USAID ENERGY POLICY PROGRAM

ENVIRONMENTAL AUDIT REPORT

ENVIRONMENTAL COMPLIANCE MONITORING OF MUZAFFARGARH THERMAL POWER STATION

VISIT 02

October 2012

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USAID ENERGY POLICY PROGRAM

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ENVIRONMENTAL COMPLIANCE MONITORING OF MUZAFFARGARH THERMAL POWER STATION

Visit-02

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DISCLAIMER

The contents of this document are the sole responsibility of Advanced Engineering Associates International, Inc. (AEAI) and do not necessarily reflect the views of USAID or the United States Government.

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Acronym

AEAI	Advanced Engineering Associates International, Inc
CEO	Chief executive Officer
CRRW	Chief Resident Representative WAPDA
EMMP	Environmental Monitoring and Mitigation Plan
FARA	Fixed Amount Reimbursement Agreement
HBP	Hagler Bailly Pakistan
HSE officer	Health Safety and Environment Officer
ID	Identification number or code
MTPS	Muzaffargarh Thermal Power Station
NEQS	National Environmental Quality Standards
OHS	Occupational Health and Safety
USAID	United States Agency for International Development
WAPDA	Water and Power Development Authority

1. Introduction

The Government of United States of America through U.S. Agency for International Development (USAID) is funding Muzaffargarh repair and rehabilitation work (the 'Project'). Advanced Engineering Associates International, Inc. (AEAI) is providing monitoring and implementation support to USAID for the Project and, as part it, has acquired the services of Hagler Bailly Pakistan (HBP) to undertake environmental compliance monitoring of the Project.

The purpose of environmental compliance monitoring is to assess the performance of the implementation team of the Project at Muzaffargarh thermal power station (MTPS) (**Exhibit 1.1** and **Exhibit 1.2**) against the Environmental Monitoring and Mitigation Plan (EMMP) during the rehabilitation and repair work.

For this purpose, HBP undertook second environmental audit (the 'audit') at MTPS. The results of the audit are documented in this report.

1.1 Environmental Audit Activities

The second visit for environmental audit was undertaken on September 21, 2012.

The activities undertaken during this visit included:

- Opening Meeting with the plant management which was attended by the following:
  - Mr Muhammad Khalid Alvi, Resident Engineer (O&M)-1 – Muzaffargarh Thermal Power Station
  - Mr Muhammad Anwar Mughal, Resident Engineer- REM – Muzaffargarh Thermal Power Station
  - Aziz Karim, Environmental Expert, HBP
- Walk through the plant to inspect the storage of equipment and sites, specifically where the Project activities are undertaken under FARA agreement are in progress. This included the following:
  - New arrival equipment store area where met the store keeper and observed the stored equipment and material
  - Air pre-heater elements
  - ID Fan Rotor/Impeller and housings
  - Cooling tower fan accessories
  - Waste yard
- General review of the existing site conditions and OHS practices
- Closing meeting with MTPS management to review the environmental documents and discuss the preliminary outcome of the audit.

1.2 Progress of Project

On the audit day, no work was happening on rehabilitation and replacement activity.

A brief status of the Project as provided by AEAI and MTPS management is shown in **Exhibit 1.3**.

1.3 Summary of the results

During the audit, old issues revisited and observations were recorded. New issues of non-compliances were also recorded where replacement and rehabilitation work was underway at the plant. Out of 11 issues from the first visit, two were addressed. The remaining issues were discussed with the management of the plant who promised to close, along with new non-compliance observations at earliest. A summary of new, pending and closed issues is presented in **Exhibit 1.4**.

1.4 Trend

The visit-wise trend is shown **Exhibit 1.5**. During the current reporting period, the trend of recorded non-compliances showed no decrease in number of non-compliances corresponding to the previous visit period.

