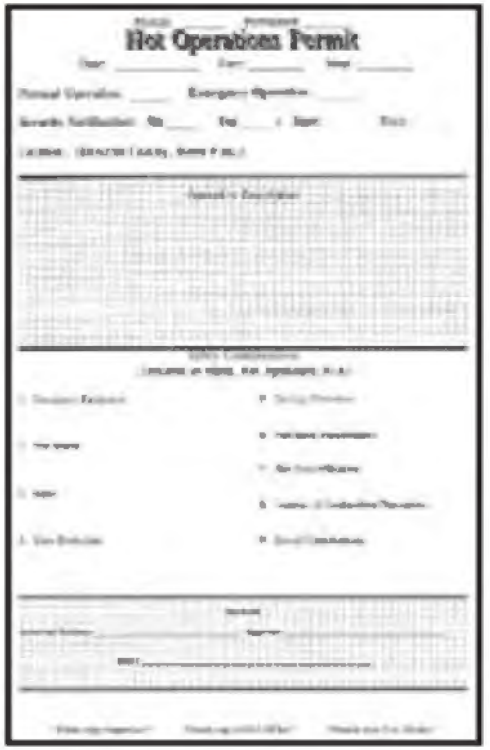
والی جگہ کے گرد خصوصی حفاظتی شیلڈ رکھ دینی چاہئے

دھاتی ذرات اگر زمین پر بکھرے پڑے ہوں تو یہ ویلڈنگ یونٹ کو بند کر سکتے ہیں۔ان کو باقاعدگی سے صاف کرتے رہنا چاہیے۔ویلڈنگ والی جگہ کے اردگرد سے تمام آتشگیر اشیاء کو ہٹا دیں۔

ہاتھوں اور آستینوں پر مناسب دستانے پہن کر ویلڈنگ کریں۔

گرم اشیاء کو مت چھوئیں۔

بعض دھاتوں کی سطح پر رنگ روغن اور دیگر کوٹنگ پر جب ویلڈنگ کی جاتی ہے تو زہریلے بخارات خارج ہو جاتے ہیں۔ایسی صورت میں تنفس کی حفاظت کے آلات استعمال کریں۔


Hot Operations Permit

کسی بڑے ٹینک میں ویلڈنگ کے لیے اس وقت تک داخل نہ ہوں جب تک کوئی ذمے دار شخص اس بات کی تصدیق نہ کردے کہ اس میں کوئی آتشگیر مادہ یا اس کے بخارات موجود نہیں ہیں۔ اس مقصد کے لیے (Hot Work Permit) کا نظام اپنائیں۔

Safety Measures for Working Near Water Body

How Many of You…….

- Are A Kayaker

- Are A Floater / River Runner

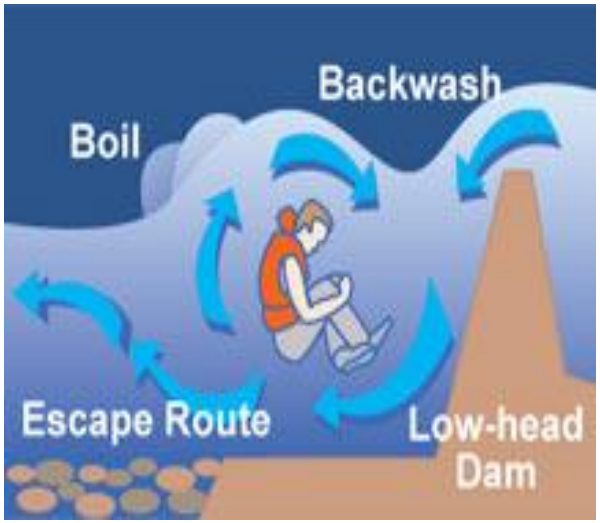
- Have Water Rescue Training

- Are A Strong Swimmer

Still Waters?

- Moving water is more dangerous than still water.
- If the water speed doubles the force increases 4 times
- Water can float cars in as little as foot of water
- 2 feet of water at 6 mph will float a passenger car
- Even boats, PWC’s and hovercraft can be affected and flipped by moving water.

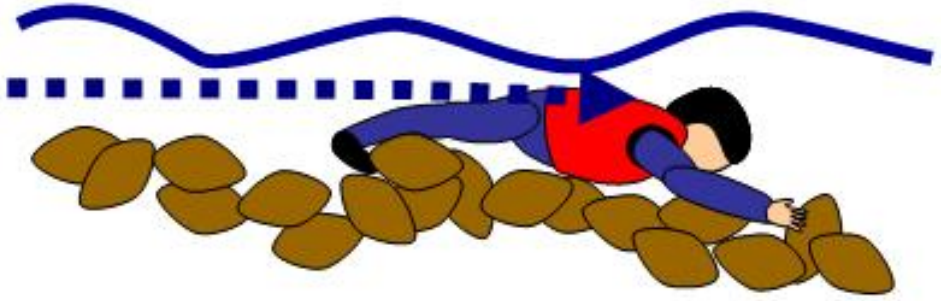
Low Head Dams



- Also known as drowning machines
- Can be both man made and natural
- Have a current that sinks boats and holds objects in a circulating current
- STAY AWAY, DON’T PLAY

Foot Entrapments

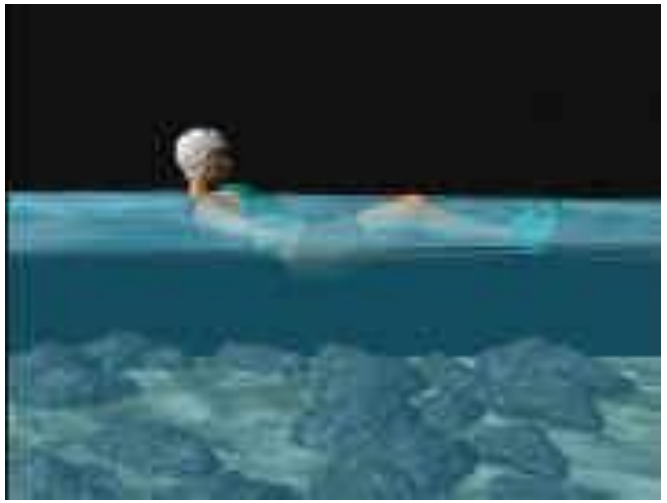
- Foot entrapments are not a hydraulic but are worsened by hydraulic forces.
- Swimming properly in swiftwater will help avoid this.
- There are rescue techniques for those who are trapped by this

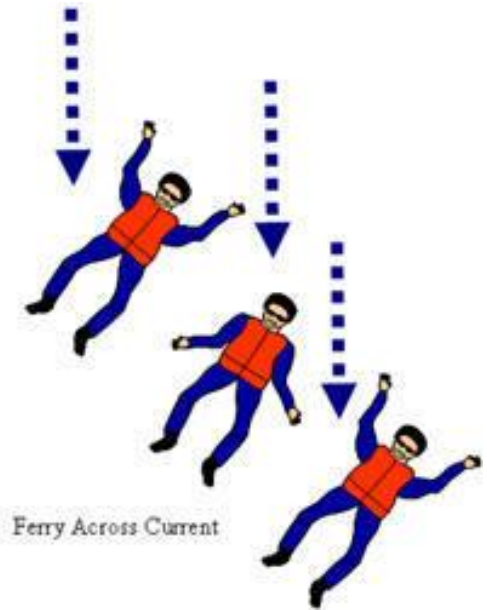


Foot Entrapment

Swiftwater Swimming

- In moving water standing up can be fatal and swimming face down can cause injuries
- The answer is to swim on your back with your feet downstream
- To traverse the current put your head in the direction you want to travel





Size-up

- Scope, magnitude, type of water rescue incident
  - Environmental factors
    - Change in weather conditions
    - Loss of daylight
    - Water levels
    - Current changes

Equipment Safety

- Equipment should be operated by authorized operators
- Never left the equipment unattended when engine in start mode.
- All equipment should be shifted outside the working area after the end of each shift
- All activities should be suspended in bad weather keeping in view the rise in water level or any other dangers
- No worker should be allowed to stay under the lifted loads
- Continuous maintenance and repairing of haulage roads
- Operators must follow the signalmen or bank men deputed at different locations

Fall Prevention

- **Slips and falls causes major contribution to the drowning hazards. Pay attention to hazards such as wet or slippery surface and try to Eliminate hazards when detected.**
- **Avoid walking near banks of earth plug**
- **Barricade the dangerous zones with reflective or warning taps**
- **Never try to wash hands or any other part of body by sitting on loose edges of soil plug.**
- **Never walk in the restricted areas at site.**
- **Installation of guard railing across the embankment walls to minimize the falling hazard.**

Visitors Safety

- **No visitor should be allowed to entre the working area**
- **Installation of hand railing and reflective taps**
- **All entrances should be guarded with security guards to check the entry of any out sider**
- **Installation of safety signs to educate the visitors and general public**

Adequate Lighting

- Every part of the working area should be should be adequately lit during night.
- Never use electrical tools near water.
- Use Ground Fault Circuit Interrupters (GFCI) around water source.
- Report damaged switches, plugs, cords, receptacles, tools and other electrical hazards to your supervisor immediately.
- If the cord you are using has a third prong, it must not be broken off. This provides the proper grounding for the cord or tool.

Safety and Rescue Equipments

- When working over water at any location at least two people need to remain within sight and sound of each other all times.
- All personal will be accounted for on site by the person incharge of the operation.
- Floating equipments must made available for rescuers to retrieve people from water.
- Suitable personal buoyancy equipment such as life jackets must by all employees working in the area.
- Ensure the use of Mandatory PPEs.

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Training on Occupational Health and Safety
Training Agenda and Schedule
Food Safety and Hygiene Matters

Project: NBE Hydro Electric Power Complex

Date: 14/12/ 2012

Time	Session	Contents	Methodology	Expected Output	Resource Person
1330 –1345 hrs	Introduction to Food Safety & Hygiene	Identification of process of Food Safety and hygienic situations	Interactive Discussion/ Group Presentations	The participants will be able to identify their roles and responsibilities regarding Food Safety and Hygiene	Mohammad Azam
1345- 1400 hrs	Impacts of Food born illnes	Information of different kinds of causes of food borne illness and its impacts on health.	Interactive Discussion	The participants will be able to identify what food borne illnesses and how they affect us	Mohammad Azam
1400- 1430 hrs	Food Safety hazards and contamination	Communication of hazards regarding food safety and contamination	Interactive Discussion	The participants will be able to exploring of food safety hazards and how they arise and consider how they can be prevented and controlled.	Mohammad Azam
1430- 1500 hrs	Food Prevention, Storage and Temperature Control	Importance of safe food prevention techniques	Interactive Discussion	The participants will be able how to preserve food, including appropriate storage and temperature controls.	Mohammad Azam
1500-1520 hrs	Personal Hygiene	The session includes cleaning, hand washing techniques and pest control	Interactive Discussion	The participants will be able to understand why personal hygiene is important when working with food – from hand washing to pest controls.	Mohammad Azam
1520- 1530 hrs	**Attendance Sheet**				
End of Session					

FOOD SAFETY AND HYGIENE MATTERS

Presented by:
Muhammad Azam
ESOHS Officer
Sambu Construction Co., Ltd

Hazards that can contaminate Food

Food can be contaminated by the following three main hazard types:

- **Physical hazards** (foreign objects) – metal, wood, glass, plastic, etc.
- **Chemical hazards** – bleach, caustic soda, detergents, pesticides, etc.
- **Microbiological** – bacteria, viruses, moulds and parasites.

Food that is contaminated with any of these hazards is unsafe and unsuitable to eat.

BACTERIAL FOOD POISONING

Bacteria are single-celled living micro-organisms. The most common form of food poisoning is bacterial food poisoning. To survive and multiply, bacteria need:

- water
- food
- correct temperatures
- time
- most, but not all, need oxygen

Under these conditions, bacteria will multiply by dividing in two every 10-20 minutes. After 6 hours, 1 bacterium can multiply into 262,144 bacteria, more than enough to cause food poisoning.

HOW DOES BACTERIA ENTER A FOOD PREMISES

Food poisoning bacteria come from five main sources:

- Food handlers (especially their hands)
- Raw foods, such as meat, poultry, shellfish and vegetables
- Pests and animals
- Air and dust
- Dirt and food waste

POTENTIALLY HAZARDOUS FOODS

Potentially hazardous foods support the growth of bacteria. They need to be kept at temperatures either below 5°C or above 60°C to prevent the growth of any food poisoning bacteria that may be present in the food.

Examples of potentially hazardous foods include meat, poultry, seafood, eggs, dairy foods, gravies and cooked rice.

EXERCISE 1

(QUICK QUIZ TO REINFORCE PREVIOUS SLIDES)

CAUSES OF FOOD POISONING

Food at incorrect temperatures

Under ideal conditions, bacteria multiply rapidly between 5°C and 60°C (the danger zone for food).

Below 5°C, bacteria multiply slower.

At freezing temperatures, bacteria stop multiplying and become dormant. Freezing does not kill bacteria.

Most bacteria are killed at temperatures above 60°C.

CAUSES OF FOOD POISONING

Cross-contamination

Cross-contamination occurs when food becomes contaminated with bacteria from another source.

Bacteria can be transported by hands, utensils, surfaces, equipment, tea towels, raw food and pests.

Common examples of cross contamination include unclean hands; dirty knives; utensils; equipment and food contact surfaces (eg chopping boards); blood dripping from raw foods; storing raw food with cooked foods; storing food uncovered; and using dirty cleaning cloths and tea towels.

CAUSES OF FOOD POISONING

Poor personal hygiene

Examples of poor personal hygiene include:

- Dirty hands and clothing
- Uncovered cuts and wounds
- Long dirty fingernails
- Excess jewellery on hands and wrists
- Coughing and sneezing over food
- Handling food while ill
- Not washing hands after going to the toilet

Causes of food poisoning

Unclean food premises

Dirty kitchens increase the risk of cross-contamination from pests and particles of food, grease and dirt.

Poor pest control

Common pests found in food premises include:

- rats and mice
- flies
- cockroaches

These pests can carry food poisoning bacteria and may also cause physical contamination of food with their droppings, eggs, fur and dead bodies.

EXERCISE 2

PHOTOGRAPHS FOR DISCUSSION

WHAT ARE THE RISKS OF CROSS-CONTAMINATION?

What are the risks of poor pest control?

Prevention of food poisoning

Temperature control

Minimise the time that potentially hazardous foods spend in the danger zone.

Always remember to keep:
- cold food cold at 5°C or colder
- hot food hot at 60°C or hotter

All food businesses are required to obtain and use a probe thermometer, accurate to +/-1°C to monitor the temperature of potentially hazardous foods.

Prevention of food poisoning

Avoid cross-contamination

Keep food covered until use.
Practise correct personal hygiene.
Separate raw and cooked, and old and new food at all times.
Use separate equipment and utensils when preparing raw meats, poultry and seafood.
Clean and sanitise all equipment, utensils and food contact surfaces.
Store chemicals separate to food.

Prevention of food poisoning

Personal hygiene

Clean hands and clothing.
Minimise jewellery on hands and wrists.
Tie-back or cover hair.
Clean and short fingernails.
Avoid unnecessary contact with food.
Cover all cuts and sores with a brightly coloured waterproof dressing.
Do not eat over food or food surfaces.
Do not prepare food when you are ill.
Avoid touching your face and hair.
Do not cough or sneeze over food.
Do not taste food with your fingers or “double dip” with a spoon.
If wearing gloves, change frequently.

Prevention of food poisoning

When should you wash your hands?

Before commencing or resuming work
After using the toilet
After smoking
After handling rubbish
After using a handkerchief or tissue
After touching your hair or face
Before and after handling raw food
Before handling cooked food
After any cleaning task

Prevention of food poisoning

Hand washing facilities

Must be accessible to all food handlers.
To be used only for the washing of hands.
Provide soap and warm potable water.
Provide disposable towels for drying hands.

Prevention of food poisoning

Cleaning

- Essential for the safe operation of any food business.
- Must be continuous and ongoing.
- Thoroughly clean and sanitise all food surfaces, equipment and utensils with hot water and detergent and chemicals (sanitisers). Remember that most detergents do not kill bacteria, but hot water and sanitisers do!
- Implement a cleaning schedule to ensure that cleaning is conducted on a regular basis (including hard to reach places).

Prevention of food poisoning

Cleaning and sanitising without a dishwasher

- Wear rubber gloves to protect your hands from the hot water and chemicals.
- Remove food particles by scraping or soaking.
- Wash using hot water and detergent – change the water if it becomes cool or greasy.
- Rinse in hot water with chemical sanitiser or in very hot water and leave to soak for 30 seconds.

Prevention of food poisoning

Pest Control

- Keep them out – seal the food premises.
- Starve them out – keep food premises clean.
- Throw them out – conduct regular pest inspections or services.
- Don't give them a home - remove all unnecessary equipment and items.
- Report all pest sightings or evidence of pest activity to your supervisor.

Prevention of food poisoning

Waste management

- Place waste in plastic lined bins.
- Remove all waste from the premises as required.
- Empty and clean waste bins regularly.
- Ensure all external bins are covered.
- Protect external waste bin area from pests and birds.

Food handling controls

Supply – use food suppliers that have a good reputation

Receiver –store at the correct temperature as soon as possible. Do not accept potentially hazardous food unless it is delivered under temperature control.

Storage

- 0 to 5°C for fresh; -18°C to -24°C for frozen; and 60°C or above for hot food
- Keep food covered and up off the floor.
- Separate food types (meat, poultry, seafood, dairy, fruit & veg).
- Separate raw food from cooked and new food from old.
- Store raw foods such as meat, poultry and seafood in containers on the bottom shelf of the coolroom or fridge.
- Rotate stock ("first in, first out").

Food handling controls

Preparation

- Personal hygiene
- Ensure that equipment, utensils and surfaces are clean
- Temperature control
- Avoid cross contamination
- Don't prepare food too far in advance

Cooking – ensure correct internal temperatures are achieved, using your probe thermometer

Cooling

- Cool to 5°C within 6 hours
- Cool in shallow containers in a well-ventilated area
- Cover only when cooled thoroughly

FOOD HANDLING CONTROLS

Reheating

Reheat food rapidly to 60°C or above.

Ensure correct internal temperatures are achieved

Thawing

Thaw foods in the cool room or fridge on a drip tray.

Thaw only small food items in the microwave, then cook immediately.

Always ensure thorough defrosting before cooking.

Never thaw foods at room temperature.

Never thaw food in water.

Never re-freeze thawed food.

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Attendance Sheet

Topic: Food Safety and Hygiene Matters
Project: NBE Hydro Electric Power Complex

Venue: Power house
Date: 14/12/12

Sr. No	Name	Company	Designation	Signature
1	Zulf. Khan	Sambu	Masen.	
2	M- Naeem -		F/M.	
3	M - Nadeem		Helper	
4.	Channawaz.		Carpenter	
5	Sabhawat		Helper.	
6	Shakeel.		Helper	
7	Ejaz Ali		Carpenter	
8	Afzar Ali		Carpenter	
9.	Javed Iqbal.		Gardner	
10	Riaz		S/Fitter	
11	Said Alam		S/Fitter.	
12	Ziarat Gul.		Mason.	
13	Kamran -		Carpenter	Kamran
14.	Abdul Latif.		H-S-E/Sup	

Training on Occupational Health and Safety
Training Agenda and Schedule
Fire Fighting & Responsibilities of ERT

Project: NBE Hydro Electric Power Complex Date: 22/12/ 2011

Time	Session	Contents	Methodology	Expected Output	Resource Person
0900 –0930 hrs	Introduction to Fire & Fie Fighting at work site and roles and responsibilities of heads	Identification of roles and responsibilities of supervisors	Interactive Discussion/ Group Presentations	The participants will be able to identify their roles and responsibilities in the implementation of Fire Fighting Program at work place.	ESOHS Officer
0930- 1000 hrs	Safety precautions of Fire and Use of Fire Extinguishers	Identification of Safety procedures and its implementation on Project Site	Group Presentations	The participants will be able to implement the safety procedures on Project Site	ESOHS Officer
1000- 1100 hrs	Training by videos/demonstration	The videos on Fire spreading and Fire Fighting have been demonstrated to participants for better understanding.	Group Videos	The participants will be able to understand the hazards of the Fire, proper use of Fire Extinguishers	ESOHS Officer
1100-1145hrs	Training by Practical Drill	Evacuation of building for fire and Fire Extinguishing Techniques	Practical demonstration	The participants will be able to understand evacuation in case of fire and proper use of fire Extinguishers and Fire blankets in case of fire	ESOHS Officer
1145-1200 hrs	**Attendance Sheet**				
End of Session					

What you will learn…

- What is Fire?
- Fire Triangle and Fire Classes
- Fire Fighting Methodology
- Types of Fire Extinguishers
- Use of Fire Extinguishers
- Rules for Fire
- Emergency & Types of Emergencies
- ERT & Composition of ERT?
- Responsibilities of ERT

What is Fire?

"Fire is a chemical reaction involving rapid oxidation of fuel."

OR

Any Fuel combine chemically with oxygen from the air and typically give out bright light is called Fire.

Fire Triangle

- Air/O_2
- Fuel
- Heat

fire =
Oxygen + ***heat*** + *fuel*

Air

14-16% Oxygen necessary to support combustion/Fire and 21% Oxygen is available in air.

Fuel

For a fire to start there must be something to Burn

Heat

For a Fire to Start, there must be a heat or ignition source

Fire Classes

Fires Are Classified by the type FUEL they burn.

According to NFPA their are 4 types of

- A
- B
- C
- D

Fire Classes

Class A Fires (Solid Fire)

- Wood
- Paper
- Plastic

Class B Fires (Flammable Liquids/Gases)

- Oil
- Grease
- Paints

Fire Classes

Class C Fires (Electric Fire)

- Office Equipment
- Switchgear
- Motors

Class D Fires (Metal Fire)

- Magnesium
- Sodium
- Potassium

Fire Fighting Methodology

There are three approaches to putting out a fire:

- **Starvation**
  cutting off the fuel supply
- **Smothering**
  separating the fuel from the oxidant
- **Cooling**
  lower the temperature, usually with water

Fire Extinguishers

- Water Fire Extinguishers
- Carbon Dioxide (CO_2) Fire Extinguishers
- Dry Chemical Fire Extinguishers
- Class D Fire Extinguishers
- Halon Fire Extinguishers
- "Wet Chemical" Fire Extinguishers

Fire Extinguishers

Dry Chemical Fire Extinguishers

- Class A, B, C fires
- 5 – 20 ft. range
- Lasts 10 – 20 seconds

CO_2 Extinguisher

- Class B, C fires
- 3 – 8 ft. range
- Lasts 10 – 30 seconds

Dry Chemical Fire Extinguishers

- Dry chemical extinguishers put out fires by coating the fuel with a thin layer of fire retardant powder, separating the fuel from the oxygen. The powder also works to interrupt the chemical reaction, which makes these extinguishers extremely effective.
- Dry chemical extinguishers are usually rated for class B and C fires and may be marked multiple purpose for use in A, B, and C fires. They contain an extinguishing agent and use a compressed, non-flammable gas as a propellant.
- Dry Chemical extinguishers will have a label indicating they may be used on class A, B, and/or C fires.

CO2 Fire Extinguisher

- This type of extinguisher is filled with Carbon Dioxide (CO_2), a non-flammable gas under extreme pressure. These extinguishers put out fires by displacing oxygen, or taking away the oxygen element of the fire triangle. Because of its high pressure, when you use this extinguisher pieces of dry ice shoot from the horn, which also has a cooling effect on the fire. You can recognize this type of extinguisher by its hard horn and absent pressure gauge.
- CO_2 cylinders are red and range in size from five to 100 pounds or larger.
- CO_2 extinguishers are designed for Class B and C (flammable liquid and electrical) fires only.

CO2 Fire Extinguisher

- **CO_2 is not recommended** for Class A fires because they may continue to smolder and re-ignite after the CO_2 dissipates.
- **Never use CO_2 extinguishers** in a confined space while people are present without proper respiratory protection

Parts of Extinguisher

Pressure Gauge

Any problems here?

Needle on pressure gauge should be in "operable range."

Extinguisher needs recharged.

To Use a Fire Extinguisher Remember **P.A.S.S.**

- Pull…
- Aim…
- Squeeze…
- Sweep…

To Use a Fire Extinguisher Remember **P.A.S.S.**

- **Pull** the pin on the fire extinguisher handle.

- **Aim** the nozzle/horn of the extinguisher at the base/bottom of the fire.

To Use a Fire Extinguisher Remember **P.A.S.S.**

- **Squeeze** the handles together to make the extinguisher work.

- **Sweep** the nozzle/horn of the extinguisher from side to side as if using a broom.

Rules for Fire

Never Fight a Fire if you don't know what is burning

- If you don't know what is burning, you don't know what type of extinguisher to use.
- Even if you have an ABC extinguisher, there may be something in the fire which is going to explode or produce highly toxic smoke.

Rules for Fire

Never Fight a Fire if the fire is spreading rapidly beyond the spot where it started

- The time to use an extinguisher is in the incipient, or beginning, stages of a fire. If the fire is already spreading quickly, it is best to simply evacuate the building, closing doors and windows behind you as you leave.

Rules for Fire

Never Fight a fire if you don't have adequate or appropriate equipment

- If you don't have the correct type or large enough extinguisher, it is best not to try to fight the fire.

Rules for Fire

Never fight a fire if you might inhale toxic smoke

- If the fire is producing large amounts of smoke that you would have to breathe in order to fight it, it is best not to try.
- Gases from man made materials can be fatal in very small amounts.

Rules for Fire

The final rule is to always position yourself with an exit or means of escape at your back before you attempt to use an extinguisher to put out a fire.

- In case the extinguisher malfunctions, or something unexpected happens, you need to be able to get out quickly, and you don't want to become trapped. Just remember, **always keep an exit at your back.**

Do you see a Problem?

Any Questions

Emergency

"A serious, unexpected, and often dangerous situation requiring immediate action"

Types of Emergency

- Fire
- Earthquake
- Flood
- Bomb Blast
- Lighting

Emergency Evacuation Plan

Don't get Panic , Stay Calm

Simply Follow these Steps

ERT and Composition of ERT

"Emergency Response Team is a group of people who prepare for and respond to any emergency incident, such as Fire, natural disaster and any catastrophic emergencies".

Composition of ERT

- Emergency response teams consist of four sub teams which will response according to the emergencies.
- Every team has its own team leader who leads and supervises his team the in any emergency.

Composition of ERT

- **FIRE FIGHTINGTEAM**
- **EVACUATION TEAM**
- **PROTECTIVE TEAM**
- **ASSESTS SALVAGE TEAM**

Responsibilities of Fire Fighters

- Follow the instruction of Team leader in case emergency.
- Switch off the main electric Breaker.
- Responding immediately and safely to emergency calls
- Try to assess the type of fire.
- Use appropriate fire extinguisher according to type of fire.
- Cleaning up and checking the site after dealing with an incident.
- Contact with fire brigade in case of uncontrolled situation.

Responsibilities of Evacuation Team

- Follow the instruction of Team leader in case emergency.
- Responding immediately and safely to emergency calls
- Check the muster point for total head counting.
- Start search operation for the missing persons.
- Evacuate the affected persons; especially disable persons and pregnant women.
- Call for Ambulance for shifting the affected person to hospital.
- Cleaning up and checking the site after dealing with an incident.
- Contact with Rescue 1122 in case of uncontrolled situation.

Responsibilities of Protective Team

- Follow the instruction of Team leader in case emergency.
- Responding immediately and safely to emergency calls
- Coordinate with the security and local police.
- Clear the road for quick access for Ambulance.
- Cordon off the whole building.
- Restrict the entry of irrelevant peoples.

Responsibilities of Asset Salvage

- Follow the instruction of Team leader in case emergency.
- Responding immediately and safely to emergency calls
- Save the assets of the company .

Remember……..

- Emergency Phone Numbers
- Location Of Fire Extinguisher
- Location Emergency Alarm
- Nearest Fire Exit
- Nearest Muster Point


Questions?
58


THE
END

SAMBU

Attendance Sheet

Topic: Fire Fighting and Responsibilities of ERT
Project: NBE Hydro Electric Power Complex

Venue: Power house
Date: 22/12/12

Sr. No	Name	Company	Designation	Signature
1	Ansar Mehmood	Sambu	Foreman	
2	Nasurulla		Carpenter	
3	Ibar Khan		"	
4	Qasir Mehmood		"	
5	M. Masud		Mason	
6	Abid		"	
7	Rashid		"	
8	M. Ayub		Helper	
9	Umer Muneer		"	
10	Zulf Khan		Mason	
11	Hasnain Abbas		"	
12	Aftab Shah		Carpenter	
13	Abdul Latif		HSE/Secy	

Exhibit 06 – Tool box talk

(Please see the next page)

1. SITE HOUSEKEEPING

1.1. Introduction

The Construction (Health, Safety & Welfare) Regulations require that sites be maintained in good order. Poor housekeeping is a common, but easily preventable, cause of accidents.

1.2. Main points

- There should be a place for everything, and everything should be in its place.
- Do not rely on others to clean up – they won't.
- Put tools away when not in use, as well as reducing a trip hazard it will keep them safe.
- If working with oils/lubricants then have some means of cleaning up any spillages at hand.
- Suspend power/light cables where practicable. Where not practicable avoid trailing them across walkways if possible.

1.3. Discussion points

- Remove all nails from dismantled scaffold /unused timber/ ply wood – where not possible then hammer flat.
- Stack both stores and waste neatly – ensure that walkways/escape routes are not obstructed.
- Clean up waste as it is created; small waste can be bagged, larger waste stacked and then skipped as soon as is practicable.
- Use racks when storing lengths of pipe or timber. Where pallets are used then does not stack too high.
- If working at height then loose objects must not be left on walkways, platforms, etc, where they could fall and injure persons below.
- Beware muddy sites - these will greatly increase risk of slips. Keep footwear as clean as is reasonably practicable; ensure loose mud is removed prior to climbing ladders, etc.
- Try and allocate a set period each day to general housekeeping (possibly at the end of the day?)

IF YOU THINK AND ACT SAFELY,
THE NEXT LIFE YOU SAVE COULD BE YOURS!

2. UNSAFE CONDITIONS/ ACTS

1.2. Introduction

Recognizing unsafe conditions, or hazards in the workplace, is not just a Safety Committee responsibility. It is everyone's responsibility from the most junior employee to the company president to identify hazards and make suggestions on how to fix the problem.

Remember: There are three steps to follow in recognizing unsafe conditions. Look for trouble (the unsafe condition), report it, and act to prevent it from happening again.

1.3. Guide for Discussion

Causes of unsafe conditions or actions:

- Poor housekeeping.
- Horseplay.
- Confused material storage.
- Careless handling of materials.
- Improper or defective tools
- Lack of machine guarding; failure to install warning systems.
- Lack of or failure to wear proper personal protection equipment.
- Weather.
- Worker not dressing for the job to be done.
- Failure to follow instructions.

1.4. Steps to take once an unsafe condition is found

- If possible, correct the condition yourself immediately.
- Report any major unsafe condition or action to the appropriate company authority.
- Follow-up – report the condition again if it is not corrected.

3. EXCAVATION WORKS

3.1. Introduction

Trenches are potential killers. The majority of fatal trench accidents occur where the depth is less than 1.5m. A cubic meter of earth can weigh over 1.5 tones – which will crush a man.

3.2. Main Points

- Prior to any digging carry out thorough checks for services.
- Plan excavations including shoring requirements, safe access/egress, etc.
- Ensure any support/shoring materials are present on site prior to commencing excavations.

3.3. Discussion points

- Excavations must be supported/ battered back where necessary to prevent collapse.
- Use ladders for access/egress – do not climb supports.
- Provide edge protection around excavations to protect other workers, the public, etc.
- Keep soil heaps, tools and vehicles back away from the edge of excavations.
- Never throw tools/materials into an excavation – always pass hand to hand or lower on a rope.
- Wear suitable PPE, including head and foot protection.
- Do not jump across excavations – provide suitable bridges where required.
- If vehicles are to be used to fill the position stops to ensure vehicles cannot drive into excavations.
- Never adjust/adapt supports/shoring without first getting approval from person in charge.
- Excavations must be inspected prior to entry, at the start of each shift, and after any destabilizing event (including heavy rain).
- Excavations must be formally inspected by a competent person at least once every seven days and the results recorded.

THE MESSAGE IS SIMPLE
DON'T DIG YOUR OWN GRAVE!

4. ACCIDENTS PREVENTION

4.1. Introduction

Whilst overall accident statistics indicate a general reduction, the construction industry remains the exception by showing an increase. It is essential that all personnel contribute in every way possible to reduce accident rates in construction.

4.2. Main Points

- Equipment does not cause accidents – people do!
- Every accident is owned by someone somewhere!
- It's too late to plan for safety after an accident has happened!

4.3. Discussion points

- Accidents are caused by:
  a. People not thinking, not following instructions, or not putting their training into practice.
  b. Unsafe manual handling, loading, stacking and storing of materials.
  c. Overloading of platforms, scaffolds, hoists, plant, etc.
  d. Incorrect use and abuse of plant and equipment.
  e. Use of faulty equipment and "homemade" repairs.
  f. Illegal adaptions and illegal removal of guards/barriers.
  g. Failure to use PPE and ignoring safety signs/warning devices.
- The costs of accidents include pain, suffering, ongoing disability, and potential fatalities.
- Can also result in loss of earnings, incapacity for the job, inability to support family, etc.
- Employers face financial and time costs in compensation, loss of working time, lost management time during investigations, possible fines, etc.
- Help prevent accidents by:
  a. Not removing any guards/barriers.
  b. Not handling hazardous substances without knowing the hazards.
  c. Not using plant and equipment unless suitably trained.
  d. Always complying with laid down procedures.
  e. Always wearing suitable PPE as applicable.
  f. Not engaging in horseplay where it could result in hazards.
  g. Not misusing/abusing any equipment provided for safety.
  h. Not using any defective equipment/plant, and not carrying out "homemade" repairs.
  i. Employing good hygiene standards.
  j. Using the correct tools for the job.
  k. Obeying site safety rules and signs.

5. Why Accidents Occurs

5.1. Introduction

Every accident is caused by a breakdown in one of four areas: the worker, the tools used, the materials used, or the methods used. Often there is a breakdown in at least two areas; one being the worker and the other coming from one of the three other areas. The accident's cause usually results from an unsafe act or an unsafe condition. Today we will review some types of unsafe acts, the results from, and unsafe conditions.

5.2. Discussion Points

5.2.1 *Types of Unsafe Acts:*

- Operating a tool or some equipment without authority.
- Working at an unsafe speed.
- Using unsafe or defective equipment or using equipment in an unsafe manner.
- Disconnecting safety devices.
- Unsafe unloading, placing or mixing materials.
- Assuming an unsafe position or posture.
- Working on moving equipment.
- Horseplay or distractions; taking shortcuts.
- Failure to wear and use personal protective equipment.

5.2.2 Unsafe Acts Result From:

- An improper attitude.
- Lack of knowledge or skills.
- Reduced mental or physical capacities.

5.2.3 Unsafe Conditions:

- Improper guarding.
- Defective equipment or materials.
- Unsafe working procedures.
- Improper housekeeping.
- Poor lighting or ventilation.
- Improper personal attire (Poor dress).
- No or improper evaluation of site conditions.

6. STEEL WORK

6.1. Introduction

Steelwork carries with it significant inherent risk, both to those erection steelwork, and to those in the vicinity. Only safe systems of work can control these risks and reduce them to an acceptable level.

6.2. Main Points

- Only suitably trained personnel should undertake steelwork, or trainees under suitable supervision.
- A risk assessment must be carried out, and a method statement produced, for any steelwork.
- Suitable PPE should always be worn, both by steelworkers, and by other employees in the Vicinity

6.3. Discussion points

- Plan steelwork according to the method statement, remembering to take into account the
- Use of cranes or other lifting equipment and accessories, and co-ordinate with other site activities.
- If cranes are to be used consider the ground conditions, potential danger to other employees and the public as a result of crane arcs, and the need to ensure continued serviceability of lifting equipment.
- Utilize slingers and banks men where appropriate.
- Beware of any overhead services.
- As an absolute minimum head and foot protection should be worn.
- Ensure there is safe access/egress to/from places of work.
- Where possible work from a stable working platform.
- Where no working platform is available, utilize a safety harness and fall arrest device –ensure it is clipped on at all times.
- Beware of dangers to those below – consider exclusion zones, nets, etc, as appropriate, do not leave tools/equipment on steelwork. Never move along beams by straddling unless absolutely necessary – clip on as soon as is practicable.

CATS HAVE NINE LIVES – YOU ONLY HAVE THE ONE!

7. Use of Safety Harness

7.1. Introduction

Full Body Harnesses, a connector (for example, a self-retracting lanyard), lifelines and anchors are all part of a Personal Fall Arrest System (or PFAS). The days of having a safety belt and lanyard are over – just too many injuries and deaths to workers

7.2. Main Points

- Main hazards associated with the safety harness are pressure on the leg veins due to harness straps , reducing the blood flow back to heart, suspension trauma, blockage of self rescue in event of a problem
- Personal Fall Arrest System (PFAS) is generally required when working at a height of 10 feet or above in the workplace.

7.3. Discussion points

- Inspect the equipment (harness, hardware, connector, and lifeline) before use.
- Never use equipment, which is not in good condition.
- Use only rated equipment. Remember, the PFAS must withstand 2270kg of dead load.
- Always secure lanyards to a suitable anchor, above your work area if possible.
- Be attached to an anchorage not to itself
- Don’t modify to mix any of the safety equipment.
- Never allow acids, caustics or other corrosive materials to come into contact with any of the equipment.
- Be protected against being cut or abraded
- Body belts are not allowed on sites
- Store your equipment in a dry place.
- Replace damaged equipment; remove it from service as soon as possible as it is determined to be defective.
- Use the equipment required.
- In case of Emergency, report to HSE representative or Security staff or supervisor immediately.
- In case of an injury, report to paramedic staff present in Powerhouse, Site clinic and you will be provided with necessary medication by appointed Site doctor.

8. Managing Site Waste

8.1. Introduction

Most construction sites produce significant waste which, if allowed to accumulate, can create new, or complicate existing, health and safety hazards. These range from basic nails in wood to attracting vermin.

8.2. Main points

- Suitable waste locations must be established, and these must be segregated where applicable (controlled and special waste, etc).
- A formal waste management system should be implemented, i.e. spending the last 15 minutes of each day, or last hour of each Friday, cleaning up the site.

8.3. Discussion points

- Consider how you are going to separate waste where applicable, such as using different skips, etc.
- Ensure nails etc, are removed from wood or hammered flat to avoid puncture wounds to other persons.
- Consider how waste is going to be lowered to ground level from height. It should never be thrown down! Consider hoists, waste chutes, etc.
- If lightweight waste is produced, it may need to be bagged and tied to prevent the wind blowing it all over the site.
- If skips are to be placed on roads, then permission is required and it must be suitably cordoned off to protect the public and vehicles.
- Never overload skips – they should not be loaded higher than the sides.
- Beware of accumulating flammable waste and thus creating a serious fire risk.
- Never burn or bury waste on site.
- Dispose of any foodstuffs carefully to avoid attracting vermin and the risk of disease such as Weil's disease.
- Inspect your waste! Can it be reduced? Can any of it be reused? Is any of it recyclable?
- All waste that leaves the site is costing money!

MINIMISED WASTE = MINIMISED COSTS

9. Work at Height

9.1. Introduction

Falling from height is the major cause of fatalities in the construction industry. More than half of falls from a height of over 2 meters result in death or serious injury. All such deaths and serious injuries are preventable.

9.2. Main Points:

- Can work at height be avoided and the risk eliminated?
- Plan work at height to include safe access/egress, edge protection (for people and materials), PPE and suitable training as applicable.
- Any work above 2m requires guard-rails, intermediate guard-rails and toe-boards to be fitted.
- Where impracticable to fit guard-rails, intermediate guard-rails and toe-boards (short duration) then personal suspension equipment/fall arrest equipment must be utilized as required.

9.3. Discussion points:

- If roof work is involved identify any fragile areas and/or openings and implement suitable protective precautions.
- Access ladders must be secured and extend sufficiently beyond working platforms to allow for safe access/egress.
- Where access ladders run for more than 9m then suitable intermediate platforms must be provided.
- Consider weather conditions – wet, windy and/or icy conditions can have a serious impact on safety at height.
- Ensure operatives are suitably trained and physically capable for tasks being undertaken.
- If guard-rails, fragile surface covers, void protections, etc, are removed for any reason
- then they must be replaced as soon as possible, and in the interim should be physically guarded.
- Use crawling boards/roof ladders where applicable.

IT'S NOT THE FALLING THAT HURTS – IT'S THE LANDING!

10. Mandatory Personal Protective Equipments

10.1. Introduction

PPE is defined as 'all equipment which is intended to be worn or held by a person at work and which protects him against one or more risks to his health or safety', e.g., safety helmets, gloves, eye protection, high-visibility clothing, safety footwear and safety harness.

10.2. Main Points

- What are PPEs?
- Hazards associated with Construction Safety
- HSE department is responsible for providing necessary PPEs
- Management is responsible for implementing the recommendations of HSE
- Need of training/toolbox talk
- Safety is the responsibility of all employees.

10.3. Discussion Points

- The associated hazards with Construction safety include fall of persons, fall of materials/equipments, collapse, site conditions (e.g. unstable footings), dust, and presence of defective materials, overhead cables and contact with moving materials.
- The Regulations also require that PPE: is properly assessed before use to ensure it is suitable, and is used correctly by employees.
- Training is necessary for showing how to use PPE properly and monitoring is also necessary.
- As PPE is the last resort after other methods of protection have been considered, it is important that all of you wear it all the time as you may be exposed to the risk.
- HSE will not allow exemptions for those jobs which take 'just a few minutes'.
- Safety signs are provided as a useful reminders to wear PPE
- In case of non-compliance, all workers will receive one verbal warning and then two written warnings, after which appropriate disciplinary action will be taken which may result in fines or termination of employment.
- In case of Emergency, report to HSE representative or Security staff or supervisor immediately.

11. Road Works

11.1. Introduction

Many accidents occur at roadsides every year, most of which could be avoided with the implementation of safe working procedures.

11.2. Main Points

- Suitable warning signs should be displayed and correctly positioned.
- Traffic control must be implemented to meet the site requirements.
- Use a safety zone wherever practicable.

11.3. Discussion points

- Cone off a tapered lead in zone to control traffic.
- Ensure barriers are erected around excavations, and that lighting/warning lights are used at night.
- Ensure a suitable pedestrian route is maintained – if necessary re-route.
- Clean any excess mud/debris off the road so far as is practicable.
- Beware of work activities that create dust or debris that may impact on vehicular or pedestrian routes.
- Position plant and equipment so that no part of it infringes on the safety zone, and do not store any materials or equipment in the safety zone.
- Consider and organize site traffic access/egress.
- Wear safety helmets, hi-visibility vests and safety footwear.
- Do not enter the safety zone unless specifically required and authorized to do so.
- In the summer consider protection against the sun.
- Consider precautions for working in excavations, underground services, etc.

IF YOU THINK SAFETY IS EXPENSIVE OR TIME CONSUMING
– TRY THE COSTS OF AN ACCIDENT!

12. Safe Load Lifting With Cranes

12.1. Introduction

Unsafe lifting practices result in numerous incidents every year, including serious and sometimes fatal accidents.

12.2. Main Points

- All lifting operations should be planned, and be supervised where applicable.
- Lifting equipment and accessories must only be used for the purpose for which they were designed (ie buckets are not designed for lifting persons).
- Lifting equipment and accessories must only be used by trained personnel or under strict supervision.

12.3. Discussion points

- All lifting equipment must be marked with safe working loads (SWL's) which must never be exceeded.
- Beware of overhead obstructions such as overhead power lines.
- Use banks men/slingers wherever applicable.
- Ensure all loads are stable and secure.
- Beware of weather conditions – especially wind conditions when using cranes.
- Ensure load is lifted off the ground, free, and correctly slung before hoisting.
- Always wear a safety helmet and hi-visibility vest.
- Never stand under a suspended load, and control movement under any such loads (exclusion areas).
- Use hand signals where applicable, using only approved code signals, ensuring they are clear and distinct.
- Use cranes to lift and lower loads vertically – never drag loads.
- Lifting gear should be formally checked regularly, and visually inspected for any obvious damage prior to use.
- Riding on loads is strictly prohibited, as is riding in unauthorized positions on any lifting equipment.
- Ensure the use of appropriate PPE's.
- In case of Emergency, report to HSE representative or Security staff or supervisor immediately.
- In case of an injury, report to paramedic staff present in Powerhouse, Site clinic and you will be provided with necessary medication by appointed Site doctor

13. Accidents Are Avoidable

9.1. Introduction

Each time someone is injured, we need to ask ourselves “how did it happen?” Accidents just don’t happen, they are caused. Accidents are usually a result of someone not paying attention or not knowing how to recognize a job (or home or automobile) safety hazard. Jobs with effective safety attitudes have about a fifth as many injuries compared to those without the safety attitude. Today we will discuss some general rules to follow and the four hazard avoidance rules.

9.2. Guide for Discussion

General Rules

- Learn the safe way to do your job.
- Don’t jump from one elevation to another.
- Don’t work under suspended loads.
- Remove protruding nails or bend them over.
- Keep the work area clear of debris.
- Use the personal protective equipment required for the job.
- Treat all electrical wires as being “live.”
- Use the right tool for the right job.
- Be sure all tools are in good shape.
- Keep scaffolds free of excess weight.
- Other ways to avoid hazards.
- Report accidents and near misses to Employer

Four Hazard Avoidance Rules

- Know the safe way to work, and then follow the safe way all the time.
- Maintain safe working conditions – for yourself and others around you.
- Work safely, setting the example, and encourage others to do so.
- Report all accidents and near misses.

Remember: Remember to ask yourself if you are following the basic common sense rules? If you aren’t following them, then take the chance and you will have or cause an accident. Keep asking yourself “how can I make my work safer?” Doing so and you’ll probably not have a serious accident, and help prevent a serious accident for a fellow worker.

ANDRITZ

Attendance sheet

Topic: HOUSE-KEEPING

Venue: ASSEMBLY AREA

Project: NBE Hydro Electric Power Complex

Date: 04 OCTOBER 2012

Sr. No	Name	Company	Designation	Signature
1	Khalid Mehmood	Andritz.	Painter	
2	Saqlain Munir.	"	Piping	
3	M. Qadir.	"	"	
4	Khalid Mahmood	"	Gen	
5	Ramzan.	"	Elet	
6	Shahzad Hussain	"	Painter	
7	Qadeer Ahmad	"	~~Elet~~ "	
8	Wasee Ahmad.	"	Elet	
9	Tahir -	"	"	
10	Abdul Basit.	"	"	
11	Soba Khan.	"	Painter	
12	Mnawar Chishti ~~Hussain~~	"	Admi	
13	Kram Dad	"	Regger	
14	Naveed Abas.	"	Piping	Naveed
15	M. Rashid Naeem	"	Welder	
16	Taimoor -	"	Mec	
17	Saf ur Rehman.	"	"	
18	Tosif Shah.	"	"	
19	Safdar -	"	S. Falder	
20	Babar Naeem.	"	Elet	
21	Mudasser Ahmad	"	"	
22	Mubashar.	"	"	

Tool Box Talk Attendance sheet

Topic: Excavation work.

Venue: Work shop.

Project: NBE Hydro Electric Power Complex

Date: 6-10-12

Sr. No	Name	Company	Designation	Signature
①	M. Zaheer Ahmed.	Sambu.	Exc. Oprt.	
②	M. Boota		— " —	
③	Waseem Shah.		— " —	
④	M. Imran		— " —	
⑤	Mobeen		— " —	
⑥	Zulfiqar.		Crane Oprt.	
⑦	Adeel Hussain		Helper	
⑧	Rizwan Khan		Labour	

Tool Box Talk Attendance sheet

Topic: Accidents Prevention.

Venue: HeadRace

Project: NBE Hydro Electric Power Complex

Date: 7-10-12.

Sr. No	Name	Company	Designation	Signature
1	Idress. Khan	Samber-	Labor	
2	Dildar. Hussain		S/fixer.	Dildar
3	Amanat		Labor	
4	M-Waqas.		S/fixer	
5	Adnan		Carpenter.	
~~6~~	~~Carpenter~~		Hmer.	
7	Malik Riaz		Scaffolder.	Riaz
8	Khurram		Helper.	
9	Farman		Mason.	
10	Javed		Labor.	JAVED
11	M-Ramzan		Welder.	
12	Chanwaz		Carpenter	Chanz
13	Qaisar Mehmood		Carpenter	
14	Adeel		Helper.	
15	M-Qasim		Labor.	

ANDRITZ

Attendance sheet

Topic: UA/UC

Venue: WARE HOUSE

Project: NBE Hydro Electric Power Complex

Date: 08 OCTOBER 2012

Sr. No	Name	Company	Designation	Signature
1	Iftikhar			
2	Hasan Raza.			
3	Inamul Haq.			
4	Ayaz.			
5	Shahzad Hussain			
6	M. Asif.			
7	Shobat Zaman.			
8	Jamil Yamin.			
9	Mamoon.			
10	M. Gul.			
11	Adeel Ahmad.			
12	~~M~~ Ehtesham.			
13	Gafoor.			
14	Aamir Abbas.			
15	Zahid Shah.			
16	Nadeem			
17	Asad SHABBIR			
18	Maqsood.			
19	Kamaleel Riaz.			
20	Manzoor Ahmad.			
21	M. Iqbal.			
22	Shafqat ullah.			

ANDRITZ

Attendance sheet

Topic: HOUSE-KEEPING

Venue: ASSEMBLY AREA

Project: NBE Hydro Electric Power Complex

Date: 04 OCTOBER 2012

Sr. No	Name	Company	Designation	Signature
1	Khalid Mehmood	Andritz.	Painter	
2	Saqlib Munir.	"	Piping	
3	M. Qadir.	"	"	
4	Khalid Mahmood	"	Gen	
5	Ramzan.	"	Elet	
6	Shahzad Hussain	"	Painter	
7	Qadeer Ahmad	"	~~Elet~~ "	
8	Wasee Ahmad.	"	Elet	
9	Tahir -	"	"	
10	Abdul Basit.	"	"	
11	Soba Khan.	"	Painter	
12	Mnawar Chishti ~~Hussain~~	"	Admi	
13	Kram Dad	"	Regger	
14	Naveed Abas.	"	Piping	Naveed
15	M. Rashid Naeem	"	Welder	
16	Taimoor -	"	Mec	
17	Saf ur Rehman.	"	"	
18	Tosif Shah.	"	"	
19	Safdar -	"	S. Falder	
20	Babar Naeem.	"	Elet	
21	Mubeen Ahmad	"	"	
22	Mubashar.	"	"	

Tool Box Talk Attendance sheet

Topic: Excavation work.

Venue: Work shop.

Project: NBE Hydro Electric Power Complex

Date: 6-10-12

Sr. No	Name	Company	Designation	Signature
①	M. Zaheer Ahmed.	Sambu.	Exc. Oprt.	
②	M. Boota		— " —	
③	Waseem Shah.		— " —	
④	M. Imran		— " —	
⑤	Mobeen		— " —	
⑥	Zulfiqar.		Crane Oprt.	
⑦	Adeel Hussain		Helper	
⑧	Rizwan Khan		Labour	

Tool Box Talk Attendance sheet

Topic: Accidents Prevention.

Venue: HeadRace

Project: NBE Hydro Electric Power Complex

Date: 7-10-12.

Sr. No	Name	Company	Designation	Signature
1	Idress. Khan	Samber-	Labor	
2	Dildar. Hussain		S/fixer.	Dildar
3	Amanat		Labor	
4	M-Waqas.		S/fixer	
5	Adnan		Carpenter.	
~~6~~	~~Carpenter~~		Hmer.	
7	Malik Riaz		Scaffolder.	Riaz
8	Khurram		Helper.	
9	Farman		Mason.	
10	Javed		Labor.	JAVED
11	M-Ramzan		Welder.	
12	Chanwaz		Carpenter	Chanz
13	Qaisar Mehmood		Carpenter	
14	Adeel		Helper.	
15	M-Qasim		Labor.	

ANDRITZ

Attendance sheet

Topic: UA/UC

Venue: WARE HOUSE

Project: NBE Hydro Electric Power Complex

Date: 08 OCTOBER 2012

Sr. No	Name	Company	Designation	Signature
1	Iftikhar			
2	Hasan Raza.			
3	Inamul Haq.			
4	Ayaz.			
5	Shahzad Hussain			
6	M. Asif.			
7	Shobat Zaman.			
8	Jamil Yamin.			
9	Mamoon.			
10	M. Gul.			
11	Adeel Ahmad.			
12	~~M~~ Ehtesham.			
13	Gafoor.			
14	Aamir Abbas.			
15	Zahid Shah.			
16	Nadeem			
17	Asad SHABBIR			
18	Maqsood.			
19	Kamleel Riaz.			
20	Manzoor Ahmad.			
21	M. Iqbal.			
22	Shafqat ullah.			

1. Scaffolding

Introduction

Falling from height is the major cause of fatalities in the construction industry. More than half of falls from a height of over 2 meters result in death or serious injury. All such deaths and serious injuries are preventable.