Exhibit 1.1: Project Location Map

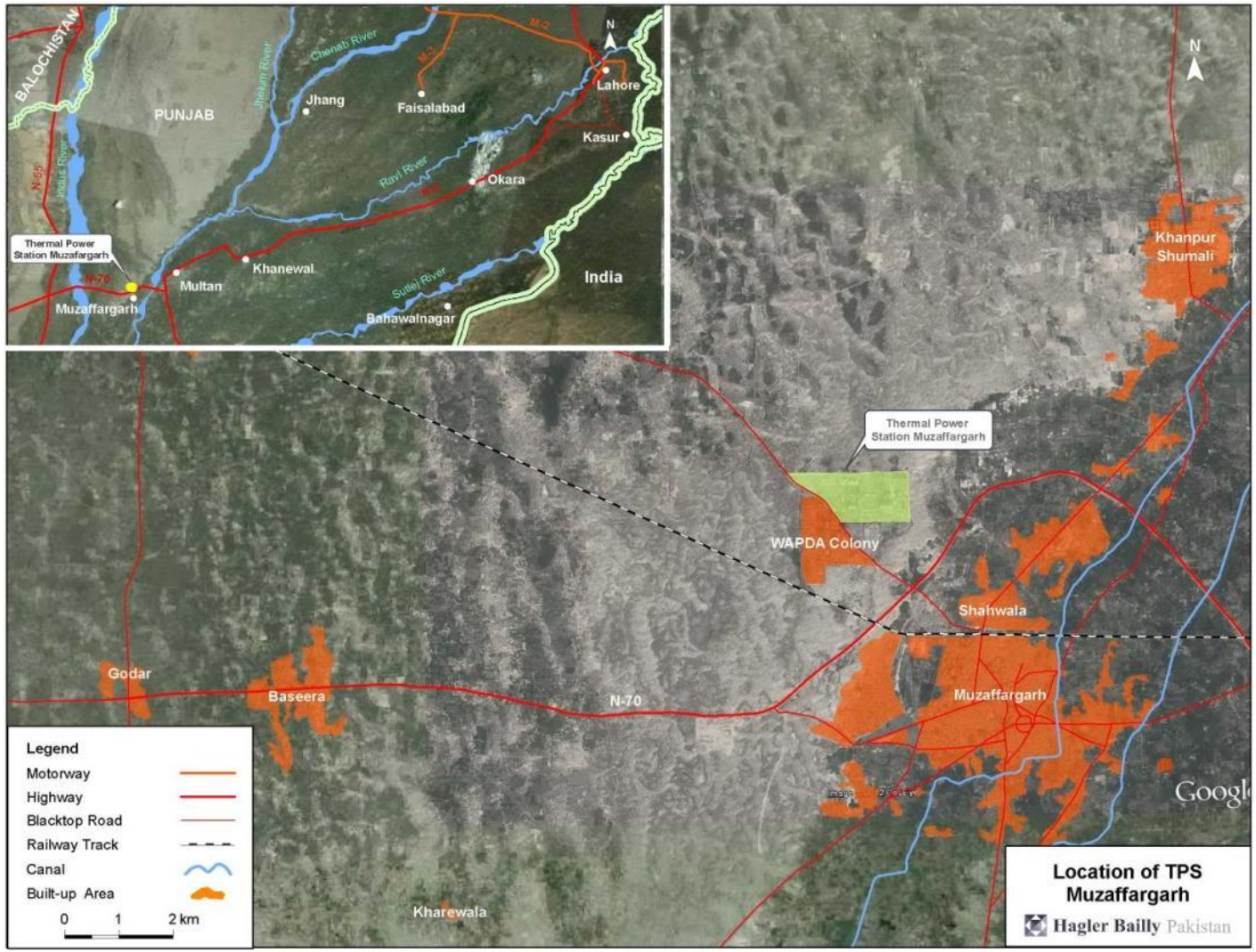


Exhibit 1.2: Satellite Image of the Plant

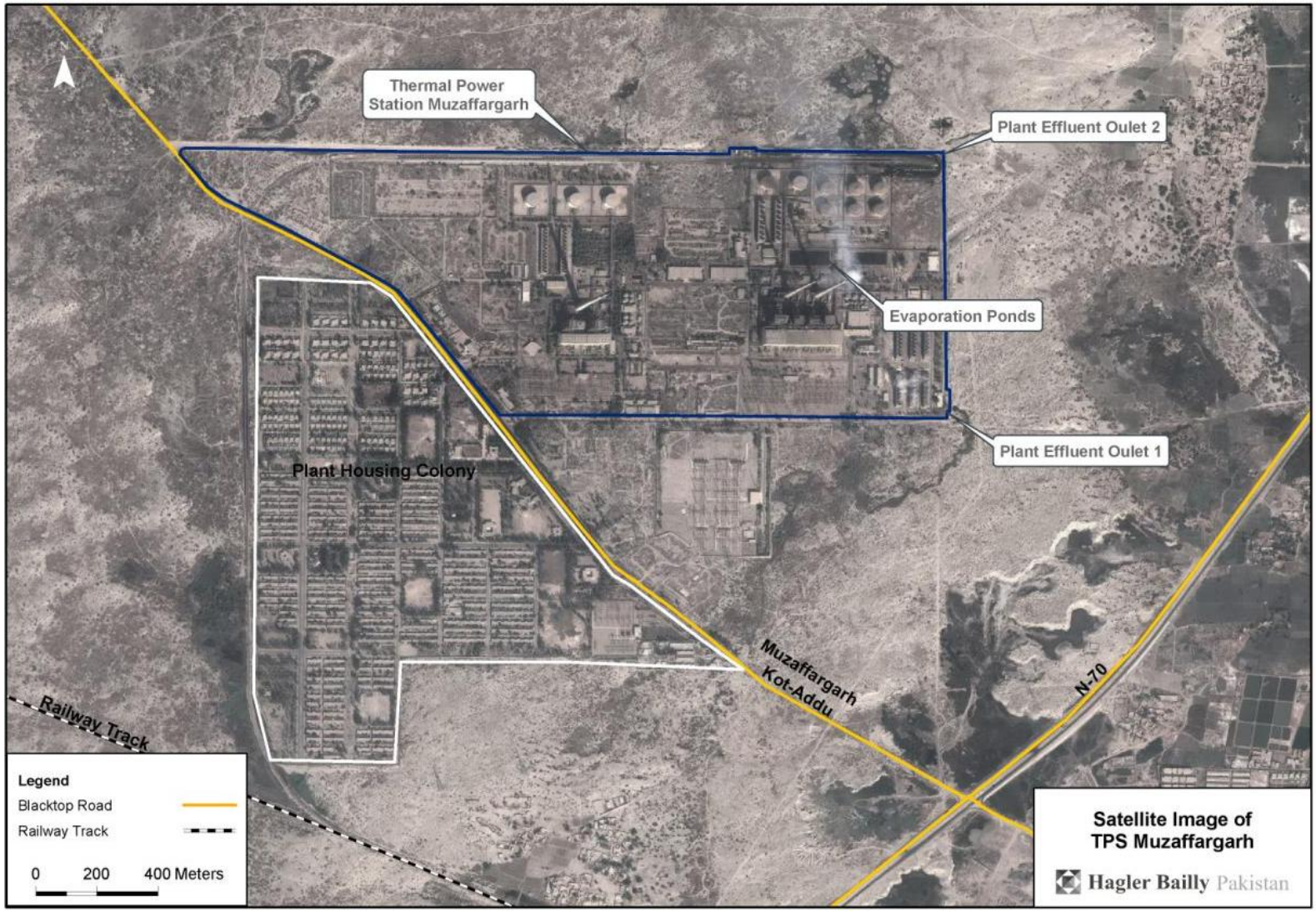


Exhibit 1.3: Progress of the Project

Line Item No.	*Unit No*	*Work Item description*	*Present Status*
1	1,2&3	Rehabilitation of Boiler super heater tubes to overcome failure of tubes	Items received and installed. Waste (including iron (20,000kg), plastic and packaging) generated from the activity has been stored in the yard until disposal (as per **EMMP Ref: Exhibit 4.1**) to be finalized by the plant management.
2	1 to 4	Special Cooling Water Treatment.	Procurement under process
3	1 to 6	Use of Fuel Oil Additive as done on Unit-4 (450 Tons).	Procurement under process
4	1,2&3	Replacement of Cold layer element for RAH (2 sets)	Items received and installed Waste (including Iron (528 no.), cotton and plastic(200kg) and packaging) generated from the activity has been stored in the yard until disposal (as per **EMMP Ref: Exhibit 4.1**) to be finalized by the plant management.
5	1,2&3	Modification of Excitation system (3 set)	Procurement under process
6	1,2&3	Electric motors for C.T. Fan (02 No) and for GRC fan. (01 No).	Procurement under process