Main Points

- Scaffolding must be planned according to requirements including loads, platforms, safe passage, access/egress, etc.
- Scaffolding should only be erected, adjusted and dismantled by, or under the supervision of, a competent (properly trained) person.
- Scaffolding must be maintained and this is the responsibility of all employees. Do not tamper with scaffolding and report any faults or concerns immediately

Discussions

- Scaffold footings should be solid and rigid, not set out on soft ground
- Scaffold platforms must be fully planked out where practicable, and should provide a passage for people of at least 18'' in width.
- Space between the scaffold planks must be no more than one inch
- An uncleated plank must extend the end support a minimum of six inches.
- Platform should be able to hold four times its maximum intended load
- Where stores are stacked on scaffold platforms then consider load weights, ensure 18'' passage is maintained, do not stack materials too high, and stack near standards as opposed to centre of bays.
- Over 2m in height then guard-rails, Top rail (38''-45'' from platform) and mid railing will be in the center of top railing and platform)
- Over 2m in height then guard-rails, Top rail (38''-45'' from platform) and mid railing will be in the center of top railing and platform)
- Where guard-rails are removed to facilitate loading they must be replaced immediately, consider purpose built loading bays.
- Scaffolding must be suitably tied to structures. On no account remove ties – get a competent scaffold to do it.
- Do not use incomplete or unsafe scaffolding – report it and get it signposted prohibiting use.
- Scaffolding should be formally inspected after initial erection, after significant alteration, after any destabilizing event, and at least once every 7 days. The findings should be recorded.
- No employee is allowed to work at plat forms during high winds and bad weather.

2. Portable Electrical Appliances

Introduction

Electrical appliances used on site are subject to harsh treatment and can easily become worn and/or damaged. They can then become lethal.

Main Points

- All portable electrical appliances should be subject to regular inspection and maintenance by a competent person (electrician).
- They must only be used at the correct voltages – this should be 110v maximum on a construction site.
- Visual checks of cables, casings and plugs should be carried out prior to use.

Discussion points

- Check that suitable protection devices such as fuses, circuit breakers and residual current devices are in place, and that any fuses have the correct load ratings
- Only use portable electrical appliances for the purpose for which they were designed
- Ensure switches are working properly at the earliest opportunity (prior to starting the task).
- Disconnect power tools when not in use.
- All power tools must be properly earthed unless it is an approved type that does not require earthling.
- Use of portable electrical appliances will often require wearing of suitable PPE such as eye and/or ear protection – ensure you wear them as required. Never connect portable power tools to lighting sockets
- If any damage is identified then remove from service and report immediately.
- Never use blunt, worn or damaged bits and accessories

IT'S TOO LATE TO CARRY OUT BASIC CHECKS AFTER AN ACCIDENT

3. Manual Handling

Introduction

Manual handling in construction is unavoidable, thus it is essential that it is carried out correctly to avoid both immediate and long term injuries.

Main Points

- The primary aim is to eliminate manual handling so far as is reasonably practicable (i.e. use mechanical handling)
- Where manual handling must be carried out then it must be assessed, and proper procedures must be used

Discussion Points

- Assess all loads: are they heavy, bulky, unstable, difficult to grasp, sharp etc? Size up the load and, if necessary, make a trial lift by rocking it from side to side and then lifting it a few inches.
- Can you handle the load yourself or do you need assistance?
- Wear suitable clothing and PPE such as gloves and safety boots to protect
- Is there sufficient space, suitable lighting and a clear route to where you are taking the load?
- Do not carry a load that will obscure your vision.
  against cuts, crushed toes etc.
- If necessary move loads in stages

    - Stand reasonably close to the load, feet hip width apart with one foot slightly forward pointing in the direction you're going.
    - Bend your knees whilst keeping your back straight.
    - Get a secure grip on the load.
    - Stand reasonably close to the load, feet hip width apart with one foot slightly forward pointing in the direction you're going.
    - Bend your knees whilst keeping your back straight.
    - Get a secure grip on the load
    - Stand reasonably close to the load, feet hip width apart with one foot slightly forward pointing in the direction you're going
    - Breathe in before commencing the lift
    - Bend your knees whilst keeping your back straight.
    - Get a secure grip on the load.
    - Carry out the lift smoothly using the legs to take the strain, keeping the back straight, chin up, and arms close to the body.
    - Step off in the direction the advanced foot is pointing, keeping the load close to the body.

4. Work at Height

Introduction

Falling from height is the major cause of fatalities in the construction industry. More than half of falls from a height of over 2 meters result in death or serious injury. All such deaths and serious injuries are preventable.

Main Points:

- Can work at height be avoided and the risk eliminated?
- Plan work at height to include safe access/egress, edge protection (for people and materials), PPE and suitable training as applicable.
- Any work above 2m requires guard-rails, intermediate guard-rails and toe-boards to be fitted.
- Where impracticable to fit guard-rails, intermediate guard-rails and toe-boards (short duration) then personal suspension equipment/fall arrest equipment must be utilized as required.

Discussion points:

- If roof work is involved identify any fragile areas and/or openings and implement suitable protective precautions.
- Access ladders must be secured and extend sufficiently beyond working platforms to allow for safe access/egress.
- Where access ladders run for more than 9m then suitable intermediate platforms must be provided.
- Consider weather conditions – wet, windy and/or icy conditions can have a serious impact on safety at height.
- Ensure operatives are suitably trained and physically capable for tasks being undertaken.
- If guard-rails, fragile surface covers, void protections, etc, are removed for any reason
- then they must be replaced as soon as possible, and in the interim should be physically guarded.
- Use crawling boards/roof ladders where applicable.

IT'S NOT THE FALLING THAT HURTS – IT'S THE LANDING!

SAMBU

Tool Box Talk Record Sheet

Venue: Ware House Date: 3-12-12

Topic: Work at Height Delivered by: Abdul Latif

Sr. No	Name	Designation	Signature
1	وحید اللہ	Fitter	وحید اللہ
2	سفیان علی	Fitter	
3	سیف اللہ	Folder	سیف اللہ
4	عجیب اللہ	ELEC	M. Habibil
5	Ghulam Mustafa	Tech.	G. Mustafa
6	HZHAR ICHAN	Helper	Azhar Khan
7	M Asif	M.E.Her	
8	Hargham Ahmed	ELCT	
9	M. Rashid	Fabtior	
10	M. Shahid	Fab	
11	Shahid	Fitter	
12	Sabir Khan	Painter/Sandblaster	
13	M. Qadeer	Helper	
14	نجیب اللہ	welder	
15	Tahir	Elct	
16	Hasan Rozee	ELT	
17	IMRAN	ELT	
18	Babar Hussain	ELT	
19	FAIZAN AHMAD	ELT	
20	Atif shahzad	ELT	
21	A. BASIT	ELT	
22	S Yousaf Shah	Tech. Helper	
23	Saqib Mehmood	P.T	
24	Liaqat Rasool		
25	Ishfaq Ahmed	Storekeeper	
26			
27			
28			
29			

Sambu Construction Co., Ltd

Conducted by

ESOHS Officer

SAMBU

Tool Box Talk Record Sheet

Venue: Power House. Date: 6-12-12.

Topic: Scaffolding. Delivered by: Abdul Sattar.

Sr. No	Name	Designation	Signature
1	Ayaz Ahmed	Helper	
2	Ishtiaq Ahmed	M. Engr	
3	M. ASLAM NASIR	S. Surveyor	
4			
5	Rehman ZAFAR	T. Helper	
6	SIKANDAR KHAN	T. Helper	
7	FAHEEM-UL-HASSAN	Asst. Engineer	
8	Naveed HASSAIN	Helper	
9		Welder	
10	Abdul Gafoor	Rigger	
11	Abdul Rashid	Rigger	
12	Sibbir	Sr. Elect	
13	NAEEM	M	
14	Imran Khan	Electrician	
15	Waseem Ahmed	T. Helper	
16	Amir abbas	Elect	
17	HIKMAT-KHAN		
18	M. Nadeem	T. Helper	
19	Noman	Ass Engr	
20	Raza Mustafa	T. Helper	
21	Mubshir	T. Helper	
22	Adeel Ahmed	T. Helper	
23	Mr. Previz	Painter	
24	Ali Akbar	T. Helper	
25	Tariq mehboob	Electrician	
26	Adeel	Painter	
27	Afzaal bukhari	Painter	
28	M. waqas	Fitter	
29	AMAN	T. Helper	

Sambu Construction Co., Ltd

Conducted by

ESQHS Officer

SAMBU

Tool Box Talk Attendance sheet

Topic: Manual Handling

Venue: Power House

Project: New Bing Escape Hydro Electric Power Complex

Date: 28-12-12

Sr. No	Name	Company	Designation	Signature
1	Adnan Khan	Andritz	AXC welding	Adnan
2	M-BILAL	Sub-Co	Election.	M.Bilal.
3	Mohsin		Tech helped	mohsin
4	Arslan Sajjad		I - Helper	
5	Adeel Ahmed		Helper	
6	FARIS		Elect Tech	
7	Syed Hasan Raza		EL	
8	Qadeer Ahmed		Painter	Qadeer
9	M-Qadeer		Helper	
10	Fazal SHAH		Electrician	Fazal.
11	Shahzad Khan		Painter.	
12	M. Ihsan		Electrician	
13	Waseem Ahmed		Helper	Waseem
14	Hukumat		Helper	
15	Shafqat Gill		Electrician	
16	Yasir Masih		Helper	Yasir
17	Amjad Ali		Helper	Amjad Ali
18	Majid Alvi		Helper	
19	Rana Sooka Akas		Welder	
20	M. Tofeeq		Fitter	
21	M-SHAFIQ		Welder	M Shafiq
22	M. Khurshid		Fit Helper	Khurshid
23	G. Mustafa		Helper	G. Mustafa

Delivered by

ESO Officer

SAMBU

Tool Box Talk Attendance sheet

Topic: Portable electrical appliances. Venue: Power House

Project: New Bing Escape Hydro Electric Power Complex Date: 30-12-12.

Sr. No	Name	Company	Designation	Signature
1	Sarfraz.	Sambu-Const	F/M	
2	do M	Andritz-Sub-Co.	Helper	do
3	[illegible]		Welder.	Naveed-adfos
4	[illegible]		Fitter	Nadeem
5	M. Ullah		Welder	
6	Latifullah-		S/Falder.	
7	عبدالرشید		Rigger	
8	Ghulam Mohiudin		Welder.	
9	M. Asif		Fitter	
10	Manzoor Ahmed		Fitter	
11	Amir abbas		Elect	
12	M. Rashid		fitter	M Rashid
13	M. Safdar.		Helper	M. Safdar.
14	Tanveer		fitter	
15	Saif-UR-REHMAN		Helper	
16	Ihtisham		Foalder	
17	Sabdar Ali		11	
18	Shoab Hassan		11	
19	Shafqatullah		11	
20	Shoab Zaheen		11	
21	Kabam dad		Riger	
22	Saffir Ahmed	T-H	T- Helper	S. Qadir
23	M. ISHFAQ.	T-H	T. H	

Abrar Hussain H.S.E/Inspecter.

Reviewed by ESO/HSE Officer

Exhibit 07 – ESMP

(Please see the next page)

SAMBU

ENVIRONMENTAL MANAGEMENT PLAN/ ENVIRONMENTAL SOCIAL ISSUE MANAGEMENT PLAN

Project: NBE Hydro Electric Power Complex

Date: 31-12-2012

Sr No.	*Activities*	*Impacts*	*Key Performance Indicators (KPIs)*	*Responsible Party/ Person*	*Monitoring frequency*	*Monitoring Location*	*Target date*	*Completion date*	*Mitigation Measures/ Actions*
1	Site Preparation	Community effect	IFC Performance Standards on Social & Environmental Sustainability	Sambu / PM	Yearly	Headrace Channel Tailrace Channel	Feb 20, 2010 as per project activity	Throughout Project Period	Alternate routes has been provided. Project Employment opportunities have been created to suite the particular skills or enhanced skills from nearby villages of Project Site. Total number of Employees: 688 Number of Local and Nearabouts: 259 Contractor persons are not involved in any interaction with the nearby community
		Loss of Cultivation/ flora	IFC Performance Standards on Social & Environmental Sustainability	Sambu / PM in coordination with ESOHS Officer	Yearly	Headrace Channel Tailrace Channel	Aug, 2012	Aug, 2012	Tree Plantation Plan has been implemented,trees has been planted along tailrace, it has been planted the five times of the trees that has been cut. The land scaping of Power house is in progress and will be finalized by the end of January 2013.
		Solid Waste	Revised IEE, Pak NEQS, Solid Waste Management System, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Yearly	Headrace Channel Tailrace Channel	—	Throughout Project Period	Proper solid waste handling has been accomplished. All rubbish and non reuseable waste is handed over to local contractor for safe disposal at Mirpur muncipility approved site. The recyleable waste handed and reuseable waste produced from commencement of the project is handled over to recyclic contractor
2	Transportation of Power house Equipment	Air Quality	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semi-annual for 1st year of Construction. Annual for next two years	Power house	May 30, 2010 Dec 30, 2010. Dec 30, 2011 June 16, 2012	May 7, 2010 Feb 1, 2011 Jun 15, 2012	Fugitive dust emissions are minimized by spraying water on soil, where required and appropriate. Air Quality monitoring has been conducted thrice since the commencement of the project site and test results were found satisfactory within the limits of Pak NEQS, WHO and IFC Standards. Vehicular traffic through the communities are avoided as far as possible. Vehicle speeds is under limit at project stie as well out out side the site.
		Noise	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semi annual for 1st year of Construction. Annual for next two years	Power house	May 30, 2010 Dec 30, 2010. Dec 30, 2011 June, 2012	May 7, 2010 Feb 1, 2011 Aug 25, 2011 Jun 15, 2012	Vehicles have exhaust mufflers (silencers) to minimize noise generation. Noise monitoring has been conducted Four time since the commencement of the project and results found satisfactory within the limits of Pak NEQS, WHO and IFC standards. Night time traffic is avoided near the communities. Vehicular traffic through the communities is avoided as far as possible. Vehicle speed is under limit and horns are not being used while passing through or near the communities as far as practically possible.
		Safety Hazards	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / PM in coordination with ESOHS Officer	Annual	Power house Office area	Dec 30, 2010. Dec 30, 2011. Sep 20, 2012	Sep. 2010 Aug, 2012	Road signage are fixed at appropriate locations to reduce safety hazard associated with project-related vehicular traffic. A number of safety sessions and traings have been conducted on defensive driving. Project drivers are trained on defensive driving. Further permanat safety signs along with the new public road have also been displayed in the month of Augut 2012.
		Damage to Infrastructure	Revised IEE, IFC Environmental, Health, and Safety General Guidelines	Sambu / PM	Annual	1) Headrace Channel 2) Power house 3) Tailrace Channel	—	No damage has been done till Sep, 2012	Damaged infrastructure will be restored to original or better condition.

SAMBU

ENVIRONMENTAL MANAGEMENT PLAN/ ENVIRONMENTAL SOCIAL ISSUE MANAGEMENT PLAN

Project: NBE Hydro Electric Power Complex

Date: 31-12-2012

Sr No.	Activities	Impacts	Key Performance Indicators (KPIs)	Responsible Party/ Person	Monitoring frequency	Monitoring Location	Target date	Completion date	Mitigation Measures/ Actions
3	Contractor Mobilization	Air Quality	Pakistan NEQS, IFC Environmental, Health, and Safety	Sambu / ESOHS Officer	Semi annual for 1st year of Excavation/ Construction. Annual for next two years	Power house	June 30, 2010 Dec 30, 2010. Sep. 20, 2012	May 7, 2010 Feb 1, 2011 Jun, 15, 2012	Fugitive dust emission are minimized by spraying water on soil, where required and appropriate. Vehicular traffic through the communities is avoided as far as possible. Vehicle speeds to be kept low. Air quality has been monitored thrice since the commencement of project and results found within the limits of PAK NEQS, WHO and IFC standards.
		Noise	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semi annual for 1st year of Excavation/ Construction Annual for next two years	Power house Lehri Village Chichian Village Afzal Pur Village	June 30, 2010 Dec 30, 2010. July 31, 2011 June.2012	May 7, 2010 Feb 1, 2011 Aug 25, 2011 Jun 15, 2012	Vehicles have exhaust mufflers (silencers) to minimize noise generation. Noise monitoring has been conducted Four time since the commencement of the project and results found satisfactory within the limits of Pak NEQS, WHO and IFC standards. Night time traffic is avoided near the communities. Vehicular traffic through the communities is avoided as far as possible. Vehicle speed is under limit and horns are not being used while passing through or near the communities as far as practically possible.
		Safety Hazards	IFC Performance Standards on Social & Environmental Sustainability	Sambu / PM in coordination with ESOHS Officer	Annual	Power house	Dec 30, 2010. Dec 30, 2011. Sep 20, 2012	Sep 2010 Aug 2012	Road signage are fixed at appropriate locations to reduce safety hazard associated with project-related vehicular traffic. A number of safety sessions and traings have been conducted on defensive driving. Project drivers are trained on defensive driving. Further permanat safety signs along with the new public road have also been displayed in the month of Augut 2012.
3	Contractor Mobilization	Community effect	IFC Performance Standards on Social & Environmental Sustainability	Sambu / ESOHS Officer	Annual	Whole Project Site	Through out Project Construction Period	All grievances have been settled	Contractor persons are communicated through tool box talks not to involve in any interaction with the Community. Community Complaint Register is placed on entrance gate of Project Site. This is being checked by Sambu regularly and monthly by Laraib. All complaints registered in the register have been rectified with the consultation of Employer and Effectees. The presence of Community Complaint Register has been communicated by displaying board in front of Project entrance. Community Grievance Committee has been established to deal with community concerns Community Liaison Officer has been appointed by Laraib
4	Excavation and Construction of Headrace Channel	Air Quality	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	1st year of Project activity (2010)	Headrace Channel	Dec 30, 2010. Dec 30, 2011 Jun, 2012	May 7, 2010 Feb 1, 2011 Jun 15, 2012	Fugitive dust emissions are minimized by spraying water on soil, where required and appropriate. Air Quality monitoring has been conducted thrice since the commencement of the project site and test results were found satisfactory within the limits of Pak NEQS, WHO and IFC Standards. Vehicular traffic through the communities are avoided as far as possible. Vehicle speeds is under limit at project stie as well out out side the site.
		Noise	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	1st year of Project activity (2010)	Headrace Channel	Dec 30, 2010.	May 7, 2010 Feb 1, 2011 Aug 25, 2011 Jun 15, 2012	Vehicles have exhaust mufflers (silencers) to minimize noise generation. Noise monitoring has been conducted Four time since the commencement of the project and results found satisfactory within the limits of Pak NEQS, WHO and IFC standards. Night time traffic is avoided near the communities. Vehicular traffic through the communities is avoided as far as possible. Vehicle speed is under limit and horns are not being used while passing through or near the communities as far as practically possible.

SAMBU

ENVIRONMENTAL MANAGEMENT PLAN/ ENVIRONMENTAL SOCIAL ISSUE MANAGEMENT PLAN

Project: NBE Hydro Electric Power Complex

Date: 31-12-2012

Sr No.	Activities	Impacts	Key Performance Indicators (KPIs)	Responsible Party/ Person	Monitoring frequency	Monitoring Location	Target date	Completion date	Mitigation Measures/ Actions
4	Excavation & Construction of head race channel	Surface water Quality	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	1st year of Project activity (2010)	Headrace Channel	Dec 30, 2010. Aug, 2011 Jun, 2012	Sep 2, 2010 Aug 26, 2011 Jun 16, 2012	Vehicles and construction machinery movement very close to the canal/channel banks is minimized, as these may cause water contamination. Management practices have been employed to minimize leakage and spillage of oils, chemicals and fuels to the ground. This is being accomplished by applying regular inspection system of vehicles. Vehicles and equipment are being repaired in the specified location (Workshop) having impervious sheathing/ cement pad to avoid soil and water contamination. Spill containment trays are used, while repairing vehicles outside the Workshop.
		Soil Erosion	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	1st year of Project activity (2010)	Headrace Channel	Through out Project Construction Period	Aug, 2012	Excavated slopes are not left untreated/unattended for long durations. Appropriate slope stabilization measuresa have been taken, All Slopes alontg tailrace are covered with Geo texttile and coble & bolders to minimize the soil erosion and to stable the soil. Vehicle and construction machinery movement very close to the canal/channel banks is minimized, as these may cause soil erosion
		Loss of flora	IFC Performance Standards on Social & Environmental Sustainability	Sambu / PM in coordination with ESOHS Officer		Headrace Channel	Aug, 2012	Aug, 2012	Tree Plantation Plan has been implemented,trees has been planted along tailrace, it has been planted the five times of the trees that has been cut. The land scaping of Power house is in progress and will be finalized in the end of the current year.
		Community effect	IFC Performance Standards on Social & Environmental Sustainability	Sambu / ESOHS Officer	1st year of Project activity (2010)	Headrace Channel	Through out Project Construction Period	All grievances have been settled	Contractor persons are communicated through tool box talks not to involve in any interaction with the Community. Temporary alternate routes have been provided. Community Complaint Register has been placed on entrance gate of Project Site. This is being checked by Sambu regularly and monthly by Laraib. The complaints registered in the register have been rectified already. Community Grievance Committee has been established to deal with community concerns Community Liaison Officer has been appointed by Laraib.
		Safety Hazards	IFC Performance Standards on Social & Environmental Sustainability	Sambu / PM in coordination with ESOHS Officer	Annual	Headrace Channel	Dec 30, 2010. Dec 30, 2011. Sep 20, 2012	Sep 2010 Aug 2012	Road signage are fixed at appropriate locations to reduce safety hazard associated with project-related vehicular traffic. A number of safety sessions and traings have been conducted on defensive driving. Project drivers are trained on defensive driving. Further permanat safety signs along with the new public road have also been displayed in the month of Augut 2012.
5	Excavation and construction of Power house	Air Quality	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semi annual for 1st year of Excavation/ Construction. Annual for next two years	Power house	Dec 30, 2010. Dec 30, 2011 Jun, 2012	May 7, 2010 Feb 1, 2011 Jun 15, 2012	Fugitive dust emissions are minimized by spraying water on soil, where required and appropriate. Air Quality monitoring has been conducted thrice since the commencement of the project site and test results were found satisfactory within the limits of Pak NEQS, WHO and IFC Standards. Vehicular traffic through the communities are avoided as far as possible. Vehicle speeds is under limit at project stie as well out out side the site.

SAMBU

ENVIRONMENTAL MANAGEMENT PLAN/ ENVIRONMENTAL SOCIAL ISSUE MANAGEMENT PLAN

Project: NBE Hydro Electric Power Complex

Date: 31-12-2012

Sr No.	Activities	Impacts	Key Performance Indicators (KPIs)	Responsible Party/ Person	Monitoring frequency	Monitoring Location	Target date	Completion date	Mitigation Measures/ Actions
5	Excavation and construction of Power house	Noise	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semi annual for 1st year of Excavation/ Construction. Annual for next two years	Power house	May 30, 2010 Dec 30, 2010. Dec 30, 2011 June, 2012	May 7, 2010 Feb 1, 2011 Aug 25, 2011 Jun 15, 2012	Vehicles have exhaust mufflers (silencers) to minimize noise generation. Noise monitoring has been conducted Four time since the commencement of the project and results found satisfactory within the limits of Pak NEQS, WHO and IFC standards. Night time traffic is avoided near the communities. Vehicular traffic through the communities is avoided as far as possible. Vehicle speed is under limit and horns are not being used while passing through or near the communities as far as practically possible.
		Soil Erosion	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semi annual for 1st year of Excavation/ Construction. Annual for next two years	Power house	Through out Project Construction Period	Aug, 2012	Excavated slopes are not left untreated/unattended for long durations. Appropriate slope stabilization measuresa have been taken, All Slopes alontg tailrace are covered with Geo texttile and coble & bolders to minimize the soil erosion and to stable the soil. Vehicle and construction machinery movement very close to the canal/channel banks is minimized, as these may cause soil erosion
		Loss of flora	IFC Performance Standards on Social & Environmental Sustainability	Sambu / PM in coordination with ESOHS Officer		Power house	as per project activity	Aug-12	Tree Plantation Plan has been implemented,trees has been planted along tailrace, it has been planted the five times of the trees that has been cut. The land scaping of Power house is in progress and will be finalized in the end of the current year.
		Safety Hazards	IFC Performance Standards on Social & Environmental Sustainability	Sambu / PM	Annual	Power house	Dec 30, 2010. Dec 30, 2011. Sep 20, 2012	Sep 2010	Teporary Protective fencing was installed in Sep 2010 where as permannt raod fencinig has been installed in Aug 2012.
		Community effect	IFC Performance Standards on Social & Environmental Sustainability	Sambu / PM	----	Power house	-----	------	------
		Air Quality	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / PM in coordination with ESOHS Officer	Semi annual for 1st year of Excavation/ Construction Annual for next two years	Tailrace Channel	June 30, 2010 Dec 30, 2010. Jun, 2012	May 7, 2010 Feb 1, 2011 Jun, 15, 2012	Fugitive dust emission are minimized by spraying water on soil, where required and appropriate. Vehicular traffic through the communities is avoided as far as possible. Vehicle speeds to be kept low. Air quality has been monitored thrice since the commencement of project and results found within the limits of PAK NEQS, WHO and IFC standards.
		Noise	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semi annual for 1st year of Excavation/ Construction. Annual for next two years	Tailrace Channel	May 30, 2010 Dec 30, 2010. Dec 30, 2011 June, 2012	May 7, 2010 Feb 1, 2011 Aug 25, 2011 Jun 15, 2012	Vehicles have exhaust mufflers (silencers) to minimize noise generation. Noise monitoring has been conducted Four time since the commencement of the project and results found satisfactory within the limits of Pak NEQS, WHO and IFC standards. Night time traffic is avoided near the communities. Vehicular traffic through the communities is avoided as far as possible. Vehicle speed is under limit and horns are not being used while passing through or near the communities as far as practically possible.

SAMBU

ENVIRONMENTAL MANAGEMENT PLAN/ ENVIRONMENTAL SOCIAL ISSUE MANAGEMENT PLAN

Project: NBE Hydro Electric Power Complex

Date: 31-12-2012

Sr No.	Activities	Impacts	Key Performance Indicators (KPIs)	Responsible Party/ Person	Monitoring frequency	Monitoring Location	Target date	Completion date	Mitigation Measures/ Actions
5	Excavation and construction of Power house	Surface water Quality	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semi annual for 1st year of Excavation/ Construction. Annual for next two years	Tailrace Channel	Jun 30, 2010 July , 2011 Jun, 2012	Se 2, 2010 Aug 25, 2011 Jun 16, 2012	Vehicles and construction machinery movement very close to the canal/channel banks are minimized, as these may cause water contamination. Management practices have been mployed to minimize leakage and spillage of oils, chemicals and fuels to the ground. Thisis accomplished by applying regular inspection system of vehicles. Vehicles and equipment are repaired in the specified location (Workshop) having impervious sheathing/ cement pad to avoid soil and water contamination. If repairing is unavoidable in open field, then impervious sheathing is always used.
		Soil Erosion	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Entire Project Period	Tailrace Channel	Through out Project Construction Period	Aug, 2012	Excavated slopes are not left untreated/unattended for long durations. Appropriate slope stabilization measuresa have been taken, All Slopes alontg tailrace are covered with Geo texttile and coble & bolders to minimize the soil erosion and to stable the soil. Vehicle and construction machinery movement very close to the canal/channel banks is minimized, as these may cause soil erosion
		Solid Waste		Sambu/ PM	1st year of Excavation Activity	Tailrace Area	As per Project Excavation schedule	Event based	Trees cut down have been taken up by relevant Government Department, where as spoile soil is used as the filling for protection dyke along tail race.
		Solid Waste	Revised IEE, Pak Solid Waste Mang. System, IFC Env, Health, & Safety Gen. Guidelines	Sambu/ PM	1st year of Excavation Activity	Tailrace Area	As per Project Excavation schedule	Event based	Recyclable waste is handed over to recycling contractor, where as food waste is haded over to a local contractor to dispose of it at Muncipility approved site.
		Wastewater	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu/ PM in Coordination with ESOHS Officer	Throughout excavation and construction activity	Tailrace area	May 30, 2010 Dec 30, 2011 June , 2012	May 7, 2010 Aug 26, 2012 Jun 16, 2012 Dec 10, 2012	Wate water analysis have been conducted and found within the limit of WHO standards.
		Loss of flora	IFC Environmental, Health, and Safety General Guidelines	Sambu / PM in cordination with ESOHS Officer	Throughout excavation and construction activity	Tailrace Channel	as per project activity	Aug-12	Tree Plantation Plan has been implemented,trees has been planted along tailrace, it has been planted the five times of the trees that has been cut. The land scaping of Power house is in progress and will be finalized in the end of the current year.
		Loss of Aquatic Biota/ Fauna	IFC Performance Standards on Social & Environmental Sustainability	Sambu / ESOHS Officer	Throughout excavation and construction activity	Tailrace Channel		No damage till todate.	The project staff are not allowed to indulge in any hunting or trapping activities. Necessary awareness has been provided to all staff by carrying out various awareness sessions or toolbox talks.
		Community effect	IFC Performance Standards on Social & Environmental Sustainability Revised IEE	Sambu/ PM	Entire Project Period	Tailrace Channel	Through out Project Construction Period	Sep, 2010	Contractor persons are not allowed to involved in any interaction with the Community. Temporary alternate route has been provided. Community Complaint Register has been placed on entrance gate of Project Site. This is being checked by Sambu regularly and monthly by Laraib. Community Grievance Committeehas been established to deal with community concerns Community Liaison Officer has been appointed by Laraib. Footbridge will be provided for crossing over the tailrace area at specified location.

SAMBU

ENVIRONMENTAL MANAGEMENT PLAN/ ENVIRONMENTAL SOCIAL ISSUE MANAGEMENT PLAN

Project: NBE Hydro Electric Power Complex

Date: 31-12-2012

Sr No.	Activities	Impacts	Key Performance Indicators (KPIs)	Responsible Party/ Person	Monitoring frequency	Monitoring Location	Target date	Completion date	Mitigation Measures/ Actions
6	Construction of Camp Establishment and Operation	Soil Erosion / Contamination	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Monthly	Left side of Old Bong Escape	30th of every month till entire Project Period	Sep, 2010	Vehicle and construction machinery movement very close to the canal/channel banks is minimized, as these may cause soil erosion. Management practices are employed to minimize leakage and spillage of oils and fuels to the ground. These includes building containment dikes around fuels/oils/chemical storage, storing these in covered areas, constructing a concrete pad for machinery/ vehicle maintenance areas, inspecting machinery and vehicles for any leakage, and removing contaminated soils for appropriate disposal. Equipment and vehicles are kept in good working condition and properly tuned, in order to minimize the exhaust emissions. Vehicles and equipment are repaired in the specified location (Workshop) having impervious sheathing/ cement pad to avoid soil and water contamination. If repairing is unavoidable in open field, then impervious sheathing is always used.
		Air Quality Deterioration	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semi annual for 1st year of Excavation/ Construction. Annual for next two years	Left side of Old Bong Escape	May 30, 2010 Dec 30, 2010. Dec 30, 2011 June 16, 2012	May 7, 2010 Feb 1, 2011 Jun 15, 2012	Fugitive dust emissions are minimized by spraying water on soil, where required and appropriate. Air Quality monitoring has been conducted thrice since the commencement of the project site and test results were found satisfactory within the limits of Pak NEQS, WHO and IFC Standards. Vehicular traffic through the communities are avoided as far as possible. Vehicle speeds is under limit at project stie as well out out side the site.
		Surface Water Contamination	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semi annual for 1st year of Excavation/ Construction. Annual for next two years	Left side of Old Bong Escape	June 30, 2010 Dec 30, 2010. Dec 30, 2011 Sep. 20, 2012	Sep 2, 2010 Aug 26, 2011 Jun 16, 2012	Septic tanks and soakage pits have been constructed having adequate capacity. Monitoring of sewage wastewater is being conducted twic a year. No Littering Policy has been formulated and executed on Project Site. All employees have been provided awareness/training about No Littering on Project Site. No Littering Policy has been communicated to all employees through HSE Information board.
		Solid Waste	Revised IEE, Pakistan Solid Waste Management System, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer		Left side of Old Bong Escape		Sep, 2010	Covered bins have been provided inside the room of labour and on Project specified location to avoid open dumping of solid waste. Solid Waste Management System has been established and implemented. This includes quantification of the solid waste (paper, food waste etc), segregation of waste, transfer and transportation and disposal. Construction of a burn pit (for combustible waste), barricadation of the waste management area has been done. Handling of recycling waste is done by handing over the recycling waste to recycling contractors or dispose off in a safe manner. Food and camp waste are handed over to a local contractor for proper disposal at Mirpur muncipility designated site. No Littering Policy has been formulated and executed on Project Site. All employees have been provided awareness/training about No Littering on Project Site. No Littering Policy has been communicated to all employees through HSE Information board. Internal Audits/ inspections/walk about are being incorporated.

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ENVIRONMENTAL MANAGEMENT PLAN/ ENVIRONMENTAL SOCIAL ISSUE MANAGEMENT PLAN

Project: NBE Hydro Electric Power Complex

Date: 31-12-2012

Sr No.	Activities	Impacts	Key Performance Indicators (KPIs)	Responsible Party/ Person	Monitoring frequency	Monitoring Location	Target date	Completion date	Mitigation Measures/ Actions
6	Construction Camp Establishment and Operation	Loss of Vegetation	IFC Performance Standards on Social & Environmental Sustainability	Sambu / ESOHS Officer		Left side of Old Bong Escape	As per project activity	Refer to pint 4.	Cutting of trees and other natural vegetation are avoided as far as possible. The construction crew are provided with LPG as cooking (and heating, if required) fuel. Tree Plantation Plan has been established and will be executed on Project Site The planted trees will be at least 5 times the trees cut as part of the construction activities.
		Noise	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semi annual for 1st year of Excavation/ Construction. Annual for next two years	Left side of Old Bong Escape	June 30, 2010 and Dec 30, 2010. July 31, 2011 and Sep. 20, 2012	Noise level of powerhouse has been measured in May 7, 2010 Feb 1, 2011 Aug 25 2011	Generators and vehicles have exhaust mufflers (silencers) to minimize noise generation. Noise monitoring of generators was conducted and test results found within the limits of Pak NEQS, WHO and IFC Standards. Management practices have been employed to avoid noise pollution by generators. This include the construction of generator room (confined body) as practically possible.
		Noise							Noise has been measured at Lehri, Chechian and Ferozabad. And found within the IFC and PAK NEQS limits.
		Safety Hazards	IFC Performance Standards on Social & Environmental Sustainability	Sambu / PM in coordination with ESOHS Officer	Annual	Left side of Old Bong Escape	December 30, 2010 December 30, 2011 September 20, 2012	Sep-10	Protective fencing has been installed around the Camp to avoid any accidents. Moreover permanat railing has been installed across the embankment walls and fencing of the project is almost 90 % completed.
		Gender Issues	IFC Performance Standards on Social & Environmental Sustainability	Sambu / ESOHS Officer	Monthly	Left side of Old Bong Escape	30th of every month till entire Project Period	No issue till 2010 March, 2010	Camp is more than 1,500 feet from the nearest community. Construction crew are instructed to avoid entering the nearby villages and settlements. Training has been conducted on Gender and Cultural Sensitization. Awarenesses are being created among all employees in form of toolbox talks, by HSE bulletin.
		Soil Erosion / Contamination	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Monthly	Left side of New Bong Escape	30th of every month till entire Project Period	Sep-10	Vehicle and construction machinery movement very close to the canal/channel banks minimized, as these may cause soil erosion. Management practices are employed to minimize leakage and spillage of oils,
		Air Quality Deterioration	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Monthly	Left side of New Bong Escape	June 30, 2010 Dec 30, 2010. Sep. 20, 2012	Powerhouse air quality has been measured on May 7, 2010 feb 1, 2011	Fugitive dust emissions are minimized by spraying water on soil, where required and appropriate. Vehicles are properly tuned to minimize air pollution. Vehicles smoke tests were conducted in the current year and test results found within the limits of Pak NEQS, WHO and IFC standards. Vehicles are inspected on regular basis.

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ENVIRONMENTAL MANAGEMENT PLAN/ ENVIRONMENTAL SOCIAL ISSUE MANAGEMENT PLAN

Project: NBE Hydro Electric Power Complex

Date: 31-12-2012

Sr No.	Activities	Impacts	Key Performance Indicators (KPIs)	Responsible Party/ Person	Monitoring frequency	Monitoring Location	Target date	Completion date	Mitigation Measures/ Actions
6	Construction of Residential Colony	Surface Water Contamination	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semi annual for 1st year of Excavation/ Construction. 2) Annual for next two years	Left side of New Bong Escape		Sewage water is regularly monitored May 7, 2010 Aug 25, 2011 Jun 16, 2012	Septic tanks and soakage pits have been constructed having adequate capacity. Monitoring of sewage wastewater has done twice since the commencement of the project & test results found satisfactory within the limits of Pak NEQS, WHO and IFC standards. No Littering Policy has beenformulated and executed on Project Site. All employees have been provided awareness/training about No Littering on Project Site. No Littering Policy has been communicated to all employees through HSE Information board.
		Solid Waste	Revised IEE, Pakistan Solid Waste Management System, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Monthly	Left side of New Bong Escape		Sep 2010 July 2011	Covered bins have been provided inside the room of labour and on Project specified location to avoid open dumping of solid waste. Solid Waste Management System has been established and implemented. This includes quantification of the solid waste (paper, food waste etc), segregation of waste, transfer and transportation and disposal. Food waste and paper waste etc has been quantified and the total waste generated for the month of September & October is 780 Kg. barricadation of the waste management area will be done. Provision of adequate safety sings on identified Compost location. Handling of recycling waste is done by handing over the recycling waste to recycling contractors or dispose off in a safe manner.
		Solid Waste	Revised IEE, Pakistan Solid Waste Management System, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Monthly	Left side of New Bong Escape		Sep 2010 July 2011	No Littering Policy has been formulated and executed on Project Site. All employees have been provided awareness/training about No Littering on Project Site. No Littering Policy has been ommunicated to all employees through HSE Information board. Food waste and paper waste etc has been quantified and the total waste generated for the month of September & October is 780 Kg. Internal Audits/ inspections/walk about have been conducted for the camp area and cooking areas and no major observation has been raised.
			IFC Performance Standards on Social & Environmental Sustainability	Sambu / PM in coordination with ESOHS Officer		Left side of New Bong Escape	As per project activity	Refer to point 4	Cutting of trees and other natural vegetation is avoided as far as possible. Tree Plantation Plan has been established and will be executed on Project Site. The planted trees will be at Least five times the tree cut during Construction period
		Noise	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semi annual for 1st year of Excavation/ Construction. Annual for next two years	Left side of New Bong Escape	May 30, 2010 Dec 30, 2010. Dec 30, 2011 June, 2012	May 7, 2010 Feb 1, 2011 Aug 25, 2011 Jun 15, 2012	Vehicles have exhaust mufflers (silencers) to minimize noise generation. Noise monitoring has been conducted Four time since the commencement of the project and results found satisfactory within the limits of Pak NEQS, WHO and IFC standards. Night time traffic is avoided near the communities. Vehicular traffic through the communities is avoided as far as possible. Vehicle speed is under limit and horns are not being used while passing through or near the communities as far as practically possible.

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ENVIRONMENTAL MANAGEMENT PLAN/ ENVIRONMENTAL SOCIAL ISSUE MANAGEMENT PLAN

Project: NBE Hydro Electric Power Complex

Date: 31-12-2012

Sr No.	*Activities*	*Impacts*	*Key Performance Indicators (KPIs)*	*Responsible Party/ Person*	*Monitoring frequency*	*Monitoring Location*	*Target date*	*Completion date*	*Mitigation Measures/ Actions*
7	Excavation and Construction of Subsidiary Outfall	Damage to Infrastructure	IFC Performance Standards on Social & Environmental Sustainability	Sambu / PM	Annual	Left side of New Bong Escape	Dec 30, 2010. Dec 30, 2011. Sep 20, 2012	No damage till to day	Damaged infrastructure will be restored to original or better condition.
		Soil Erosion / Contamination	IFC Performance Standards on Social & Environmental Sustainability	Sambu / ESOHS Officer	Monthly	Project Area	Thoughout the project construction activitie	Monthly done	Vehicle and construction machinery movement very close to the canal/channel banks are minimized, as these may cause soil erosion. Management practices are employed to minimize leakage and spillage of oils, chemicals and fuels to the ground. These includes building containment dikes around fuels/oils/chemical storage, storing these in covered areas, constructing a concrete pad for machinery/ vehicle maintenance areas, inspecting machinery and vehicles for any leakage, and removing contaminated soils for appropriate disposal. Equipment and vehicles are kept in good working condition and properly tunned, in order to minimize the exhaust emissions. Vehicles and equipment are repaired in the specified location (Workshop) having impervious sheathing/ cement pad to avoid soil and water contamination.
		Air Quality Deterioration	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semiannual for 1st year of Excavation/ Construction. Annual for next two years	Project Area	June 30, 2010 Dec 30, 2010. Sep. 20, 2012	May 7, 2010 Feb 1, 2011 Jun, 15, 2012	Fugitive dust emission are minimized by spraying water on soil, where required and appropriate. Vehicular traffic through the communities is avoided as far as possible. Vehicle speeds to be kept low. Air quality has been monitored thrice since the commencement of project and results found within the limits of PAK NEQS, WHO and IFC standards.
		Surface Water Contamination	Pakistan NEQS, IFC Environmental, Health, and Safety General Guidelines	Sambu / ESOHS Officer	Semiannual for 1st year of Excavation/ Construction. Annual for next two years	Project Area	June 30, 2010 Dec 30, 2010. July 31, 2011 Jun, 2012	Tailrace water has been analysed for turbidity in Sep 2, 2010 & Aug 26,2011 & Jun 16, 2012	Septic tanks and soakage pits have been constructed having adequate capacity. Monitoring of sewage wastewater has been done in the month of June, 2012 and found satisfactory. No Littering Policy has been formulated and will be executed on Project Site. All employees have been provided awareness/training about No Littering on Project Site. No Littering Policy has been communicated to all employees through HSE Information board.

Exhibit 08 – Incident Categorization

(Please see the next page)

Revised Categorization of Incidents

Introduction:

Accidents and incidents can have varying degrees of severity and reporting requirements. This document provides an overview to the categorization of accidents and incidents that might be encountered on the New Bong Escape Project.

1. **Accident:** is defined as an unplanned event that results in unintended harm or damage.

2. **Incident:** is an unplanned event which has the potential to result in unintended harm or damage.

Following Categorizes apply for accidents:

1.1. Fatality

An occurrence of death by accident.

1.2. Major Injury

An injury of a serious nature that:

- Places life in jeopardy.
- Results in substantial loss of blood.
- Involves the fracture of a leg or arm but not a finger or toe.
- Dislocation of shoulder, hip, knee or spine.
- Consists of burns to a major portion of the body.
- Causes the loss of sight (temporary or permanent).
- Chemical or hot metal burns to eye, or penetrating injury to eye.
- Injury resulting from electric shock or electrical burn, leading to unconsciousness or requiring resuscitation or admittance to hospital for more than 24 hours.
- Any other injury leading to hypothermia, heat-induced illness, or unconsciousness, or requiring resuscitation, or requiring admittance to hospital for more than 24 hours; or
- Acute illness requiring medical treatment, or loss of consciousness, arising from absorption of any substance by inhalation, ingestion or through the skin, or exposure to a biological agent or its toxins or infected material; and unconsciousness caused by asphyxia or exposure to a harmful substance or biological agent.

1.3. Lost Time Injury

A lost time injury (LTI) occurs when a person is injured in the execution of his/her duties and as a result of this injury is unable to perform his/her regular duty for one full shift or more on the day following day which the injury was incurred.

Revised Categorization of Incidents

1.4. Minor Injury

Means an injury or illness that only causes discomfort or short-term pain, has no lasting effect, has no foreseeable potential to worsen, and was caused by trivial causes. Typical examples include paper cuts, small burns, bruises and minor scratches etc.

1.5. Medical Aid

- Refers to any injury not severe enough to warrant more than the day of lost time but where medical treatment by a doctor is given like administration of Oxygen etc.

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1.6. First Aid

Refers only to injuries that can be treated on the job without any days lost, the following injuries and illnesses describes the first aid cases

- Cleaning, flushing or soaking wounds on skin surface
- Use of wound covering such as bandages, gauze pads, etc.
- Use of non prescription medications including antiseptics
- Visit to health care limited to observation
- Removal of foreign bodies not embedded in the eye if only irrigation or removal with a cotton swab is required.
- Removal of splinters of foreign material from areas other than the eyes by irrigation, tweezers, cotton swabs or other simple means.

1.7. Occupational Illness

It is defined as a condition resulting from a worker's exposure to chemical, biological or physical agents or ergonomics in the workplace to the extent that the health of the worker is impaired. All kinds of agents are as following.

- **Biological agents** include such organisms as bacteria, viruses, fungus, parasites, spores and moulds.

- **Chemical agents** can include such things as battery acid, solvents, and pesticides.

- **Physical agents** include various forms of energy that may harm a worker, for example, heat, cold, light, vibration, noise and radiation.

- **Ergonomic hazards** are associated with work such as lifting or moving of heavy objects and tasks where there is excessive repetitive motion.

Exhibit 09 – Summary of Complaints

(Please see the next page)

CSR & Complaint Record						
Complaint No.	**Complaint Date**	**Complainer Name**	**Complainer Area**	**Complaint Detail**	**LEL Remarks/Action Taken**	**Status**
1	19-Aug-12	Abdul Hameed	Dhab Mari	Instalation of Hand Pump in home because existing borehole has almost dry due to company activity.	Action to be taken after varification of the complaint.	Pending
2	26-Jun-12	Ch. Zafar Iqbal	Bela Mari	Filling of low lying areas on left bank of the Tailrace.	2 joint visit (Hasnain sb,Panni sb,Javed Sb and Aurangzeb) have been conducted for solution of this issue.This issue is under dicussion and all parties are aggree on engineering solution.	Under Consideration
2	19-Aug-11	Raja Muhammad Yunas	Dhab Mari	Requirment of grader for level the land of Darbar	This darbar is almost 4.5 KM RD at tailrace as well as this is a demand not complaint.company has already installed a tubewell at the same darbar.	Close
3	20-Oct-11	Syed Mustafa Haider	Feroz abad Lehri	Exiting well has been dry due to company activity. complainer demands for new bore hole.	Action to be taken after varification of the complaint.	Pending
4	14-Jun-11, 19-Aug-11	Raja Muhammad Yunas	Dhab Mari	Requirment of new bore hole and instalation of hand pump for Darbar/Janaza Gah because existing borehole has been dry due to company activity	Action has been taken on 20-Oct-12 (Digging of New borehole and instalation of new hand pump)	Close
5	8-Sep-11	Ahliyan-e-Chechyan	Chechyan (Afzal pur)	The existing way of canal crossing has been block due to company activity people of chechyan facing many problems. Provide the alternate way or open the existing way.	Temporary ramps were provided at both side of canal for the said period However Construction of permanent access bridge is in progress.	In-progress

6	23-Apr-11	Syed Abu Talib Kazmi	Bang	Exiting well has been dry due to company activity. complainer demands for new tubewell.	Action has been taken. Digging the borehole in desired location of affectee.	Close
7	8-Sep-11	Ghulam Muhammad	Bang	Exiting well has been dry due to company activity. complainer demands for new tubewell.	This problem not creates due to company activity.	Close
8	12-May-11	Wajid Hussain	Sonkian	He complaint that his well has been dry due to company activity and claim Rs. 200,000 as compensation of well.	This problem not creates due to company activity.	Close
9	25-Mar-11	Ch. Abrar Arvi	Sonkian	He complaint that his well has been dry due to company activity and claim Rs. 250,000 as compensation of well.	This problem not creates due to company activity.	Close
10	12-May-11	Muhammad Ramzan	Sonkian	He complaint that his well has been dry due to company activity and claim Rs. 200,000 as compensation of well.	This problem not creates due to company activity.	Close
11	22-July-10, 24-Nov-10,	Ahliyan-e-Lehri	Lehri	Seeking Employemant for the locals.	Company and contractor had employed more then 40 % jobs to local man power.	Close
12	13-Sep-11	M. Fiaz	Mera Distt Jehlam	complainer is a boatman and he complait that he become jobles due to company activity and also he demands Rs. 200,000 as a compensation of his Boat.	The Contractor offered employment as a cook helper on september 1,2010 but he refused Moreover as compensation a cheque of Rs.200,00 has been handed over on sep 1,2010 by Javed Abbasi.	Close
13	15-Feb-11	Ahliyan-e-Feroz abad	Feroz abad Lehri		6 tubewell have been installed at different location as per locals instruction.	Close

14	9-Oct-11	Ahliyan-e-Lehri chodhrian	Lehri	He complait that erosion dike of lehri chodhrian please repair the dike.	Action to be taken after varification of the complaint.	Close
15	Not provided	M. Yasin M. Iyasin Dilshad Raja.Gul Nawaz	Feroz abad Lehri	Exiting well has been dry due to company activity. complainer demands for new bore hole.	Action has been taken. Digging the borehole in desired location of affectee.	Close
16	Not provided	Hakim Din	Dhab	Way of water flow have been block due to company activity and planty of water block in rainy season.provide a proper way for water flow.	This is a janion Issueand under discussion.2 joint visit (Hasnain sb,Panni sb,Javed Sb and Aurangzeb) have been conducted for solution of this issue.This isssue is underdission.	Pending
17	Not provided	Muhammad Younas	Dhab Mari	Construction of Dispensary ,Mosque and washroom near Darbar .	These are not include in our CSR plan.	Close

Exhibit 10 – Key performance indicators

(Please see the next page)

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ESOHS Key Performance Indicator Report

Project:NBE Hydro Electric Power Complex From 01/10/12 to 31/10/12

SR. NO	Key Performance Indicator (KPI)	Frequency/ Applicable Standard	Target	Status
1	No of LTI	Monthly	0	0
2	No of hours without LTI	Monthly		Total= 5536730
3	Number of incidents at site including fatilities/ major/ minor/ first aid/near misses/ property damages etc.	Monthly	Major =0	Major Injuries= 0
				Minor Injuries = 02
				Occupational illness = 11
				First Aid= 1
				Property damage=0
				Nearmisses=2
				UA/UC=10
4	Investigation of incidents irrespective of their level of severity	Monthly	As & when	0
5	Number of Last work days in case of LTI	Monthly	0	0
6	Air emission	Annual/ NEQS and IFC Standards	NEQS	Compliance
7	Noise Analysis	Annual/ NEQS and IFC Standards		Compliance
8	Water Analysis	Semi Annual/ NEQS and IFC Standards		Compliance
9	Achievement of HSE Objectives	Quarterly	No 1= 100 %	It will be Reported in Dec MPR
			No 2= 100 %	
10	Risk Assessments	Monthly	2	4
11	Inspection	Weekly	4	4
		Fortnightly	2	2
		Monthly	5	5
12	Evacuation Drills	Monthly	2	2
13	Trainings	Monthly	1	3
14	ESOHS Update	Alternate Month	0	0
15	ESOHS Monthly Meeting	Monthly	1	1

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ESOHS Key Performance Indicator Report

Project:NBE Hydro Electric Power Complex From 01/11/12 to 30/11/12

SR. NO	Key Performance Indicator (KPI)	Frequency/ Applicable Standard	Target	Status
1	No of LTI	Monthly	0	1
2	No of hours without LTI	Monthly		Total= 221425
3	Number of incidents at site including fatilities/ major/ minor/ first aid/near misses/ property damages etc.	Monthly	Major =0	Non Work related injury= 1
				Minor Injuries = 04
				Occupational illness = 10
				First Aid= 2
				Property damage=0
				Nearmisses=2
				UA/UC=10
4	Investigation of incidents irrespective of their level of severity	Monthly	As & when	1
5	Number of Lost work days in case of LTI		6	Normal
6	Air emission	Annual/ NEQS and IFC Standards	NEQS	Compliance
7	Noise Analysis	Annual/ NEQS and IFC Standards		Compliance
8	Water Analysis	Semi Annual/ NEQS and IFC Standards		Compliance
9	Achievement of HSE Objectives	Quarterly	No 1= 100 %	It will be Reported in Dec MPR
			No 2= 100 %	
10	Risk Assessments	Monthly	2	3
11	Inspection	Weekly	4	4
		Fortnightly	1	1
		Monthly	5	5
12	Evacuation Drills	Monthly	2	2
13	Trainings	Monthly	1	3
14	ESOHS Update	Alternate Month	0	0
15	ESOHS Monthly Meeting	Monthly	1	1

SAMBU

ESOHS Key Performance Indicator Report

Project:NBE Hydro Electric Power Complex From 01/12/12 to 31/12/12

SR. NO	Key Performance Indicator (KPI)	Frequency/ Applicable Standard	Target	Status
1	No of LTI	Monthly	0	0
2	No of hours without LTI	Monthly		Total= 422340
3	Number of incidents at site including fatilities/ major/ minor/ first aid/near misses/ property damages etc.	Monthly	Major =0	Major Injuries= 0
				Minor Injuries = 05
				Occupational illness = 10
				First Aid= 2
				Property damage=0
				Nearmisses=2
				UA/UC=11
4	Investigation of incidents irrespective of their level of severity	Monthly	As & when	1
5	Number of Last work days in case of LTI	Monthly	0	0
6	Air emission	Annual/ NEQS and IFC Standards	NEQS	Compliance
7	Noise Analysis	Annual/ NEQS and IFC Standards		Compliance
8	Water Analysis	Semi Annual/ NEQS and IFC Standards		Compliance
9	Achievement of HSE Objectives	Quarterly	No 1= 100 %	100%
			No 2= 100 %	
10	Risk Assessments	Monthly	2	3
11	Inspection	Weekly	4	4
		Fortnightly	1	1
		Monthly	5	5
12	Evacuation Drills	Monthly	2	2
13	Trainings	Monthly	1	2
14	ESOHS Update	Alternate Month	1	1
15	ESOHS Monthly Meeting	Monthly	1	1