7	3	D.C. Storage batteries (01 Set).	Items received and installed. Waste (including removed battries, packaging, wooden and plastic) generated from the activity has been. Waste other than battries stored in the yard until final disposal (as per **EMMP Ref: Exhibit 4.1**) to be finalized. Battery waste has been auctioned as per WAPDA protocols.
8	1,2&3	220Kv circuit breaker SF6 type (06 No).	Procurement under process
9	4	Re-blading of LP. Rotor (LP Turbine Rotor blades of row (6&7), pins & locking device).	Procurement under process
10	4	Air Pre-Heater Elements (Intermediate and Cold) 02 sets	Items received and installed. Waste (including iron, cotton and plastic, and packaging) generated from the activity has been stored in the yard until disposal (as per **EMMP Ref: Exhibit 4.1**) to be finalized by the plant management.
11	4	Up-gradation of AVR System (01 set).	Procurement under process
12	4	Changing of UPS 1&2. (01 set).	Procurement under process

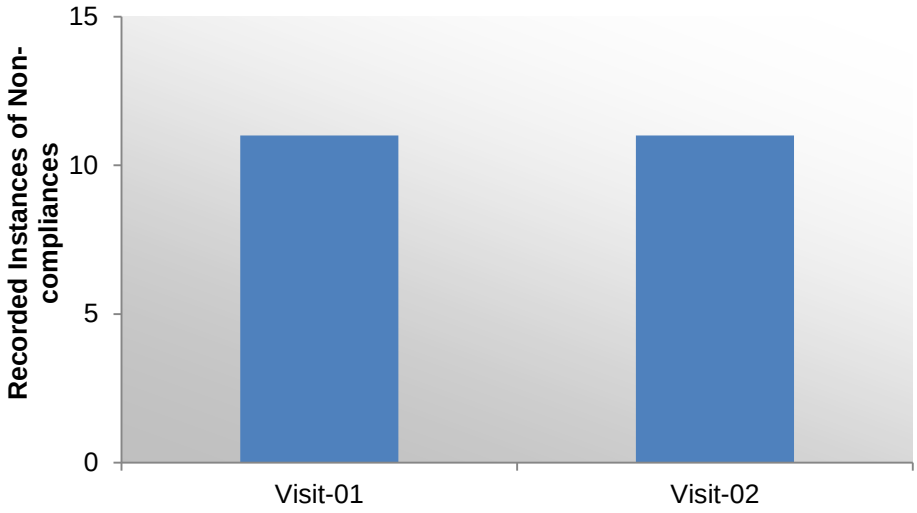
Line Item No.	*Unit No*	*Work Item description*	*Present Status*
13	4	DEH (01 set).	Procurement under process
14	4	Up-gradation of FSSS System (01 set).	Procurement under process
15	4	Up-gradation of TSI system BNC 3300 or equivalent (Turbine Supervisory Instrument) (01 set).	Procurement under process