Exhibit 11 – Annual management plan

(Please see the next page)

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Annual Management Plan Performance 2012

Environmental, Social, Occupational, Health and safety

	Well on Track
	Partially done
	Not done

Project: NBE Hydro Electric Power Complex

Date: 26/10/12

Sr. No	Activities	Performance Parameters	Monthly Progress Update & Timelines												Responsibility	Traffic Light
			Target Yearly	Jan	Feb	Mar	Apr	May	Jun	Ju	Aug	Sep	Oct	Nov	Dec		
1	Contractor's ESOHS Committee	To establish fix agenda for ESOHS Committee meeting.	1	1												ESOHS Officer	
		o conduct meeting every month & issue minutes do follow up with relevant people.	12	1	1	1	1	1	1	1	1	1	1	1	1		
2	Contractor's Monthly ESOHS Reports	Format attached as Appendix 1	12	1	1	1	1	1	1	1	1	1	1	1	1	ESOHS Officer	
		Reporting time line to Laraib is 7th of every month.															
3	ESOHS Key performance indicators (KPIs)	To Develop & report KPI's monthly on every 5th of current month.	12	1	1	1	1	1	1	1	1	1	1	1	1	ESOHS Officer	
		Report to LEL															
4	ESOHS Local Legislative Requirements Relevant Environmental Permits or Compliance Certificates	IEE/EIA. (ESMP) Action plan monitoring for EMP implementation.	2							1					1	ESOHS Officer	
		EPA-AJK monitoring reports															
5	H&S Risk Assessment Environmental, Chemical & Machinery Risk Assessment	As per schedule twice a month or any activity under taken will be carted for.	24	2	2	2	2	2	2	2	2	2	2	2	2	ESOHS Officer	
6	Environnemental Sampling (Air, Water, noise, Light, Ambient Air Quality)	Sampling planning for environmental parameters to be done twice for the first year and then once annually.	2						1						1	ESOHS Officer	
		Analysis for Air Pollution	1						1								

SAMBU

Annual Management Plan Performance 2012

Environmental, Social, Occupational, Health and safety

	Well on Track
	Partially done
	Not done

Project: NBE Hydro Electric Power Complex

Date: 26/10/12

Sr. No	Activities	Performance Parameters	Monthly Progress Update & Timelines												Responsibility	Traffic Light
			Target Yearly	Jan	Feb	Mar	Apr	May	Jun	Ju	Aug	Sep	Oct	Nov	Dec		
6	Environnemental Sampling (Air, Water, noise, Light, Ambient Air Quality)	Analysis for the Waste water	2						1						1	ESOHS Officer	
		Analysis for the drinking water	2						1						1		
		Analysis for the noise	1						1								
		Certified lab to conduct sampling & do testing.	As & when														
7	Environmental, Health & Safety Targets and Objectives Progress	ESOHS to prepare Environmental, Health and Safety targets and objectives.	4			1			1			1			1	ESOHS Officer	
		To record quarterly progress.															
8	Occupational Health	To conduct lab Examination of Food handlers	1						1							Medical Officer /	
		To review medical examination / tests annually conducted and recorded by the Contractor.	As & when														
		Review ill health cases by appointed Doctor of the Contractor.														ESOHS Officer	
		To do investigation of the above cases.															
		To implement developed SOP & Plan to conduct general health surveillance & lab examination of food handlers annually.	1						1								

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Annual Management Plan Performance 2012

Environmental, Social, Occupational, Health and safety

	Well on Track
	Partially done
	Not done

Project: NBE Hydro Electric Power Complex

Date: 26/10/12

Sr. No	Activities	Performance Parameters	Monthly Progress Update & Timelines												Responsibility	Traffic Light
			Target Yearly	Jan	Feb	Mar	Apr	May	Jun	Ju	Aug	Sep	Oct	Nov	Dec		
9	Reporting and Investigation of ESOHS Adverse Events Violations or Non-Compliance	If any investigation & reporting should be done & progress to ESOHS Committee	As & when													ESOHS Officer	
		Records to be maintained															
10	Safety Training (No. of training/Month)	Needs assessment	1													ESOHS Officer	
		One Trainings monthly as per ESOHS training schedule 2012	12	1	1	1	1	1	1	1	1	1	1	1	1		
11	ESOHS Updates/Alert Issued	Every alternate month to be issued & displayed at site & in head office.	6		1		1		1		1		1		1	ESOHS Officer	
		Action plan on recommendation to be filled by the concerned departments.															
		ESOHS to do follow up															
12	Fire Evacuation Drill	To participate in drills	10			1	1	1	1	1	1	1	1	1	1	ESOHS Officer	
13	Fire Safety & equipment checking and reporting	To check fire safety equipment and Fire Safety Plan every year, formulated by the Contractor.	12	1	1	1	1	1	1	1	1	1	1	1	1	ESOHS Officer	
14	ESOHS External Audit	External audit will be conducted by Lenders quarterly	4			1			1			1			1	ESOHS Officer	
		External audit will be conducted by AJK EPA surpris	As & when														

SAMBU

Annual Management Plan Performance 2012

Environmental, Social, Occupational, Health and safety

	Well on Track
	Partially done
	Not done

Project: NBE Hydro Electric Power Complex

Date: 26/10/12

Sr. No	Activities	Performance Parameters	Monthly Progress Update & Timelines												Responsibility	Traffic Light
			Target Yearly	Jan	Feb	Mar	Apr	May	Jun	Ju	Aug	Sep	Oct	Nov	Dec		
14	ESOHS External Audit	They will provide recommendations on observations found in Audit To conduct follow up of their recommendations and implement	4			1			1			1			1	ESOHS Officer	
15	ESOHS Internal Audit	To conducted Audit for ESOHS standards by Aug '2012.	1								1					ESOHS Officer	
		Action planning against identified gaps by Sep, 2012.										1					
		Execution of actions planned for the year by Sep, 2012.										1					
16	Quarterly ESOHS Trend Charts	To report Accidents, Near misses, UA/UC and First aid trends on Quarterly basis	4			1			1			1			1	ESOHS Officer	
17	ESOHS CAP	Total number of Observations	As required													ESOHS Officer	
18	Inspections	Three inspection at least in a month	36	3	3	3	3	3	3	3	3	3	3	3	3	ESOHS Officer	

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Annual Management Plan Performance 2012

Environmental, Social, Occupational, Health and safety

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Project: NBE Hydro Electric Power Complex

Date: 27/11/12

Sr. No	Activities	Performance Parameters	Monthly Progress Update & Timelines												Responsibility	Traffic Light
			Target Yearly	Jan	Feb	Mar	Apr	May	Jun	Ju	Aug	Sep	Oct	Nov	Dec		
1	Contractor's ESOHS Committee	To establish fix agenda for ESOHS Committee meeting.	1	1												ESOHS Officer	
		o conduct meeting every month & issue minutes do follow up with relevant people.	12	1	1	1	1	1	1	1	1	1	1	1	1		
2	Contractor's Monthly ESOHS Reports	Format attached as Appendix 1	12	1	1	1	1	1	1	1	1	1	1	1	1	ESOHS Officer	
		Reporting time line to Laraib is 7th of every month.															
3	ESOHS Key performance indicators (KPIs)	To Develop & report KPI's monthly on every 5th of current month.	12	1	1	1	1	1	1	1	1	1	1	1	1	ESOHS Officer	
		Report to LEL															
4	ESOHS Local Legislative Requirements Relevant Environmental Permits or Compliance Certificates	IEE/EIA. (ESMP) Action plan monitoring for EMP implementation.	2							1					1	ESOHS Officer	
		EPA-AJK monitoring reports															
5	H&S Risk Assessment Environmental, Chemical & Machinery Risk Assessment	As per schedule twice a month or any activity under taken will be carted for.	24	2	2	2	2	2	2	2	2	2	2	2	2	ESOHS Officer	
6	Environnemental Sampling (Air, Water, noise, Light, Ambient Air Quality)	Sampling planning for environmental parameters to be done twice for the first year and then once annually.	2						1						1	ESOHS Officer	
		Analysis for Air Pollution	1						1								

SAMBU

Annual Management Plan Performance 2012

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Project: NBE Hydro Electric Power Complex

Date: 27/11/12

Sr. No	Activities	Performance Parameters	Monthly Progress Update & Timelines												Responsibility	Traffic Light
			Target Yearly	Jan	Feb	Mar	Apr	May	Jun	Ju	Aug	Sep	Oct	Nov	Dec		
6	Environnemental Sampling (Air, Water, noise, Light, Ambient Air Quality)	Analysis for the Waste water	2						1						1	ESOHS Officer	
		Analysis for the drinking water	2						1						1		
		Analysis for the noise	1						1								
		Certified lab to conduct sampling & do testing.	As & when														
7	Environmental, Health & Safety Targets and Objectives Progress	ESOHS to prepare Environmental, Health and Safety targets and objectives.	4			1			1			1			1	ESOHS Officer	
		To record quarterly progress.															
8	Occupational Health	To conduct lab Examination of Food handlers	1						1							Medical Officer /	
		To review medical examination / tests annually conducted and recorded by the Contractor.	As & when														
		Review ill health cases by appointed Doctor of the Contractor.														ESOHS Officer	
		To do investigation of the above cases.															
		To implement developed SOP & Plan to conduct general health surveillance & lab examination of food handlers annually.	1						1								

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Annual Management Plan Performance 2012

Environmental, Social, Occupational, Health and safety

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	Not done

Project: NBE Hydro Electric Power Complex

Date: 27/11/12

Sr. No	Activities	Performance Parameters	Monthly Progress Update & Timelines												Responsibility	Traffic Light
			Target Yearly	Jan	Feb	Mar	Apr	May	Jun	Ju	Aug	Sep	Oct	Nov	Dec		
9	Reporting and Investigation of ESOHS Adverse Events Violations or Non-Compliance	If any investigation & reporting should be done & progress to ESOHS Committee	As & when													ESOHS Officer	
		Records to be maintained															
10	Safety Training (No. of training/Month)	Needs assessment	1													ESOHS Officer	
		One Trainings monthly as per ESOHS training schedule 2012	12	1	1	1	1	1	1	1	1	1	1	1	1		
11	ESOHS Updates/Alert Issued	Every alternate month to be issued & displayed at site & in head office.	6		1		1		1		1		1		1	ESOHS Officer	
		Action plan on recommendation to be filled by the concerned departments.															
		ESOHS to do follow up															
12	Fire Evacuation Drill	To participate in drills	10			1	1	1	1	1	1	1	1	1	1	ESOHS Officer	
13	Fire Safety & equipment checking and reporting	To check fire safety equipment and Fire Safety Plan every year, formulated by the Contractor.	12	1	1	1	1	1	1	1	1	1	1	1	1	ESOHS Officer	
14	ESOHS External Audit	External audit will be conducted by Lenders quarterly	4			1			1			1			1	ESOHS Officer	
		External audit will be conducted by AJK EPA surpris	As & when														

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Project: NBE Hydro Electric Power Complex

Date: 27/11/12

Sr. No	Activities	Performance Parameters	Monthly Progress Update & Timelines												Responsibility	Traffic Light
			Target Yearly	Jan	Feb	Mar	Apr	May	Jun	Ju	Aug	Sep	Oct	Nov	Dec		
14	ESOHS External Audit	They will provide recommendations on observations found in Audit To conduct follow up of their recommendations and implement	4			1			1			1			1	ESOHS Officer	
15	ESOHS Internal Audit	To conducted Audit for ESOHS standards by Aug '2012.	1								1					ESOHS Officer	
		Action planning against identified gaps by Sep, 2012.										1					
		Execution of actions planned for the year by Sep, 2012.										1					
16	Quarterly ESOHS Trend Charts	To report Accidents, Near misses, UA/UC and First aid trends on Quarterly basis	4			1			1			1			1	ESOHS Officer	
17	ESOHS CAP	Total number of Observations	As required													ESOHS Officer	
18	Inspections	Three inspection at least in a month	36	3	3	3	3	3	3	3	3	3	3	3	3	ESOHS Officer	

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Annual Management Plan Performance 2012

Environmental, Social, Occupational, Health and safety

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	Partially done
	Not done

Project: NBE Hydro Electric Power Complex

Date: 31/12/2012

Sr. No	Activities	Performance Parameters	Monthly Progress Update & Timelines												Responsibility	Traffic Light
			Target Yearly	Jan	Feb	Mar	Apr	May	Jun	Ju	Aug	Sep	Oct	Nov	Dec		
1	Contractor's ESOHS Committee	To establish fix agenda for ESOHS Committee meeting.	1	1												ESOHS Officer	
		o conduct meeting every month & issue minutes do follow up with relevant people.	12	1	1	1	1	1	1	1	1	1	1	1	1		
2	Contractor's Monthly ESOHS Reports	Format attached as Appendix 1	12	1	1	1	1	1	1	1	1	1	1	1	1	ESOHS Officer	
		Reporting time line to Laraib is 7th of every month.															
3	ESOHS Key performance indicators (KPIs)	To Develop & report KPI's monthly on every 5th of current month.	12	1	1	1	1	1	1	1	1	1	1	1	1	ESOHS Officer	
		Report to LEL															
4	ESOHS Local Legislative Requirements Relevant Environmental Permits or Compliance Certificates	IEE/EIA. (ESMP) Action plan monitoring for EMP implementation.	2							1					1	ESOHS Officer	
		EPA-AJK monitoring reports															
5	H&S Risk Assessment Environmental, Chemical & Machinery Risk Assessment	As per schedule twice a month or any activity under taken will be carted for.	24	2	2	2	2	2	2	2	2	2	2	2	2	ESOHS Officer	
6	Environnemental Sampling (Air, Water, noise, Light, Ambient Air Quality)	Sampling planning for environmental parameters to be done twice for the first year and then once annually.	1						1						1	ESOHS Officer	
		Analysis for Air Pollution	1						1								

SAMBU

Annual Management Plan Performance 2012

Environmental, Social, Occupational, Health and safety

	Well on Track
	Partially done
	Not done

Project: NBE Hydro Electric Power Complex

Date: 31/12/2012

Sr. No	Activities	Performance Parameters	Monthly Progress Update & Timelines												Responsibility	Traffic Light
			Target Yearly	Jan	Feb	Mar	Apr	May	Jun	Ju	Aug	Sep	Oct	Nov	Dec		
6	Environnemental Sampling (Air, Water, noise, Light, Ambient Air Quality)	Analysis for the Waste water	2						1						1	ESOHS Officer	
		Analysis for the drinking water	2						1						1		
		Analysis for the noise	1						1								
		Certified lab to conduct sampling & do testing.	As & when														
7	Environmental, Health & Safety Targets and Objectives Progress	ESOHS to prepare Environmental, Health and Safety targets and objectives.	4			1			1			1			1	ESOHS Officer	
		To record quarterly progress.															
8	Occupational Health	To conduct lab Examination of Food handlers	1						1							Medical Officer /	
		To review medical examination / tests annually conducted and recorded by the Contractor.	As & when														
		Review ill health cases by appointed Doctor of the Contractor.														ESOHS Officer	
		To do investigation of the above cases.															
		To implement developed SOP & Plan to conduct general health surveillance & lab examination of food handlers	1						1								

SAMBU

Annual Management Plan Performance 2012

Environmental, Social, Occupational, Health and safety

	Well on Track
	Partially done
	Not done

Project: NBE Hydro Electric Power Complex

Date: 31/12/2012

Sr. No	Activities	Performance Parameters	Monthly Progress Update & Timelines												Responsibility	Traffic Light
			Target Yearly	Jan	Feb	Mar	Apr	May	Jun	Ju	Aug	Sep	Oct	Nov	Dec		
9	Reporting and Investigation of ESOHS Adverse Events Violations or Non-Compliance	If any investigation & reporting should be done & progress to ESOHS Committee	As & when													ESOHS Officer	
		Records to be maintained															
10	Safety Training (No. of training/Month)	Needs assessment	1													ESOHS Officer	
		One Trainings monthly as per ESOHS training schedule 2012	12	1	1	1	1	1	1	1	1	1	1	1	1		
11	ESOHS Updates/Alert Issued	Every alternate month to be issued & displayed at site & in head office.	6		1		1		1		1		1		1	ESOHS Officer	
		Action plan on recommendation to be filled by the concerned departments.															
		ESOHS to do follow up															
12	Fire Evacuation Drill	To participate in drills	10			1	1	1	1	1	1	1	1	1	1	ESOHS Officer	
13	Fire Safety & equipment checking and reporting	To check fire safety equipment and Fire Safety Plan every year, formulated by the Contractor.	12	1	1	1	1	1	1	1	1	1	1	1	1	ESOHS Officer	
14	ESOHS External Audit	External audit will be conducted by	4			1			1			1			1	ESOHS Officer	
		Lenders quarterly															
		External audit will be conducted by EPA AJK surprise.	As & when														

SAMBU

Annual Management Plan Performance 2012

Environmental, Social, Occupational, Health and safety

	Well on Track
	Partially done
	Not done

Project: NBE Hydro Electric Power Complex

Date: 31/12/2012

Sr. No	Activities	Performance Parameters	Monthly Progress Update & Timelines												Responsibility	Traffic Light
			Target Yearly	Jan	Feb	Mar	Apr	May	Jun	Ju	Aug	Sep	Oct	Nov	Dec		
		They will provide recommendations on observations found in Audit	4			1			1			1			1		
		To conduct follow up of their recommendations and implement															
15	ESOHS Internal Audit	To conducted Audit for ESOHS standards by Aug '2012.	1								1					ESOHS Officer	
		Action planning against identified gaps by Sep, 2012.										1					
		Execution of actions planned for the year by Sep, 2012.										1					
16	Quarterly ESOHS Trend Charts	To report Accidents, Near misses, UA/UC and First aid trends on Quarterly basis	4			1			1			1			1	ESOHS Officer	
17	ESOHS CAP	Total number of Observations	As required													ESOHS Officer	
18	Inspections	Three inspection at least in a month	36	3	3	3	3	3	3	3	3	3	3	3	3	ESOHS Officer	

Exhibit 12 – Objectives and targets

(Please see the next page)

MANAGEMENT BY OBJECTIVES (MBOs)

Objectives and Targets

Year: 2012 (Third Quarter)

Location/Department: **NBE Hydro Electric Power Complex**

Sr No.	*Description of Objective*	*Tasks, Strategies, Actions Involved In the Completion of Objectives*	*Responsibility Assigned To*	*Target Time/Period*	*Weightage Assigned (%age)*	Quarterly Monitoring				
						Qtr 1	Qtr 2	Qtr 3	Qtr 4	Total
01	LTI&I should be reduced not to cross the limit of zero (0) accidents per 1 million working hours.	Maintaining high standards for ESOHS awareness, personal discipline and individual accountability by adhering to a comprehensive and documented system of ESOHS;	Mr. Shin Mr. Azam	Jan-Dec	15	3.75	3.75	3.75	3.75	100
		Prepare Annual ESOHS plan & Effective implementation of Annual plan & prepare progress report monthly	Mr. Azam	Jan-Dec	15	3.75	3.75	3.75	3.75	
		Conduct risk assessment & Prepare risk register of project activities. Suggest Controls for significant ESOHS risks	Mr. Azam	Jan, April & Oct	15	3.75	3.75	3.75	3.75	
		Carry out training need assessment & Prepare annual training calendar.	Mr. Azam	Jan	4	4.00	-	-	-	
		Conduct training as per training calendar	Mr. Azam	Jan-Dec	15	3.75	3.75	3.75	3.75	
		Constitute ESOHS Committee and fix Agenda of meeting	Mr. Azam	Jan	5	5.00	-	-	-	
		Hold regular meetings on fix Agenda. Review and comment (if any) from circulated MOM by employer.	Mr. Azam	Jan-Dec	15	3.75	3.75	3.75	3.75	
		Conduct internal Audit/ Inspection to anticipate new HSE NCs or observations as per SOP No. 0019.	Mr. Azam	Jan-Dec	8	2.00	2.00	2.00	2.00	
		Fencing of Key Project area i.e. fencing of main entrance, camp area, fuel station, generators, and DTL workshop	Mr. Shin	Feb	8	8.00	-	-	-	

MANAGEMENT BY OBJECTIVES (MBOs)

Objectives and Targets

Year: 2012 (Third Quarter)

Location/Department: **NBE Hydro Electric Power Complex**

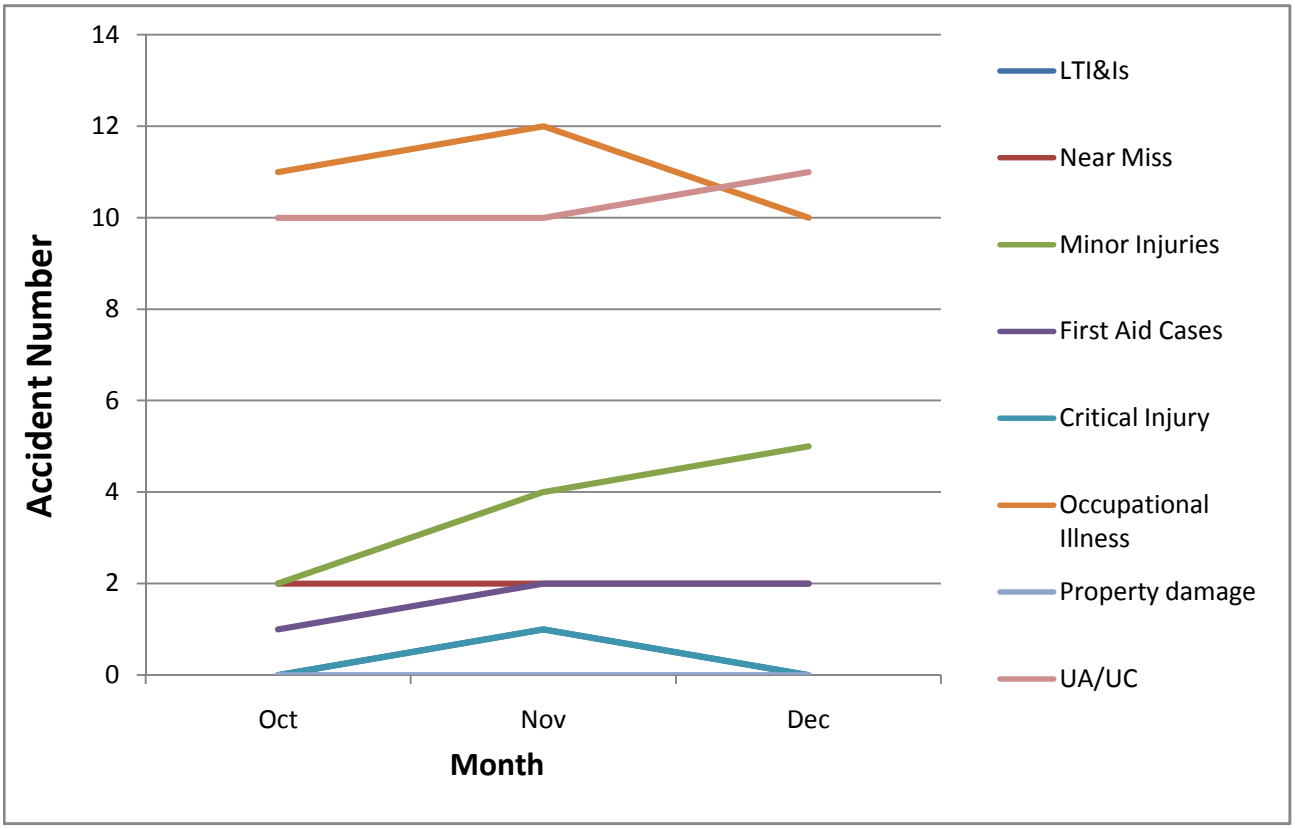
Sr No.	*Description of Objective*	*Tasks, Strategies, Actions Involved In the Completion of Objectives*	*Responsibility Assigned To*	*Target Time/Period*	*Weightage Assigned (%age)*	Quarterly Monitoring				
						Qtr 1	Qtr 2	Qtr 3	Qtr 4	Total
02	Environmental fine to be ZERO per month	Follow IEEreport for environmental management plan & implement the plan & report progress	Mr. Azam	Feb	20	5.00	5.00	5.00	5.00	100
		Prepare & disseminate HSE update /Alerts as per annual plan	Mr. Azam	Mar	10	2.50	2.50	2.50	2.50	
		Conduct monitoring of air, water and noise at site as per revised ESMP	Mr. Shin Mr. Azam	May & December	20	-	10	-	10	
		Prepare and implement solid waste management plan	Mr. Azam	May	20	5.00	5.00	5.00	5.00	
		Prepare and implement oil spill response plan	Mr. Azam	As per Mgt. decision	20	5.00	5.00	5.00	5.00	
		Placing of Community Complaint Register. Regular checking Regular counter check by LEL Ensure all complaints are being addressed.	Mr. Azam	Jan	10	2.50	2.50	2.50	2.50	

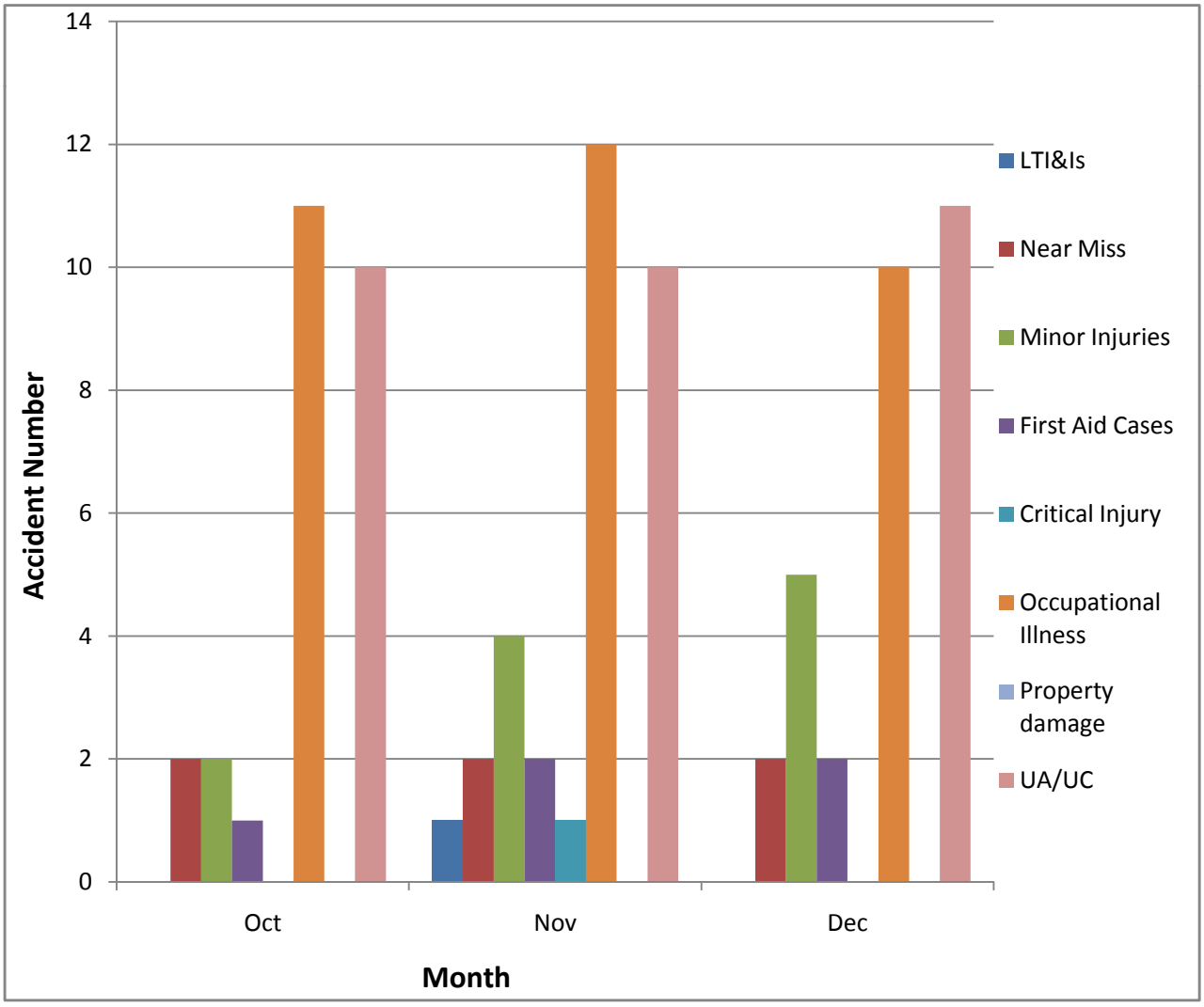
Total Weight age: 200
Total Achieved : 200
Objectives achieved percentage: 100 %

Exhibit 13 – Trend chart analysis

Nov - Dec, 2012 (4th Quarter)

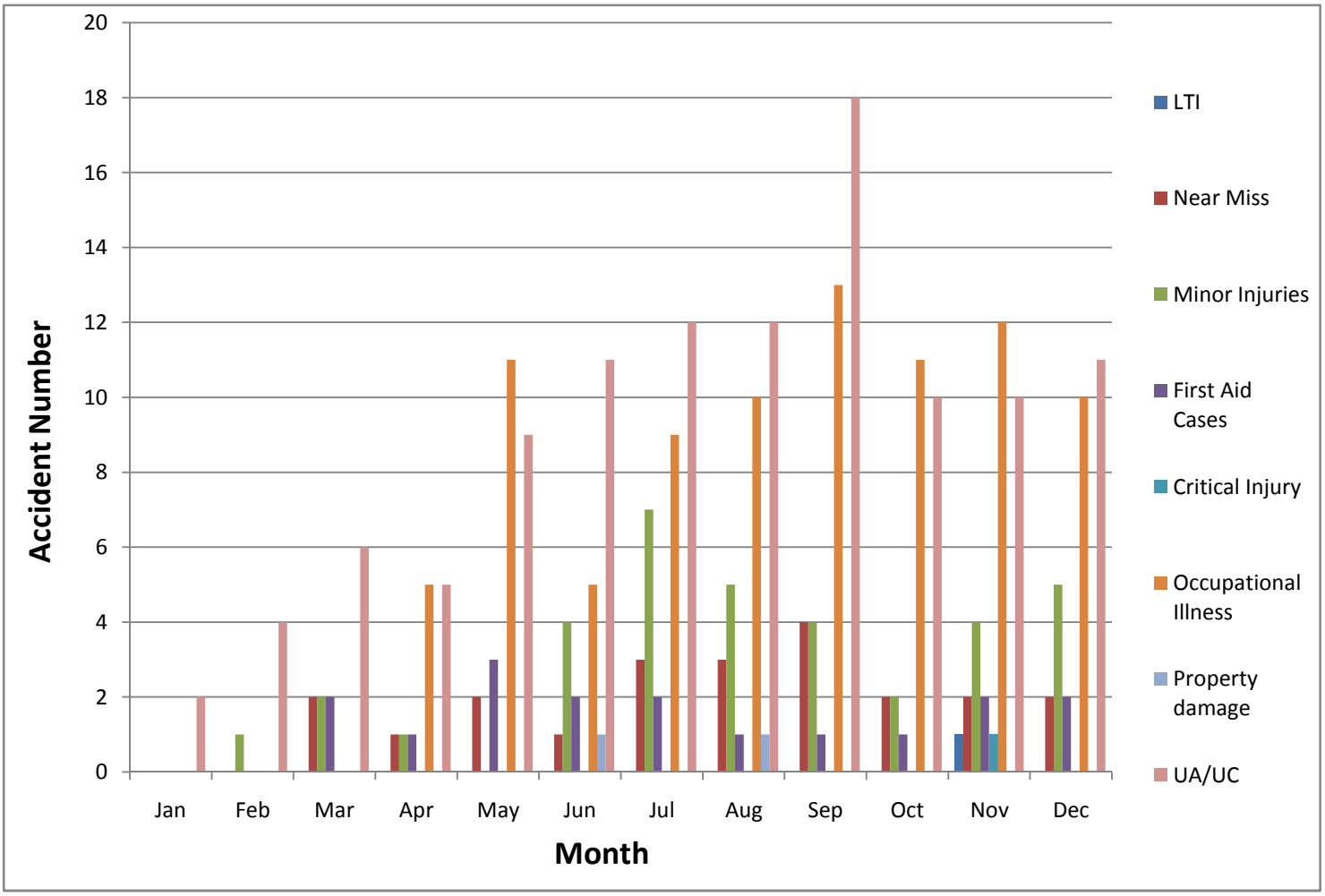
	Oct	Nov	Dec
LTI&Is	0	1	0
Near Miss	2	2	2
Minor Injuries	2	4	5
First Aid Cases	1	2	2
Critical Injury	0	1	0
Occupational Illness	11	12	10
Property damage	0	0	0
UA/UC	10	10	11
Medical Treatment	61	47	56


14
12
10
8
6
4
2
0
Accident Number
Oct
Nov
Dec
Month
LTI&Is
Near Miss
Minor Injuries
First Aid Cases
Critical Injury
Occupational Illness
Property damage
UA/UC


14
12
10
8
6
4
2
0
Accident Number
Oct
Nov
Dec
Month
LTI&Is
Near Miss
Minor Injuries
First Aid Cases
Critical Injury
Occupational Illness
Property damage
UA/UC

Jan- Dec, 2012

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
LTI	0	0	0	0	0	0	0	0	0	0	1	0
Near Miss	0	0	2	1	2	1	3	3	4	2	2	2
Minor Injuries	0	1	2	1	0	4	7	5	4	2	4	5
First Aid Cases	0	0	2	1	3	2	2	1	1	1	2	2
Critical Injury	0	0	0	0	0	0	0	0	0	0	1	0
Occupational Illness	0	0	0	5	11	5	9	10	13	11	12	10
Property damage	0	0	0	0	0	1	0	1	0	0	0	0
UA/UC	2	4	6	5	9	11	12	12	18	10	10	11
Medical Treatment	62	44	55	51	61	69	69	83	68	61	47	56


Accident Number
20
18
16
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Jan
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Mar
Apr
May
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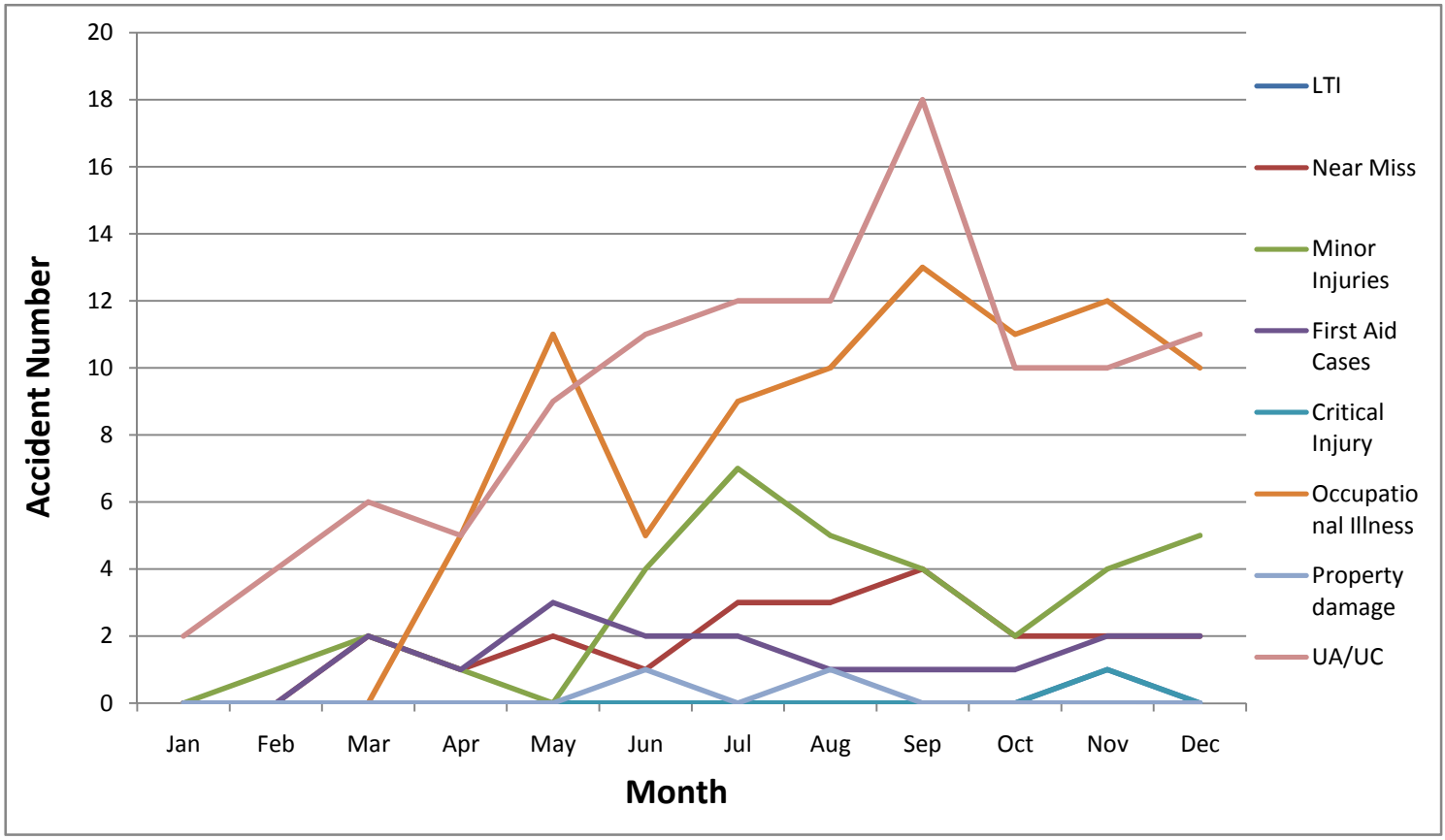
Sep
Oct
Nov
Dec
Month
LTI
Near Miss
Minor Injuries
First Aid Cases
Critical Injury
Occupational Illness
Property damage
UA/UC


Accident Number
20
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Aug
Sep
Oct
Nov
Dec
Month
LTI
Near Miss
Minor Injuries
First Aid Cases
Critical Injury
Occupational Illness
Property damage
UA/UC

Exhibit 14 – Safety update

(Please see the next page)

ESOHS UPDATE

Sambu Construction Co., Ltd

SAMBU

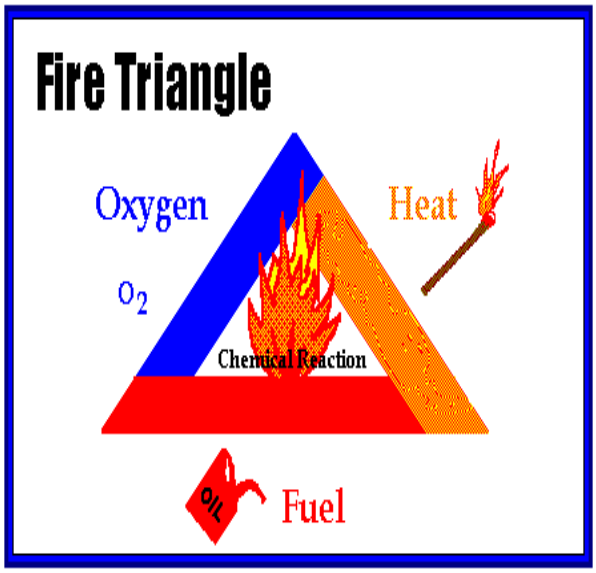
FIRE EXTINGUISHERS AND ITS USE

HOW TO USE A FIRE EXTINGUISHER

It is easy to remember how to use a fire extinguisher if you remember the acronym **PASS**.

1. **Pull the pin: This will allow you to discharge the extinguisher.**
2. **Aim: At the base of the fire**
3. **Squeeze: This depresses a button that releases the pressurized extinguishing agent.**
4. **Sweep: Sweep from side to side.**

THE FOLLOWING THREE THINGS MUST BE PRESENT AT SITE TO PRODUCE FIRE



PERIODICALLY INSPECT THE FIRE EXTINGUISHERS NEAR YOU TO ENSURE THAT THEY ARE PROPERLY MAINTAINED AND IN WORKING CONDITION. THE GAUGE SHOULD POINT TO THE GREEN AND TAG SHOULD BE IN DATE.

Classification of Fire

CLASSES OF FIRES	TYPES OF FIRES	PICTURE SYMBOL
A	Wood, paper, cloth, trash & other ordinary materials.	
B	Gasoline, oil, paint and other flammable liquids.	
C	May be used on fires involving live electrical equipment without danger to the operator.	
D	Combustible metals and combustible metal alloys.	
K	Cooking media (Vegetable or Animal Oils and Fats)	

Exhibit 15 – Inspections

(Please see the next page)

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Fire Extinguishers Inspection Record Sheet

Project: New Bong Escape Hydro Electric Power Complex Date: 15/10/12

Sr. No	Type of Fire Extinguisher	Capicity/ Quantity	Location	Condition (Valid/ Expire)	Any Part that Need Attention	Corrective Action Taken
1	DCP	06 Kg	Confrence Room	Valid	Nil	
2	DCP	06 Kg	Generator Room	Valid	Nil	
3	DCP	06 kg	Workshop	Valid	Nil	
4	DCP	06 Kg	Main Store	Valid	Nil	
5	DCP	05 kg	Main Store	Valid	Nil	
6	DCP	06 kg	Block # 1 (Labour Camp)	Valid	Nil	
7	DCP	05 kg	Block # 2 (Labour Camp)	Valid	Nil	
8	DCP	06 kg	Block # 04 (Labor Camp)	Valid	Nil	
9	DCP	06 kg	Block # 1 (Local Staff Camp)	Valid	Nil	
10	DCP	06 kg	Block # 2 (Local Staff Camp)	Expire	Nil	Dispatched for Refilling
11	DCP	06kg	Block # 3 (Local staff Camp)	Valid	Nil	
12	DCP	06 Kg	Korean Staff Residence	Valid	Nil	
13	DCP	06 kg	Mess hall (Labour)	Valid	Nil	
14	DCP	06 kg	Mess hall (Officer)	Valid	Nil	
15	DCP	04 Kg	Fuel Station	Valid	Nil	
16	DCP	06 Kg	Fuel Station	Valid	Nil	
17	DCP	50 Kg	Fuel Station	Valid	Nil	
18	DCP	06kg	Fuel Station	Valid	Nil	

Instructions:

1 Check accessibility of Fire Extinguisher
2 Check the Pressure of Fire Extinguisher
3 Check nozel and pipe of Fire Extinguisher (are they in good condition)
4 Check the pin and seal weather they are intact or not
5 Check any dents leaks, rust, chemical deposits and other corrision sign on Fire Extinguisher
6 Shake the dry chemical Powder Fire Extinguishers after inspection
7 If Fire Extinguisher is expired report and replace it immediately

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Fogging/ Spraying Record

Project: New Bong Escape Hydro Electric Power Complex

Area	July 2012		Aug 2012		Sep 2012		Oct 2012		Nov 2012		Dec 2012	
	15-Jul	16-Jul	17-Aug	19-Aug	22-Sep	25-Sep	3-Oct	22-Oct				
Office Area	✓	✓	✓	✓	✓	✓	✓	✓				
Korean Staff Residences	✓	✓	✓	✓	✓	✓	✓	✓				
Work Shop	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 01	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 02	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Mess	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 03/1	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 03/2	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 03/3	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 03/4	✓	✓	✓	✓	✓	✓	✓	✓				
Labour Mess Hall	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 04/1	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 04/2	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 04/3	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 04/4	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 05/1	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 05/2	✓	✓	✓	✓	✓	✓	✓	✓				

SAMBU

Fogging/ Spraying Record

Project: New Bong Escape Hydro Electric Power Complex

Area	July 2012		Aug 2012		Sep 2012		Oct 2012		Nov 2012		Dec 2012	
	15-Jul	16-Jul	17-Aug	19-Aug	22-Sep	25-Sep	3-Oct	22-Oct				
Local Staff Residence # 05/3	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 05/4	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 06/1	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 06/2	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 06/3	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 06/4	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 07/1	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 07/2	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 07/3	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 07/4	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 08/1	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 08/2	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 08/3	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 08/4	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 09/1	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 09/2	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 09/3	✓	✓	✓	✓	✓	✓	✓	✓				
Local Staff Residence # 09/4	✓	✓	✓	✓	✓	✓	✓	✓				

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Hygienes of Food Handlers

Project: New Bong Escape Hydro Electric Power Complex

Inspected by: ESOHS Officer, Medical Officer

Area to be Inspected: Hygienes of Food Handlers

Inspection Date: 15/10/12

Sr. No	Description	Y	N	Comments	Action Taken
1	Do all kitchen staff fulfilled the requirements of the Medical Officer.	Y			
2	Is any evidence of reported sickness among kitchen staff to the concerned person?	Y		The medical examinations were conducted in May 2012 and no severe illness observed.	
3	Has monthly checking of nails/hands of kitchen staff been done?	Y		Monthly inspections are carried out in routine	
4	Are daily hygiene practices monitored by the concerned person and all corrective actions have been completed?	Y		Camp supervisor daily monitor all the cooking staff.	
5	Is the kitchen staff been provided with warm water and soap/liquid hand wash for personal hygiene?	Y		Separate hot and cold water facility is available in kitchens.	
6	Do the food handlers wash their hands as often as necessary?	Y		Doctor briefs them regularly about hand washing techniques.	
7	Is all jewellery including watches removed prior to commencing direct food handling?	Y			
8	Is there any evidence of smoking in food preparation areas?	Y		"No Smoking" safety signs have been displayed in the mess halls.	
9	Do kitchen personnel wear appropriate uniform like protective clothing and protective head coverings during food preparation?	Y		Aprons and head cover have been provided to the kitchen staff.	
10	All staff understands their responsibilities with regards to reporting of illness?	Y			
11	Is sick staff excluded from working inside the kitchen with food?	Y		No such sickness is reproted in the current month.	
12	Is there a first-aid box available/ wounds are covered with coloured, water proof dressings?	Y		First Aid Box available in the labor camp near the mess hall.	
13	Is staff aware of food safety practices and their responsibilities?	Y		Food safety procedure has been discussed with the food handlers & also displayed on notice boards	
14	Is staff aware they must not be at work when they may be suffering from a food borne illness or condition?	Y			
15	Are kitchen staffs trained on proper hand washing?	Y		Proper hand washing techniques have been discussed and HSE up dates on hand washing techniques is displayed in mess halls.	
16	Is staff aware of food hygiene through awareness sessions?	Y			
17	Are kitchen staffs trained on proper use and storage of chemicals/ detergents?	Y		No detegents or chemicals are stored in kitchens.	
18	Is any training/awareness sessions' record available?	Y		Refrence to Pervious MPRs	
19	Are training schedule present?	Y			
20	Are food handlers' trained on use of fire extinguishers?	Y		Refrence to MPR April	

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Scaffolding Inspection Checklist

Project: New Bong Escape Hydro Electric Power Complex

Date: 24/10/12

Area to be Inspected: Scaffolding (Power house)

Inspected by:Site Engineer, ESOHS Officer

Sr. No	Description	Y	N	Comments	Action Taken
1	Is the scffolding being erected under the direction of competent person?	Y		Qualified person is supervising the erection & dismantling of scaffolding	
2	Are footings of scaffold sound & rigind, not set on the soft ground or resting on blocks?	Y		Footing on solid concrete bed.	
3	Is the scaffold level?	Y		Scaffold is erected on concrete and levelled.	
4	Are all braces, bearers and clamps secured, all sections pinned or appropriately secured?	Y		All braces, clamps and bearers are secured and tight.	
5	Are scaffold equiped with guard rails consisting of toprail (38"-45" from platfrom) & mid railing (centre of top railing and platform)?	Y		Guard rails are properly installed.	
6	Are scaffolds adequately braced horizontally and vertically?	Y		All scaffolds are properly braced horizentally and vertically.	
7	Are the load bearing scaffold poles (ladder steps) not curved.	Y			
8	Does uncleated plank extend the end support a minimum of six inches.	Y			
9	Where planks are overlapped are they lapped over the supports?	Y			
10	Are the top and bottom surfaces of the plank visible and free from paint and other opaque finishes?	Y		All planks are free from any paint and opaque finishing	
11	If scaffold components of different manufacturers are used, do they fit together without force and has a competent person determined that they are safe for use?	Y		Mostly the scaffold of one manufacturer is being used at site.	
12	Have all components been inspected for defects such as broken welds, corroded members, and missing locks, bent or dented pipes?	Y		All components of scaffold found satisfactory.	
13	Are guardrails and midrails installed on all open sides and open ends of the platform?	Y		Guard railing and Midrailing are found satisfactory	
14	Have cross braces been prohibited as a means of access?	Y		Tool box talk is also coducted on safe access.	
15	Are tools, material, and debris removed from scaffold to prevent an accumulation?	Y		No one is allowed to place their tools unattended at platform.	
16	Are the ladders specifically designed for use with the type of scaffold used?	Y		All items are of same manufacturer.	
17	Are the rungs of ladder at least 8 inches in length?	Y		Proper Korean manufactured ladders are being used.	
18	Have all planks been properly secured to the scaffold structure to prevent them blowing off in the event of high winds?	Y		All planks are tied at both ends to secure them blowing off.	
19	Has it prohibit the use of ladders and other devices to increase working heights on platforms.	Y		Platforms are not used to extend the height.	
20	Has the Safety briefing made to all people working on / for scaffolding?	Y			
21	Are all employees aware not to use a scaffold with broken or missing parts	Y		Tool box talks are provided on scaffolding regualarly	
22	Are all employees aware that before moving the scaffolds there are no power lines or other obstructions overhead?	Y		No over head power lines near the Power house.	
23	Are employee not allowed to work at plat forms during high winds and bad weather?	Y		During bad weather no one is allwoed to work there.	

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CHECKLIST FOR ELECTRIC PANELS / SUB PANELS

Project: NBE Hydro Electrical Power Complex

Date: 25/09/12

DB. NO.	STATUS OF DBs														
	LOCATION	CLOSABLE	LOCKABLE	PAINTED	MAKE	RATING	WATER PROOFING	INDICATION LAMP	VOLTMETER	BODY EARTH	HAZARD SIGNS	CBs TAGGING	ELCBs		RECEPTACLES VOLTAGE IDENTIF
													INSTALLED	INSERVICE	
1	P.H Main Gate	√	×	√	TECH MENS	200A	√	√	√	×	√	√	5	4	√
2	P.H Main Gate	×	×		TECH MENS	250A	√	√	×	×	√	√	8	8	×
3	G. I. S Gate	√	√	√	TECH MENS	200A	√	√	×	×	√	√	8	4	×
4	W/ Shop 245 level	√	√	√	TECH MENS	100A	√	√	×	×	√	√	5	4	×
5	Hatch Cover # 01	×	×	√	TECH MENS	200A	√	√	√	×	√	√	8	8	×
6	Transformer Room	√	√	√	TECH MENS	60A	√	√	×	×	√	√	3	3	×
7	Unit # 04	√	×		TECH MENS	63A	√	×	√	×	√	√	6	6	×
8	Hatch Cover # 04	×	×	√	TECH MENS	200A	√	√	√	×	√	√	3	2	√
9	Gallery Unit# 04	√	√	√	TECH MENS	160A	√	×	×	×	√	√	5	3	×
10	Stop Log Unloading	×	×	√	TECH MENS	200A	√	√	√	×	√	×	5	5	×
11	D/S Unit # 01	√	√	√	TECH MENS	200A	√	×	√	×	√	√	5	2	×
12	U/S Unit # 01	×	×	√	TECH MENS	200A	√	√	√	×	√	√	5	3	×
13	Main Gate (Dewatering)	√	×	√	TECH MENS	200A	√	√	×	×	√	×	10	7	×
14	D/s Unit # 04	×	×	×	TECH MENS	63A	√	×	×	×	√	×	5	5	×
15	Main Gate (Road)	√	√	√	TECH MENS	200A	√	×	×	×	√	×	7	4	×

INCHARGE ELECTRICAL

ESOHS OFFICER

SAMBU

Crane Inspection CheckList

Model= Nissan Kato C-3999 Date:17/10/12

Project: NBE Hydro Electric Power Complex Location:Headrace

Sr. No	Items	Status	Remarks
1	Does the crane have a valid inspection certificate?	Yes	Valild upto 2013/06/19
2	Are the Slings, Shackle and other accessories certified?	Yes	Checked and observed satisfatory
3	Is there potential of serious process equipment incident from a falling load or boom?	Yes	No such potential of process equipment incident
4	Non-essential personnel have been cleared from work site and area barricaded.	Yes	Yes, Restricted unauthorized entrance in working zone
5	Is crane operator hold valid operating certificate?	Yes	Yes, valild certificates have been witnessed.
6	Is crane operation near high tension over head electrical lines?	No	No such activity is carried out at site.
7	Is area free from flammable?	Yes	No flamables are observed there
8	Is hazard identification/Risk assessment done?	Yes	it has been conducted and submitted earlier.
9	Has safety talk been conducted?	Yes	Safety talks on safe crane operations have been conducted
10	Others:	Nil	

Note:

1. Heavy Equipment (H/E) Department will inspect all hoisting and rigging equipment and fills this checklist.
2. Qualified personnel must do all crane operation.
3. Never tie wire rope into knots, never alter the rigging equipment.
4. Minimum clearance of boom from power lines is 10 feet but try to maintain maximum Clearance if possible.
5. Standard hand signal should be used for directing hoisting and lifting operations.
6. Risk assessment is the responsibility of process department with coordination of all

IS Operation Allowed?