16	1-6	Training and software/hardware cost for CMMS and off-line efficiency monitoring system. All Units	Procurement under process
17	5&6	I.D. Fan Rotor/Impeller along with Housing and Dampers (04 Set).	Items received at Plant and replacement work is underway. Waste generating during the work is temporarily stored on the ground then shift to the yard until disposal (as per **EMMP Ref: Exhibit 4.1**) to be finalized by the plant management
18	5&6	Air Pre heater Elements Hot end, intermediate & cold end layers along with seals for both units (04 Set).	Procurement under process
19	5&6	Procurement of G.R.C. Fan Impeller/Rotor (01 Set).	Items received at Plant and to be installed
20	5&6	Procurement of Cooling Tower Fan Gear Box & its parts. (06 No. gear box).	Items received at Plant and to be installed
21	5&6	Economizer Tubes for both Units (02 Sets)	Procurement under process
22	5&6	IP Turbine Rotor (01 No).	Procurement under process
23	5&6	Replacement of Damaged Exhaust flue gas ducts of material Russian Grade Steel sheets (50 M.T), Plate Type Heat Exchanger for Inner Water Cooling System of Generator and Motor for Starting Oil Pump (Vertical) Units 5-6	Procurement under process
24	5&6	Conversion of Boiler Ignition System from Natural Gas to HSD/Furnace Oil	Procurement under process