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Excavators Inspection Checklist

Project: NBE Hydro Electric Power Complex		Equipment No # 13- 345DL			Date:13/10/12
Points to Check		**Condition**			**Remarks**
		S	**U**	**N/A**	
1	**General**				
1.1	Engine with normal smoke	S			
1.2	Battery Securing arrangement	S			
1.3	Hydraulic System	S			
1.4	Leakage Points in Fuel & Lubrication	S			
1.5	Steering Wheel	S			
1.6	Fuel tank & system properly secured	S			
1.7	Body Condition	S			
2	**Horn**				
2.1	Reverse horn	s			
2.2	Main horn	S			
3	**Lights**				
3.1	Head lights	S			
3.2	Tail lights	S			
3.3	Break lights			N/A	
3.4	Reverse lights			N/A	
3.5	Hazard lights	S			
3.6	Signal indicators			N/A	
3.7	Parking lights			N/A	
3.8	Cabin lights	S			
4	**Brakes**				
4.1	Plate System Brakes	S			
4.2	Hand Braks			N/A	
5	**Guages**				
5.1	Speedometer			N/A	
5.2	Fuel gauge	S			
5.3	Charger	S			
5.4	Oil gauge	S			

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Excavators Inspection Checklist

Project: NBE Hydro Electric Power Complex		Equipment No # 13- 345DL			Date:13/10/12
Points to Check		**Condition**			**Remarks**
		S	**U**	**N/A**	
6	**Seat Belts**				
6.1	Two Poins	S			
6.2	Three Points			N/A	
7	**Mirrors**				
7.1	Rear view	S			
7.2	Side view	S			
7.3	Windscreen	S			
7.4	Rear Cabin Glass	S			
7.5	Window Glasses	S			
7.6	Wipers & washers	S			
8	**Tools**				
8.1	Jack			N/A	
8.2	Wheel Spanner			N/A	
8.3	Tool Box	S			
9	**Documents**				
9.1	Registration	S			
9.2	Observation Book	S			
9.3	Test Certificates	S			
9.4	Driver's License	S			
9.5	Sambu Logo	S			
10	**Loose Items**				
10.1	In Driver's Cabin	S			
10.2	In load carrying Sec.			N/A	
10.3	First Aid Kit		U		First aid kits are available at site
10.4	A/C System	S			

S = Satisfactory
U = UnSatisfactory
N/A = Not Applicable

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Kitchen Hygiene and Sanitory Inspection Checklist

Project: NBE Hydro Electric Power Complex

Date: 21/10/12

Sr. No	Activities / area	Satisfactory	Un Satisfactory	Proposed corrective action in case of unsatisfactory	Tentative Date of completion	Status to date	Remarks
1	General House Keeping	–	√	Poor housekeeping observed in the mess hall	21/10/12	Ok	Observaton was made clear on the same day.
2	Food is properly stored & protected from contamination.	√	–				Storeable items are properly stored on racks in lockable rooms
3	Food stored area is clean	√	–				some rubbish was found inside the store.
4	Raw food s & vegetable are washed before serving.	√	–				It is monitored by camp supervisor
5	Refrigeration is maintained at below 40 degrees and the freeze at 0 ^{0}F.	√	–				Refrigerators are working properly
6	Food is being bought from reliable supplier.	√	–				Local market, marts and shopping centers
7	Work surface are washed & clean after using.	–	√	work surface not properly cleaned	22/10/12	Ok	It has been rechecked and observed satisfactory.
8	All small equipment utensils including cutting board are cleaned before using.	√	–				Yes, A number of safety talk on heath hygiene and washing have been conducted.
9	Sink is properly set up for washing.	√	–				Yes
10	Kitchen dust bin are emptied as necessary.	√	–				After each use, it is emptied
11	Lighting condition	–	√	Two Fused tube light rods observed in the mess hall	25/10/12	Ok	It has been rechecked and observed satisfactory.
12	Table & chairs arrangement	√	–				Desks and tables are available in labor mess hall
13	fan working properly.	√	–				yes, it is working properly
14	Drinking water test are carried out	√	–				As per Mgmt plan, tests are carried out and found satisfactory.
15	Pipe line of drain water in kitchen are free of any kind of choking	√	–				Drainage pipe lines are properly working

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Excavators Inspection Checklist

Project: NBE Hydro Electric Power Complex		Equipment No # 13- 345DL			Date:13/10/12
Points to Check		**Condition**			**Remarks**
		S	**U**	**N/A**	
1	**General**				
1.1	Engine with normal smoke	S			
1.2	Battery Securing arrangement	S			
1.3	Hydraulic System	S			
1.4	Leakage Points in Fuel & Lubrication	S			
1.5	Steering Wheel	S			
1.6	Fuel tank & system properly secured	S			
1.7	Body Condition	S			
2	**Horn**				
2.1	Reverse horn	s			
2.2	Main horn	S			
3	**Lights**				
3.1	Head lights	S			
3.2	Tail lights	S			
3.3	Break lights			N/A	
3.4	Reverse lights			N/A	
3.5	Hazard lights	S			
3.6	Signal indicators			N/A	
3.7	Parking lights			N/A	
3.8	Cabin lights	S			
4	**Brakes**				
4.1	Plate System Brakes	S			
4.2	Hand Braks			N/A	
5	**Guages**				
5.1	Speedometer			N/A	
5.2	Fuel gauge	S			
5.3	Charger	S			
5.4	Oil gauge	S			

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Excavators Inspection Checklist

Project: NBE Hydro Electric Power Complex		Equipment No # 13- 345DL			Date:13/10/12
Points to Check		**Condition**			**Remarks**
		S	**U**	**N/A**	
6	**Seat Belts**				
6.1	Two Poins	S			
6.2	Three Points			N/A	
7	**Mirrors**				
7.1	Rear view	S			
7.2	Side view	S			
7.3	Windscreen	S			
7.4	Rear Cabin Glass	S			
7.5	Window Glasses	S			
7.6	Wipers & washers	S			
8	**Tools**				
8.1	Jack			N/A	
8.2	Wheel Spanner			N/A	
8.3	Tool Box	S			
9	**Documents**				
9.1	Registration	S			
9.2	Observation Book	S			
9.3	Test Certificates	S			
9.4	Driver's License	S			
9.5	Sambu Logo	S			
10	**Loose Items**				
10.1	In Driver's Cabin	S			
10.2	In load carrying Sec.			N/A	
10.3	First Aid Kit		U		First aid kits are available at site
10.4	A/C System	S			

S = Satisfactory
U = UnSatisfactory
N/A = Not Applicable

SAMBU

Crane Inspection CheckList

Model= Nissan Kato C-3999 Date:12/11/12

Project: NBE Hydro Electric Power Complex Location:Headrace

Sr. No	Items	Status	Remarks
1	Does the crane have a valid inspection certificate?	Yes	Valild upto 2013/06/19
2	Are the Slings, Shackle and other accessories certified?	Yes	Checked and observed satisfatory
3	Is there potential of serious process equipment incident from a falling load or boom?	Yes	No such potential of process equipment incident
4	Non-essential personnel have been cleared from work site and area barricaded.	Yes	Yes, Restricted unauthorized entrance in working zone
5	Is crane operator hold valid operating certificate?	Yes	Yes, valild certificates have been witnessed.
6	Is crane operation near high tension over head electrical lines?	No	No such activity is carried out at site.
7	Is area free from flammable?	Yes	No flamables are observed there
8	Is hazard identification/Risk assessment done?	Yes	it has been conducted and submitted earlier.
9	Has safety talk been conducted?	Yes	Safety talks on safe crane operations have been conducted
10	Others:	Nil	

Note:

1. Heavy Equipment (H/E) Department will inspect all hoisting and rigging equipment and fills this checklist.
2. Qualified personnel must do all crane operation.
3. Never tie wire rope into knots, never alter the rigging equipment.
4. Minimum clearance of boom from power lines is 10 feet but try to maintain maximum Clearance if possible.
5. Standard hand signal should be used for directing hoisting and lifting operations.
6. Risk assessment is the responsibility of process department with coordination of all

IS Operation Allowed?

YES

SAMBU

Fire Extinguishers Inspection Record Sheet

Project: New Bong Escape Hydro Electric Power Complex

Date: 12/11/12

F/ E No	Type of Fire Extinguisher	Capicity/ Quantity	Location	Condition (Valid/ Expire)	Any Part that Need Attention	Corrective Action Taken
1	DCP	06 Kg	Confrence Room	Valid	Nil	
2	DCP	06 Kg	Main Office	Valid	Nil	
3	DCP	06 kg	Korean Mess	Valid	Nil	
4	DCP	06 Kg	Ware house- Sambu	Valid	Nil	
5	DCP	05 kg	Korean Residence	Valid	Nil	
6	DCP	50 kg	Fuel Pump	Valid	Nil	
7	DCP	06 kg	Fuel Pump	Valid	Nil	
8	DCP	06 kg	Workshop	Valid	Nil	
9	DCP	06 kg	Erection Bay- P/ H	Valid	Nil	
10	DCP	06 kg	Unit 1&2 - P/H	Valid	Nil	
11	DCP	04kg	Unit 3 &4 - P/H	Valid	Nil	
12	DCP	06 Kg	G.I.S Room- P/H	Valid	Nil	
13	DCP	06 kg	Transformer Area- P/H	Valid	Nil	
14	DCP	06 kg	G.I.S Room- P/H	Valid	Nil	
15	DCP	06 Kg	Staff Mess	Valid	Nil	
16	DCP	04 Kg	Labour Mess	Valid	Nil	
17	DCP	05 Kg	Labour Block 1	Valid	Nil	
18	DCP	06kg	Labour Block 2	Valid	Nil	

Instructions:

1 Check accessibility of Fire Extinguisher
2 Check the Pressure of Fire Extinguisher
3 Check nozel and pipe of Fire Extinguisher (are they in good condition)
4 Check the pin and seal weather they are intact or not
5 Check any dents leaks, rust, chemical deposits and other corrision sign on Fire Extinguisher
6 Shake the dry chemical Powder Fire Extinguishers after inspection
7 If Fire Extinguisher is expired report and replace it immediately

SAMBU

Fogging/ Spraying Record

Project: New Bong Escape Hydro Electric Power Complex

Area	July 2012		Aug 2012		Sep 2012		Oct 2012		Nov 2012		Dec 2012	
	15-Jul	16-Jul	17-Aug	19-Aug	22-Sep	25-Sep	3-Oct	22-Oct	6-Nov	27-Nov		
Office Area	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Korean Staff Residences	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Work Shop	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 01	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 02	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Mess	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 03/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 03/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 03/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 03/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Labour Mess Hall	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 04/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 04/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 04/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 04/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 05/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 05/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

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Fogging/ Spraying Record

Project: New Bong Escape Hydro Electric Power Complex

Area	July 2012		Aug 2012		Sep 2012		Oct 2012		Nov 2012		Dec 2012	
	15-Jul	16-Jul	17-Aug	19-Aug	22-Sep	25-Sep	3-Oct	22-Oct	6-Nov	27-Nov		
Local Staff Residence # 05/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 05/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 06/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 06/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 06/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 06/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 07/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 07/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 07/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 07/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 08/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 08/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 08/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 08/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 09/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 09/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 09/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Local Staff Residence # 09/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

SAMBU

Hygienes of Food Handlers

Project: New Bong Escape Hydro Electric Power Complex

Inspected by: ESOHS Officer, Medical Officer

Area to be Inspected: Hygienes of Food Handlers

Inspection Date: 11/11/12

Sr. No	Description	Y	N	Comments	Action Taken
1	Do all kitchen staff fulfilled the requirements of the Medical Officer.	Y			
2	Is any evidence of reported sickness among kitchen staff to the concerned person?	Y		The medical examinations were conducted in May 2012 and no severe illness observed.	
3	Has monthly checking of nails/hands of kitchen staff been done?	Y		Monthly inspections are carried out in routine	
4	Are daily hygiene practices monitored by the concerned person and all corrective actions have been completed?	Y		Camp supervisor daily monitor all the cooking staff.	
5	Is the kitchen staff been provided with warm water and soap/liquid hand wash for personal hygiene?	Y		Separate hot and cold water facility is available in kitchens.	
6	Do the food handlers wash their hands as often as necessary?	Y		Doctor briefs them regularly about hand washing techniques.	
7	Is all jewellery including watches removed prior to commencing direct food handling?	Y			
8	Is there any evidence of smoking in food preparation areas?	Y		"No Smoking" safety signs have been displayed in the mess halls.	
9	Do kitchen personnel wear appropriate uniform like protective clothing and protective head coverings during food preparation?	Y		Aprons and head cover have been provided to the kitchen staff.	
10	All staff understands their responsibilities with regards to reporting of illness?	Y			
11	Is sick staff excluded from working inside the kitchen with food?	Y		No such sickness is reproted in the current month.	
12	Is there a first-aid box available/ wounds are covered with coloured, water proof dressings?	Y		First Aid Box available in the labor camp near the mess hall.	
13	Is staff aware of food safety practices and their responsibilities?	Y		Food safety procedure has been discussed with the food handlers & also displayed on notice boards	
14	Is staff aware they must not be at work when they may be suffering from a food borne illness or condition?	Y			
15	Are kitchen staffs trained on proper hand washing?	Y		Proper hand washing techniques have been discussed and HSE up dates on hand washing techniques is displayed in mess halls.	
16	Is staff aware of food hygiene through awareness sessions?	Y			
17	Are kitchen staffs trained on proper use and storage of chemicals/ detergents?	Y		No detegents or chemicals are stored in kitchens.	
18	Is any training/awareness sessions' record available?	Y		Refrence to Pervious MPRs	
19	Are training schedule present?	Y			
20	Are food handlers' trained on use of fire extinguishers?	Y			

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Kitchen Hygiene and Sanitory Inspection Checklist

Project: NBE Hydro Electric Power Complex

Date: 11/11/12

Sr. No	Activities / area	Satisfactory	Un Satisfactory	Proposed corrective action in case of unsatisfactory	Tentative Date of completion	Status to date	Remarks
1	General House Keeping	√					House keeping is satisfactory over all in the mess halls.
2	Food is properly stored & protected from contamination.		√	Vegetable observed not stored properly	Immediate	Ok	Vegetables were stored proply on shelves
3	Food stored area is clean	√	–				some rubbish was found inside the store.
4	Raw food s & vegetable are washed before serving.	√	–				It is monitored by camp supervisor
5	Refrigeration is maintained at below 40 degrees and the freeze at 0 ^{0}F.	√	–				Refrigerators are working properly
6	Food is being bought from reliable supplier.	√	–				Local market, marts and shopping centers
7	Work surface are washed & clean after using.	√					Floors are made neat and clean on regular basis
8	All small equipment utensils including cutting board are cleaned before using.	√	–				Yes, A number of safety talk on heath hygiene and washing have been conducted.
9	Sink is properly set up for washing.	√	–				Yes
10	Kitchen dust bin are emptied as necessary.		√	Waste Drums observed full of waste outside the mess	13/11/12	Ok	After corrective action, the area has been made neat and clean.
11	Lighting condition	√					It has been rechecked and observed satisfactory.
12	Table & chairs arrangement	√	–				Desks and tables are available in labor mess hall
13	fan working properly.	√	–				yes, it is working properly
14	Drinking water test are carried out	√	–				As per Mgmt plan, tests are carried out and found satisfactory.
15	Pipe line of drain water in kitchen are free of any kind of choking	√	–				Drainage pipe lines are properly working

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Rigging Equipments Inspection Checklist

Date:25/11/12

Project: New Bong Escape Hydro Electric Power Complex

Inspected by:Rigging Supervisor, ESOHS Officer

Sr. No	Description	Y	N	Comments	Action Taken
1	Is the rigging stored properly?		N	rigging equipments obseved unattended on ground	Rigging supervisor advised to store it properly.
2	Is the load rating present?		N	Two slings observed with out load rating, however it is present on shsacles	Advised to get the fresh load rating from manufacturers
3	Are the wire ropes free of rust or broken wires?	Y		No such damages are observed	
4	Are ropes free of crushing or any other damage resulting in the distrotion of rope structure?	Y		No evidence of crushing or distortion is witnessed.	
5	Are defective ropes cut off or marked as unusable?	Y		Defective equipments are not stored at site, and properly stored at designated location.	
6	Are protruding ends of strands in splices on slings and bridles covered or blunted?	Y			
7	Are all fiber ropes protected from freezing, excessive heat or corrosive materials?	Y		No such sign of excessive heat or corrosive materials are obseved.	
8	Are all ropes protected from abrasion?	Y			
9	Do all the rope slings have a minimum clear length of 40 times the diameter of component ropes between each end fitting or ee splice?	Y			
10	Is each synthetic web sling marked or color coded?	Y		Synthetic web sling are not in use.	
11	Are the drums, sheaves and pulley smooth and free of surface defects that may damage rigging?	Y		It found satisfactory	
12	Have all the damaged drums and pullys been removed from service?	Y		No damage equipment observed there.	
13	Are all shackles and hooks sized properly?	Y			
14	Do all drums have sufficient rope capacity?	Y		Sufficient rope is available with each drum	
15	Is the drum end of the rope anchored by a clamp securely attached to the drum in a manner approved by the manufacturer?	Y		Each drum end of rope is secured by fixing with clamps	

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Scaffolding Inspection Checklist

Project: New Bong Escape Hydro Electric Power Complex

Date: 06/11/12

Area to be Inspected: Scaffolding (Power house)

Inspected by:Site Engineer, ESOHS Officer

Sr. No	Description	Y	N	Comments	Action Taken
1	Is the scffolding being erected under the direction of competent person?	Y		Qualified person is supervising the erection & dismantling of scaffolding	
2	Are footings of scaffold sound & rigind, not set on the soft ground or resting on blocks?	Y		Footing on solid concrete bed.	
3	Is the scaffold level?	Y		Scaffold is erected on concrete and levelled.	
4	Are all braces, bearers and clamps secured, all sections pinned or appropriately secured?	Y		All braces, clamps and bearers are secured and tight.	
5	Are scaffold equiped with guard rails consisting of toprail (38"-45" from platfrom) & mid railing (centre of top railing and platform)?	Y		Guard rails are properly installed.	
6	Are scaffolds adequately braced horizontally and vertically?	Y		All scaffolds are properly braced horizentally and vertically.	
7	Are the load bearing scaffold poles (ladder steps) not curved.	Y			
8	Does uncleated plank extend the end support a minimum of six inches.	Y			
9	Where planks are overlapped are they lapped over the supports?	Y			
10	Are the top and bottom surfaces of the plank visible and free from paint and other opaque finishes?	Y		All planks are free from any paint and opaque finishing	
11	If scaffold components of different manufacturers are used, do they fit together without force and has a competent person determined that they are safe for use?	Y		Mostly the scaffold of one manufacturer is being used at site.	
12	Have all components been inspected for defects such as broken welds, corroded members, and missing locks, bent or dented pipes?	Y		All components of scaffold found satisfactory.	
13	Are guardrails and midrails installed on all open sides and open ends of the platform?	Y		Guard railing and Midrailing are found satisfactory	
14	Have cross braces been prohibited as a means of access?	Y		Tool box talk is also coducted on safe access.	
15	Are tools, material, and debris removed from scaffold to prevent an accumulation?	Y		No one is allowed to place their tools unattended at platform.	
16	Are the ladders specifically designed for use with the type of scaffold used?	Y		All items are of same manufacturer.	
17	Are the rungs of ladder at least 8 inches in length?	Y		Proper Korean manufactured ladders are being used.	
18	Have all planks been properly secured to the scaffold structure to prevent them blowing off in the event of high winds?	Y		All planks are tied at both ends to secure them blowing off.	
19	Has it prohibit the use of ladders and other devices to increase working heights on platforms.	Y		Platforms are not used to extend the height.	
20	Has the Safety briefing made to all people working on / for scaffolding?	Y			
21	Are all employees aware not to use a scaffold with broken or missing parts	Y		Tool box talks are provided on scaffolding regualarly	
22	Are all employees aware that before moving the scaffolds there are no power lines or other obstructions overhead?	Y		No over head power lines near the Power house.	
23	Are employee not allowed to work at plat forms during high winds and bad weather?	Y		During bad weather no one is allwoed to work there.	

SAMBU

Scaffolding Inspection Checklist

Project: New Bong Escape Hydro Electric Power Complex

Date: 12/11/12

Area to be Inspected: Scaffolding (Power house)

Inspected by:Site Engineer, ESOHS Officer

Sr. No	Description	Y	N	Comments	Action Taken
1	Is the scffolding being erected under the direction of competent person?	Y		Qualified person is supervising the erection & dismantling of scaffolding	
2	Are footings of scaffold sound & rigind, not set on the soft ground or resting on blocks?	Y		Footing on solid concrete bed.	
3	Is the scaffold level?	Y		Scaffold is erected on concrete and levelled.	
4	Are all braces, bearers and clamps secured, all sections pinned or appropriately secured?	Y		All braces, clamps and bearers are secured and tight.	
5	Are scaffold equiped with guard rails consisting of toprail (38"-45" from platfrom) & mid railing (centre of top railing and platform)?	Y		Guard rails are properly installed.	
6	Are scaffolds adequately braced horizontally and vertically?	Y		All scaffolds are properly braced horizentally and vertically.	
7	Are the load bearing scaffold poles (ladder steps) not curved.	Y			
8	Does uncleated plank extend the end support a minimum of six inches.	Y			
9	Where planks are overlapped are they lapped over the supports?	Y			
10	Are the top and bottom surfaces of the plank visible and free from paint and other opaque finishes?	Y		All planks are free from any paint and opaque finishing	
11	If scaffold components of different manufacturers are used, do they fit together without force and has a competent person determined that they are safe for use?	Y		Mostly the scaffold of one manufacturer is being used at site.	
12	Have all components been inspected for defects such as broken welds, corroded members, and missing locks, bent or dented pipes?	Y		All components of scaffold found satisfactory.	
13	Are guardrails and midrails installed on all open sides and open ends of the platform?	Y		Guard railing and Midrailing are found satisfactory	
14	Have cross braces been prohibited as a means of access?	Y		Tool box talk is also coducted on safe access.	
15	Are tools, material, and debris removed from scaffold to prevent an accumulation?	Y		No one is allowed to place their tools unattended at platform.	
16	Are the ladders specifically designed for use with the type of scaffold used?	Y		All items are of same manufacturer.	
17	Are the rungs of ladder at least 8 inches in length?	Y		Proper Korean manufactured ladders are being used.	
18	Have all planks been properly secured to the scaffold structure to prevent them blowing off in the event of high winds?	Y		All planks are tied at both ends to secure them blowing off.	
19	Has it prohibit the use of ladders and other devices to increase working heights on platforms.	Y		Platforms are not used to extend the height.	
20	Has the Safety briefing made to all people working on / for scaffolding?	Y			
21	Are all employees aware not to use a scaffold with broken or missing parts	Y		Tool box talks are provided on scaffolding regualarly	
22	Are all employees aware that before moving the scaffolds there are no power lines or other obstructions overhead?	Y		No over head power lines near the Power house.	
23	Are employee not allowed to work at plat forms during high winds and bad weather?	Y		During bad weather no one is allwoed to work there.	

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Scaffolding Inspection Checklist

Project: New Bong Escape Hydro Electric Power Complex

Date: 21/11/12

Area to be Inspected: Scaffolding (Power house)

Inspected by:Site Engineer, ESOHS Officer

Sr. No	Description	Y	N	Comments	Action Taken
1	Is the scffolding being erected under the direction of competent person?	Y		Qualified person is supervising the erection & dismantling of scaffolding	
2	Are footings of scaffold sound & rigind, not set on the soft ground or resting on blocks?	Y		Footing on solid concrete bed.	
3	Is the scaffold level?		N	Scaffold near parking shed observed not levelled.	The temporary scaffolding was marked with red tag and advised to re- assemble
4	Are all braces, bearers and clamps secured, all sections pinned or appropriately secured?		N	Clamps observed loose at scaffolding inside the office building	It was made tight at the same time.
5	Are scaffold equiped with guard rails consisting of toprail (38"-45" from platfrom) & mid railing (centre of top railing and platform)?	Y		Guard rails are properly installed.	
6	Are scaffolds adequately braced horizontally and vertically?	Y		All scaffolds are properly braced horizentally and vertically.	
7	Are the load bearing scaffold poles (ladder steps) not curved.	Y			
8	Does uncleated plank extend the end support a minimum of six inches.	Y			
9	Where planks are overlapped are they lapped over the supports?	Y			
10	Are the top and bottom surfaces of the plank visible and free from paint and other opaque finishes?	Y		All planks are free from any paint and opaque finishing	
11	If scaffold components of different manufacturers are used, do they fit together without force and has a competent person determined that they are safe for use?	Y		Mostly the scaffold of one manufacturer is being used at site.	
12	Have all components been inspected for defects such as broken welds, corroded members, and missing locks, bent or dented pipes?	Y		All components of scaffold found satisfactory.	
13	Are guardrails and midrails installed on all open sides and open ends of the platform?	Y		Guard railing and Midrailing are found satisfactory	
14	Have cross braces been prohibited as a means of access?	Y		Tool box talk is also coducted on safe access.	
15	Are tools, material, and debris removed from scaffold to prevent an accumulation?	Y		No one is allowed to place their tools unattended at platform.	
16	Are the ladders specifically designed for use with the type of scaffold used?	Y		All items are of same manufacturer.	
17	Are the rungs of ladder at least 8 inches in length?	Y		Proper Korean manufactured ladders are being used.	
18	Have all planks been properly secured to the scaffold structure to prevent them blowing off in the event of high winds?	Y		All planks are tied at both ends to secure them blowing off.	
19	Has it prohibit the use of ladders and other devices to increase working heights on platforms.	Y		Platforms are not used to extend the height.	
20	Has the Safety briefing made to all people working on / for scaffolding?	Y			
21	Are all employees aware not to use a scaffold with broken or missing parts	Y		Tool box talks are provided on scaffolding regualarly	
22	Are all employees aware that before moving the scaffolds there are no power lines or other obstructions overhead?	Y		No over head power lines near the Power house.	
23	Are employee not allowed to work at plat forms during high winds and bad weather?	Y		During bad weather no one is allwoed to work there.	

SAMBU

Scaffolding Inspection Checklist

Project: New Bong Escape Hydro Electric Power Complex

Date: 28/11/12

Area to be Inspected: Scaffolding (Power house)

Inspected by:Site Engineer, ESOHS Officer

Sr. No	Description	Y	N	Comments	Action Taken
1	Is the scffolding being erected under the direction of competent person?	Y		Qualified person is supervising the erection & dismantling of scaffolding	
2	Are footings of scaffold sound & rigind, not set on the soft ground or resting on blocks?	Y		Footing on solid concrete bed.	
3	Is the scaffold level?	Y		Scaffolding is erected on concrete and levelled	
4	Are all braces, bearers and clamps secured, all sections pinned or appropriately secured?	Y		All braces, clamps and bearers are secured and tight.	
5	Are scaffold equiped with guard rails consisting of toprail (38"-45" from platfrom) & mid railing (centre of top railing and platform)?	Y		Guard rails are properly installed.	
6	Are scaffolds adequately braced horizontally and vertically?	Y		All scaffolds are properly braced horizentally and vertically.	
7	Are the load bearing scaffold poles (ladder steps) not curved.	Y			
8	Does uncleated plank extend the end support a minimum of six inches.	Y			
9	Where planks are overlapped are they lapped over the supports?	Y			
10	Are the top and bottom surfaces of the plank visible and free from paint and other opaque finishes?	Y		All planks are free from any paint and opaque finishing	
11	If scaffold components of different manufacturers are used, do they fit together without force and has a competent person determined that they are safe for use?	Y		Mostly the scaffold of one manufacturer is being used at site.	
12	Have all components been inspected for defects such as broken welds, corroded members, and missing locks, bent or dented pipes?	Y		All components of scaffold found satisfactory.	
13	Are guardrails and midrails installed on all open sides and open ends of the platform?	Y		Guard railing and Midrailing are found satisfactory	
14	Have cross braces been prohibited as a means of access?	Y		Tool box talk is also coducted on safe access.	
15	Are tools, material, and debris removed from scaffold to prevent an accumulation?	Y		All items are of same manufacturer.	
16	Are the ladders specifically designed for use with the type of scaffold used?	Y		All items are of same manufacturer.	
17	Are the rungs of ladder at least 8 inches in length?	Y		Proper Korean manufactured ladders are being used.	
18	Have all planks been properly secured to the scaffold structure to prevent them blowing off in the event of high winds?	Y		All planks are tied at both ends to secure them blowing off.	
19	Has it prohibit the use of ladders and other devices to increase working heights on platforms.	Y		Platforms are not used to extend the height.	
20	Has the Safety briefing made to all people working on / for scaffolding?	Y			
21	Are all employees aware not to use a scaffold with broken or missing parts	Y		Tool box talks are provided on scaffolding regualarly	
22	Are all employees aware that before moving the scaffolds there are no power lines or other obstructions overhead?	Y		No over head power lines near the Power house.	
23	Are employee not allowed to work at plat forms during high winds and bad weather?	Y		During bad weather no one is allwoed to work there.	

SAMBU

Crane Inspection CheckList

Model= Nissan Kato E-1455 Date:07/12/12

Project: NBE Hydro Electric Power Complex Location:Headrace

Sr. No	Items	Status	Remarks
1	Does the crane have a valid inspection certificate?	Yes	Valild upto 2013/06/19
2	Are the Slings, Shackle and other accessories certified?	Yes	Checked and observed satisfatory
3	Is there potential of serious process equipment incident from a falling load or boom?	Yes	No such potential of process equipment incident
4	Non-essential personnel have been cleared from work site and area barricaded.	Yes	Yes, Restricted unauthorized entrance in working zone
5	Is crane operator hold valid operating certificate?	Yes	Yes, valild certificates have been witnessed.
6	Is crane operation near high tension over head electrical lines?	No	No such activity is carried out at site.
7	Is area free from flammable?	Yes	No flamables are observed there
8	Is hazard identification/Risk assessment done?	Yes	it has been conducted and submitted earlier.
9	Has safety talk been conducted?	Yes	Safety talks on safe crane operations have been conducted
10	Others:	Nil	

Note:

1. Heavy Equipment (H/E) Department will inspect all hoisting and rigging equipment and fills this checklist.
2. Qualified personnel must do all crane operation.
3. Never tie wire rope into knots, never alter the rigging equipment.
4. Minimum clearance of boom from power lines is 10 feet but try to maintain maximum Clearance if possible.
5. Standard hand signal should be used for directing hoisting and lifting operations.
6. Risk assessment is the responsibility of process department with coordination of all

IS Operation Allowed?

_____ Section Chief

_____ ESOHS Officer

SAMBU

Hygienes of Food Handlers

Project: New Bong Escape Hydro Electric Power Complex

Inspected by: ESOHS Officer, Medical Officer

Area to be Inspected: Hygienes of Food Handlers

Inspection Date: 09/12/12

Sr. No	Description	Y	N	Comments	Action Taken
1	Do all kitchen staff fulfilled the requirements of the Medical Officer.	Y			
2	Is any evidence of reported sickness among kitchen staff to the concerned person?	Y		The medical examinations were conducted in May 2012 and no severe illness observed.	
3	Has monthly checking of nails/hands of kitchen staff been done?	Y		Monthly inspections are carried out in routine	
4	Are daily hygiene practices monitored by the concerned person and all corrective actions have been completed?	Y		Camp supervisor daily monitor all the cooking staff.	
5	Is the kitchen staff been provided with warm water and soap/liquid hand wash for personal hygiene?	Y		Separate hot and cold water facility is available in kitchens.	
6	Do the food handlers wash their hands as often as necessary?	Y		Doctor briefs them regularly about hand washing techniques.	
7	Is all jewellery including watches removed prior to commencing direct food handling?	Y			
8	Is there any evidence of smoking in food preparation areas?	Y		"No Smoking" safety signs have been displayed in the mess halls.	
9	Do kitchen personnel wear appropriate uniform like protective clothing and protective head coverings during food preparation?	Y		Aprons and head cover have been provided to the kitchen staff.	
10	All staff understands their responsibilities with regards to reporting of illness?	Y			
11	Is sick staff excluded from working inside the kitchen with food?	Y		No such sickness is reproted in the current month.	
12	Is there a first-aid box available/ wounds are covered with coloured, water proof dressings?	Y		First Aid Box available in the labor camp near the mess hall.	
13	Is staff aware of food safety practices and their responsibilities?	Y		Food safety procedure has been discussed with the food handlers & also displayed on notice boards	
14	Is staff aware they must not be at work when they may be suffering from a food borne illness or condition?	Y			
15	Are kitchen staffs trained on proper hand washing?	Y		Proper hand washing techniques have been discussed and HSE up dates on hand washing techniques is displayed in mess halls.	
16	Is staff aware of food hygiene through awareness sessions?	Y			
17	Are kitchen staffs trained on proper use and storage of chemicals/ detergents?	Y		No detegents or chemicals are stored in kitchens.	
18	Is any training/awareness sessions' record available?	Y		Refrence to Pervious MPRs	
19	Are training schedule present?	Y			
20	Are food handlers' trained on use of fire extinguishers?	Y			

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Kitchen Hygiene and Sanitory Inspection Checklist

Project: NBE Hydro Electric Power Complex

Date: 10/12/12

Sr. No	Activities / area	Satisfactory	Un Satisfactory	Proposed corrective action in case of unsatisfactory	Tentative Date of completion	Status to date	Remarks
1	General House Keeping	√					House keeping is satisfactory over all in the mess halls.
2	Food is properly stored & protected from contamination.	√	–				Vegetables observed stored proply on shelves
3	Food stored area is clean	√	–				some rubbish was found inside the store.
4	Raw food s & vegetable are washed before serving.	√	–				It is monitored by camp supervisor
5	Refrigeration is maintained at below 40 degrees and the freeze at 0 ^{0}F.	√	–				Refrigerators are working properly
6	Food is being bought from reliable supplier.	√	–				Local market, marts and shopping centers
7	Work surface are washed & clean after using.	–	√	Garbage and trash observed inside the cooking facility.	10/12/2012	Ok	Floor was made neat and clean on the same day.
8	All small equipment utensils including cutting board are cleaned before using.	√	–				Yes, A number of safety talk on heath hygiene and washing have been conducted.
9	Sink is properly set up for washing.	√	–				Yes
10	Kitchen dust bin are emptied as necessary.		√	Waste Drums observed full of waste outside the mess	10/12/2012	Ok	After corrective action, the area has been made neat and clean.
11	Lighting condition	√					It has been rechecked and observed satisfactory.
12	Table & chairs arrangement	√	–				Desks and tables are available in labor mess hall
13	fan working properly.	√	–				yes, it is working properly
14	Drinking water test are carried out	√	–				As per Mgmt plan, tests are carried out and found satisfactory.
15	Pipe line of drain water in kitchen are free of any kind of choking	√	–				Drainage pipe lines are properly working

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Fire Extinguishers Inspection Record Sheet

Project: New Bong Escape Hydro Electric Power Complex Date: 17/12/12

F/ E No	Type of Fire Extinguisher	Capicity/ Quantity	Location	Condition (Valid/ Expire)	Any Part that Need Attention	Corrective Action Taken
1	DCP	06 Kg	Confrence Room	Valid	Nil	
2	DCP	06 Kg	Main Office	Expire	Nil	dispatched for refilling
3	DCP	06 kg	Korean Mess	Valid	Nil	
4	DCP	06 Kg	Ware house- Sambu	Valid	Nil	
5	DCP	05 kg	Korean Residence	Valid	Nil	
6	DCP	50 kg	Fuel Pump	Valid	Nil	
7	DCP	06 kg	Fuel Pump	Valid	Nil	
8	DCP	06 kg	Workshop	Valid	Nil	
9	DCP	06 kg	Erection Bay- P/ H	Valid	Nil	
10	DCP	06 kg	Unit 1&2 - P/H	Valid	Nil	
11	DCP	04kg	Unit 3 &4 - P/H	Valid	Nil	
12	DCP	06 Kg	G.I.S Room- P/H	Valid	Nil	
13	DCP	06 kg	Transformer Area- P/H	Valid	Nil	
14	DCP	06 kg	G.I.S Room- P/H	Valid	Nil	
15	DCP	06 Kg	Staff Mess	Valid	Nil	
16	DCP	04 Kg	Labour Mess	Valid	Nil	
17	DCP	05 Kg	Labour Block 1	Expire	Nil	dispatched for refilling
18	DCP	06kg	Labour Block 2	Valid	Nil	

Instructions:

1 Check accessibility of Fire Extinguisher
2 Check the Pressure of Fire Extinguisher
3 Check nozel and pipe of Fire Extinguisher (are they in good condition)
4 Check the pin and seal weather they are intact or not
5 Check any dents leaks, rust, chemical deposits and other corrision sign on Fire Extinguisher
6 Shake the dry chemical Powder Fire Extinguishers after inspection
7 If Fire Extinguisher is expired report and replace it immediately

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Fogging/ Spraying Record

Project: New Bong Escape Hydro Electric Power Complex

Area	July 2012		Aug 2012		Sep 2012		Oct 2012		Nov 2012		Dec 2012	
	15-Jul	16-Jul	17-Aug	19-Aug	22-Sep	25-Sep	3-Oct	22-Oct	6-Nov	27-Nov	8-Dec	26-Dec
Office Area	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Korean Staff Residences	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Work Shop	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 01	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 02	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Mess	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 03/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 03/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 03/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 03/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Labour Mess Hall	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 04/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 04/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 04/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 04/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 05/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 05/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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Fogging/ Spraying Record

Project: New Bong Escape Hydro Electric Power Complex

Area	July 2012		Aug 2012		Sep 2012		Oct 2012		Nov 2012		Dec 2012	
	15-Jul	16-Jul	17-Aug	19-Aug	22-Sep	25-Sep	3-Oct	22-Oct	6-Nov	27-Nov	8-Dec	26-Dec
Local Staff Residence # 05/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 05/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 06/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 06/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 06/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 06/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 07/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 07/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 07/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 07/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 08/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 08/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 08/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 08/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 09/1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 09/2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 09/3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Local Staff Residence # 09/4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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Rigging Equipments Inspection Checklist

Date:20/12/12

Project: New Bong Escape Hydro Electric Power Complex

Inspected by:Rigging Supervisor, ESOHS Officer

Sr. No	Description	Y	N	Comments	Action Taken
1	Is the rigging stored properly?		N	rigging equipments was observed stored properly	
2	Is the load rating present?	Y			
3	Are the wire ropes free of rust or broken wires?	Y		No such damages are observed	
4	Are ropes free of crushing or any other damage resulting in the distrotion of rope structure?	Y		No evidence of crushing or distortion is witnessed.	
5	Are defective ropes cut off or marked as unusable?	Y		Defective equipments are not stored at site, and properly stored at designated location.	
6	Are protruding ends of strands in splices on slings and bridles covered or blunted?	Y			
7	Are all fiber ropes protected from freezing, excessive heat or corrosive materials?	Y		No such sign of excessive heat or corrosive materials are obseved.	
8	Are all ropes protected from abrasion?	Y			
9	Do all the rope slings have a minimum clear length of 40 times the diameter of component ropes between each end fitting or ee splice?	Y			
10	Is each synthetic web sling marked or color coded?	Y		Synthetic web sling are not in use.	
11	Are the drums, sheaves and pulley smooth and free of surface defects that may damage rigging?	Y		It found satisfactory	
12	Have all the damaged drums and pullys been removed from service?	Y		No damage equipment observed there.	
13	Are all shackles and hooks sized properly?	Y			
14	Do all drums have sufficient rope capacity?	Y		Sufficient rope is available with each drum	
15	Is the drum end of the rope anchored by a clamp securely attached to the drum in a manner approved by the manufacturer?	Y		Each drum end of rope is secured by fixing with clamps	

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Scaffolding Inspection Checklist

Project: New Bong Escape Hydro Electric Power Complex

Date: 28/12/12

Area to be Inspected: Scaffolding (Power house)

Inspected by:Site Engineer, ESOHS Officer

Sr. No	Description	Y	N	Comments	Action Taken
1	Is the scffolding being erected under the direction of competent person?	Y		Qualified person is supervising the erection & dismantling of scaffolding	
2	Are footings of scaffold sound & rigind, not set on the soft ground or resting on blocks?	Y		Footing on solid concrete bed.	
3	Is the scaffold level?	Y		Scaffolding is erected on concrete bed at levelled surface.	
4	Are all braces, bearers and clamps secured, all sections pinned or appropriately secured?	Y		Clamps observed properly secured.	
5	Are scaffold equiped with guard rails consisting of toprail (38"-45" from platfrom) & mid railing (centre of top railing and platform)?		N	Guard railing observed missing at railing used in office building	Railing was installed the same day.
6	Are scaffolds adequately braced horizontally and vertically?	Y		All scaffolds are properly braced horizentally and vertically.	
7	Are the load bearing scaffold poles (ladder steps) not curved.	Y			
8	Does uncleated plank extend the end support a minimum of six inches.	Y			
9	Where planks are overlapped are they lapped over the supports?	Y			
10	Are the top and bottom surfaces of the plank visible and free from paint and other opaque finishes?	Y		All planks are free from any paint and opaque finishing	
11	If scaffold components of different manufacturers are used, do they fit together without force and has a competent person determined that they are safe for use?	Y		Mostly the scaffold of one manufacturer is being used at site.	
12	Have all components been inspected for defects such as broken welds, corroded members, and missing locks, bent or dented pipes?	Y		All components of scaffold found satisfactory.	
13	Are guardrails and midrails installed on all open sides and open ends of the platform?	Y		Guard railing and Midrailing are found satisfactory	
14	Have cross braces been prohibited as a means of access?	Y		Tool box talk is also coducted on safe access.	
15	Are tools, material, and debris removed from scaffold to prevent an accumulation?	Y		All items are of same manufacturer.	
16	Are the ladders specifically designed for use with the type of scaffold used?	Y		All items are of same manufacturer.	
17	Are the rungs of ladder at least 8 inches in length?	Y		Proper Korean manufactured ladders are being used.	
18	Have all planks been properly secured to the scaffold structure to prevent them blowing off in the event of high winds?	Y		All planks are tied at both ends to secure them blowing off.	
19	Has it prohibit the use of ladders and other devices to increase working heights on platforms.	Y		Platforms are not used to extend the height.	
20	Has the Safety briefing made to all people working on / for scaffolding?	Y			
21	Are all employees aware not to use a scaffold with broken or missing parts	Y		Tool box talks are provided on scaffolding regualarly	
22	Are all employees aware that before moving the scaffolds there are no power lines or other obstructions overhead?	Y		No over head power lines near the Power house.	
23	Are employee not allowed to work at plat forms during high winds and bad weather?	Y		During bad weather no one is allwoed to work there.	

Exhibit 16 – Waste audit

(Please see the next page)

SAMBU

Waste Audit Checklist

Audit Area/ Location: Waste producers at Site

Auditor: ESOHS OfficerSambu

Project: NBE Hydro Electric Power Complex

Date: 16/10/12

Sr. No	PARAMETERS	Y	N	COMMENTS
1	Does the waste stored in the bins at the point of collection for each mess hall.	√		
2	Are regualtion inspection carried out with sufficent frequency to avoid accumulation of garbage?	√		
3	Are Waste storage drums aesthetically in good condition?	√		
4	Does the Specific containers for rubbish collection are provided at site?	√		
5	Do the containers emtied on regualr basis (to be determind based on temperature and volume generated) to avoid unpleasant odour associated with decaying organic materials?	√		Containers are emptied twic a week or early depending upon the temperature and volume.
6	Are the Pest, vector control and disinfection carried out throughout the living facilities in compliance with local requirements?	√		It is carried out twice a month
7	Does the waste genererated evaluated at site to identify the reuseable and recyclable waste.	√		It is repoted with each Monthly Progress Report
8	Are hazardous and non-hazardous waste segregated at source?	√		Only a small quantity of medical waste is generated which is handled separately.
9	Are waste bins been sprayed/ cleaned with disinfectants to avoid pest extremeness and vector control?	√		Spray has been executed on regular basis.
10	Are an adequate number of rubbish bins provided?	√		Each room has been provided with bin for collection.
11	Are awareness/warning signs boards' fixed near the appropriate waste storage areas?	√		No littering Signs are placed at specific locations.

SAMBU

Waste Audit Checklist

Audit Area/ Location: Waste producers at Site

Auditor: ESOHS OfficerSambu

Project: NBE Hydro Electric Power Complex

Date: 16/10/12

Sr. No	PARAMETERS	Y	N	COMMENTS
12	Are rubbish containers protected from insects and rodents?	√		It has been protected using cover on drums.
13	Is the waste stored in a way that does not adversely affect human health and the environment?	√		Waste is stored in the covered drums to protect human health and environment.
14	Are the waste containers suitably labelled to include details of their contents and their locations recorded in a tracking system.	√		Waste containers are labelled.
15	Are drums provided with covering in order to avoid unpleasant odours associated with decaying of organic materials?	√		
16	Doe the recyclabel material segregated at the point of generation?	√		
17	Are compactor trucks or covered transfer vehicle used along the entire route of transport to avoid windblown litter?		√	Compactor truck is not available, however a trolley with enough high wall is used by the contractor to handle the waste.
18	Doest the waste transporting driver instructed on the benfits of driving practices which reduce both the risk of accidents and fuel consumption?	√		Toolbox talk on safe driving practices has been conducted and is repoted with October MPR.
19	Is the vehicle used for waste collection not used for the transprotation or distribution of other goods.	√		
20	Are the site raods maintained in good condition to reduce noise and vibration form vehicle movements.	√		Site roads are properly maintained and repaired to reduce noise and vibration.
21	Is the storage of flammable liquids (e.g fuel and flammable waste) minimized at site.	√		The flammable waste is acutioned on regular basis.
22	Is storage area labelled?	√		Sign board is installed there.

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Waste Audit Checklist

Audit Area/ Location: Waste producers at Site

Auditor: ESOHS OfficerSambu

Project: NBE Hydro Electric Power Complex

Date: 16/10/12

Sr. No	PARAMETERS	Y	N	COMMENTS
23	Are fire fighting equipment appropriate to the type of waste received at site available.	√		Fire extinguishers have been placed in Workshop besides storage area.
24	Is the storage area for used and new lubricant drums separated?	√		
25	Have the storage facility for storing drums keep an aisle space between drums to allow for inspection for leaks and damages?	√		
26	Is the area around the waste lubricant storage area free of releases?	√		Cemented pad is present to prevent soil contamination.
27	Is there any containment to avoid entrance of rain water in used and empty lubricant drums?	√		The necessary containment is available to prevent movement of oil with rain water from storage area.
28	Are medical waste bins emptied daily or whenever they are ½ filled?	√		
29	Is the waste bin foot operated to avoid bacterial contamination?	√		
30	Is a suitably certified waste contractor hired to uplift and dispose of non recyclable waste to the Munciipility Landfill site.	√		A contractor for waste transportation is hired but EPA AJK has not approved any non recycling waste contractor in its jurisdiction.
31	Is the contractor selected for solid waste (recyclable and reuseable) approved/ authorized person from the concerned authorities.		√	EPA AJK has not approved any recycling waste contractor in its jurisdiction
32	Is wastewater drainage system working properly?	√		
33	Does the oil and grease trap pits constrcuted for the effluents discharged from the cooking facilites prior to dischage in the sewage system to minimize its contents in the waste effluents?	√		Oil and grease trap pits have been constructed for the effluents and later the effluent analysis was conducted and found within the limits of IFC standards.

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Waste Audit Checklist

Audit Area/ Location: Waste producers at Site

Auditor: ESOHS OfficerSambu

Project: NBE Hydro Electric Power Complex

Date: 16/10/12

Sr. No	PARAMETERS	Y	N	COMMENTS
34	Are the Wastewater like sewage adequately discharged in compliance with local/ WHO or IFC standards without causing any significant impacts?	√		Waste anlaysis was conducted on June 15, 2012 and tests found within the limits of IFC standards and Pak NEQS.
35	Does any significant impacts observed on camp residents, the biophysical environmetn or surrounding communities?		√	No such impact is reported
36	Are all possible practical and reasonable measures been implemented to minimize littering?	√		"No littering Signs"are placed at specific locations.
37	Are all people aware of No Littering Policy?	√		Toolbox talk on No littering Policy had been conducted time and again, and reported in the previous MPR's.
38	Are awareness records maintained?	√		Maintained and reported in Monthly Progress Reports
39	Is Solid Waste Management System regularly checked and updated for the Project Site?	√		Quantification of solid waste has been executed on Site.
40	Have training/toolbox talks been conducted about handling of solid waste on Project Site?	√		

Recommendations/ Others

Overall waste management system at project site is satisfactory however it needs some improvements like the searching of certified waste contractors for recyclable and non recyclabe waste. Use of Non compactor vehicle needs to be replaced with some compactor vehicle (if available).

Exhibit 17 – CO2 Displacement

(Please see the next page)

The project activities, sources of potential CO_2 emission and its corrective/preventive mitigation measures are summarized below;

Sr.No.	Project Activities	Source of Potential CO_2 emission	Corrective/ Preventive Actions
1	Excavation of Headrace Channel.	Use of excavation machinery	**Brand New Machinery:** 1. The Contractor has delivered brand new machinery to the Project Site, hence mitigating the potential source of emission of CO_2 in the atmosphere. **Regular servicing of the Machinery:** 2. As pro-active approach, the Contractor is conducting regular tuning/servicing of the machinery, again mitigating the potential source of CO_2 evolution.
		Tree removal	**Tree Plantation Plan:** The clearance of Headrace channel involved removal of 508 trees, which can increase the concentration of CO_2 in the Project Site atmosphere. Therefore, as corrective approach, Tree Plantation Plan has been developed and will be implemented as soon as practically possible.

Sr.No.	Project Activities	Source of Potential CO_2 emission	Corrective/ Preventive Actions
			However, presently ornamental plants have been grown alongside the office area for maximization of CO_2 sequestration on the Project Site.
		Solid Waste Disposal	**Waste Management Plan:** The cutting of trees, shrubs and left over on headrace channel will produce solid waste. The open dumping of the above mentioned items have the potential to evolve and accumulate CO_2 in the atmosphere. To avoid open dumping of the shrubs and left over on the Project Site, Waste Management plan have been established and implemented. One such practice dealing with this issue is handing over of shrubs and left over to local recycling contractor, as trees have been taken up by the Government Department.
2	Excavation and construction of Powerhouse	1. Use of excavation machinery 2. Use of Construction machinery comprising of concrete mix, Dumpers, Excavators, Crane etc	**Brand New Machinery:** 1. The Contractor has delivered brand new machinery to the Project Site, hence mitigating the potential source of emission of CO_2 in the atmosphere.

Sr.No.	Project Activities	Source of Potential CO_2 emission	Corrective/ Preventive Actions
			Regular servicing of the Machinery: 2. As pro-active approach, the Contractor is conducting regular tuning/servicing of the machinery, again mitigating the potential source of CO_2 evolution.
		Solid Waste Disposal	**Waste Management Plan:** The Site clearance for Powerhouse involved cutting of shrubs and left over, producing solid waste. The open dumping of the above mentioned items have the potential to evolve and accumulate CO_2 in the atmosphere. To avoid open dumping of the shrubs and left over on the Project Site, Waste Management plan have been established and implemented. One such practice dealing with this issue is handing over of shrubs and left over to local recycling contractor.
			Air Quality Monitoring: Considering pro-active approach, the Contractor has conducted Air Quality Monitoring in the Powerhouse area in May.

Sr.No.	Project Activities	Source of Potential CO_2 emission	Corrective/ Preventive Actions
			2010. The results illustrated the concentration of CO_2 within the permissible limits as set by Pakistan NEQS and IFC Standards Moreover, Air Quality Monitoring plan for the Construction phase has been established and implemented on the Project Site.
3	Excavation of Tailrace channel	Use of excavation machinery	**Brand New Machinery:** 1. The Contractor has delivered brand new machinery to the Project Site, hence mitigating the potential source of emission of CO_2 in the atmosphere. **Regular servicing of the Machinery:** 2. As pro-active approach, the Contractor is conducting regular tuning/servicing of the machinery, again mitigating the potential source of CO_2 evolution.
		Tree removal	**Tree Plantation Plan:** The clearance of Tailrace area involved removal of approximately 1200 trees, which can increase the concentration of CO_2 in the Project Site atmosphere. Therefore, as corrective approach, Tree Plantation Plan has

Sr.No.	Project Activities	Source of Potential CO_2 emission	Corrective/ Preventive Actions
			been developed and will be implemented as soon as practically possible. However, presently ornamental plants have been grown alongside the office area for maximization of CO_2 sequestration on the Project Site
			Air Quality Monitoring: Considering pro-active approach, the Contractor has conducted Air Quality Monitoring in the Tailrace area in May 2010. The results illustrated the concentration of CO_2 within the permissible limits as set by Pakistan NEQS and IFC Standards Moreover, Air Quality Monitoring plan for the Construction phase has been established and implemented on the Project Site.
4	Construction of office area and Labor camp	Use of excavation machinery	**Brand New Machinery:** 1. The Contractor has delivered brand new machinery to the Project Site, hence mitigating the potential source of emission of CO_2 in the atmosphere.

Sr.No.	Project Activities	Source of Potential CO_2 emission	Corrective/ Preventive Actions
			Regular servicing of the Machinery: 2. As pro-active approach, the Contractor is conducting regular tuning/servicing of the machinery, again mitigating the potential source of CO_2 evolution.
		Solid Waste Disposal after construction	**Solid Waste Management Plan:** After the construction and execution of office and camp area, solid waste comprising of food waste, plastic waste, paper, cardboard etc will be generated. The open dumping of the above mentioned items will be the source of CO_2 emission. Therefore, Solid Waste Management plan has been developed and implemented by composting the food waste and handling of the recyclables to the local Contractor.