Line Item No.	*Unit No*	*Work Item description*	*Present Status*
25	5&6	Repair of winding and stator of Generators and testing	Procurement under process
26	5&6	Hydraulic coupling of Boiler Feed Water Pumps (01 No).	Procurement under process
27	5&6	Modification of Excitation System	Procurement under process
28	5&6	Procurement of 0.4KV Motors for Cooling Towers Fan and APH 02	Items received at Plant and to be installed
29	5&6	Procurement of 6.6KV Motor for C.W. Pumps, CP, ID Fan, FD Fan & BF Pumps (05 No).	Procurement under process
30	5&6	Procurement of 6.6/0.4KV Breaker (5 No. 6KV breaker, 18Nos. 0.4Kv Breakers).	Procurement under process
31	5&6	Protection Relay for Generators.	Procurement under process
32	5&6	MK Breakers, Seal Oil Coolers, PMG	Items received at Plant and to be installed
33	5&6	Supply, Installation, Commissioning & Testing of complete distributed control system (DCS) including field equipment like sensors, transmitter & actuators etc. for turbine governing system DEH-III and Boiler Turbine Auto regulation system YEWPACK-II	Procurement under process
34	5&6	Rehabilitation of Furnace safety Supervisory System (FSSS) including Furnace camera, flame monitoring & ignition system	Procurement under process

Exhibit 1.4: Visit-wise Summary of Non-compliances

Visit No.	*Current Issues*	*Pending Issues*	*Total Issues*	*Issue Closed*	*Average Time Taken (Days)*	*Open Issues*
01	11	–	11	–	–	11
02	02	11	13	02	82	11

Exhibit 1.5: Visit-wise Trend in Recorded Non- Compliances



2. Register of Audit Observations

See **Exhibit 2.1** on following pages:

Exhibit 2.1: Register of Audit Observation

Serial Number	*Issue ID*	*Visit No.*	*Issue*	*Photographic ID*	*Date Raised*	*Proposed Corrective Action*	*Responsibility*	*Target/ Revised Target Date*	*Status*	*Verification*	*Comments*	*Addressed Date*	*Days taken to Address/ Reason of Delay*
Pending Issues from Last visits													
01	1-01	01	No evidence was available that the vehicles used for the transportation of project equipment were compliant with the national environmental quality standards (NEQs)	–	April 18, 2012	Vehicles used for the transportation are NEQS compliant for the emissions and noise (**EMMP Ref: Exhibit 4.1**)	DD (MMS)	April 18, 2012 (1) October 31, 2012	No progress	–	MTPS has sent letter to Chief Resident Representative Wapda, who arrange vehicles for transportation of the equipment to MTPS under FARA, to ask contractor for the compliance of vehicle with the NEQs No response received yet (see **Appendix B**)	–	CEO waiting for the response of the letter, sent to CRRW for providing the testing results. No response received yet. HBP have suggested management to send a reminder.
02	1-03	01	Training for occupational health and safety has not been scheduled	–	April 18, 2012	Training should be scheduled as per requirement (see **EMMP Ref: Exhibit 4.2**)	DD (MMS)	May 1, 2012 (1) October 31, 2012	No progress	–	HBP suggested HSE Officer to initiate trainings of staff from basics, i.e importance and requirement of PPEs in personal safety at work site	–	HSE Officer inormed that they have no such capacity for formal trainings

Serial Number	*Issue ID*	*Visit No.*	*Issue*	*Photographic ID*	*Date Raised*	*Proposed Corrective Action*	*Responsibility*	*Target/ Revised Target Date*	*Status*	*Verification*	*Comments*	*Addressed Date*	*Days taken to Address/ Reason of Delay*
03	1-04	01	New equipment such as impellers were stored at non designated area in the passage way	05, 06, 09	April 18, 2012	The new equipment shall be stored in properly demarcated and identified areas (see **EMMP Ref: Exhibit 4.1**)	DD (MMS)	April 28, 2012 (1) October 31, 2012	Open	–	Impellers still found at the time of second visit	–	As per plant management, these are left at places for easy move to its final distination at the time of replacement work
04	1-06	01	Storage area for equipment was not demarcated and labeled	06	April 18, 2012	Storage area will be demarcated. Area will be either marked on the floor or cordoned off by tapes (see **EMMP Ref: Exhibit 4.1**)	DD (MMS)	April 25, 2012 (1) October 31, 2012	No progress	–	Plant managent needs to facilitate store keeper	–	No such facility is available with the store keeper
05	1-07	01	Packing material waste record was not maintained and location was not known	–	April 18, 2012	Inventory of all waste including packing material waste shall be prepared. For each type of waste the quantity and disposal mechanism shall be identified (see **EMMP Ref: Exhibit 4.1**)	DD (MMS)	May 1, 2012 (1) October 31, 2012	Open	–	For some items, generated waste amount has been recorded e.g line item no.01 and 04.	–	Inventory need to be made for each type of waste generated.

Serial Number	*Issue ID*	*Visit No.*	*Issue*	*Photographic ID*	*Date Raised*	*Proposed Corrective Action*	*Responsibility*	*Target/ Revised Target Date*	*Status*	*Verification*	*Comments*	*Addressed Date*	*Days taken to Address/ Reason of Delay*
06	1-08	01	Waste was not segregated in waste storage area.	07, 08	April 18, 2012	In the store yard all waste shall be stored separately. No waste shall be stored within the passage way (see **EMMP Ref: Exhibit 3.2**).	DD (MMS)	April 25, 2012 (1) October 31, 2012	No progress	–	Waste (iron and cotton and wooden) needs to be segregated properly, stored at yard	(1) October 31, 2012	No reason provided for not following the EMMP
07	1-09	01	Waste area was not demarcated and marked	01, 02, 03, 04	April 18, 2012	In the yard all waste shall be marked (see **EMMP Ref: Exhibit 3.2**).	DD (MMS)	April 25, 2012 (1) October 31, 2012	No progress	–	Plant managent needs to facilitate yard personnel	–	No such facility is available with the personnel at the yard

Serial Number	*Issue ID*	*Visit No.*	*Issue*	*Photographic ID*	*Date Raised*	*Proposed Corrective Action*	*Responsibility*	*Target/ Revised Target Date*	*Status*	*Verification*	*Comments*	*Addressed Date*	*Days taken to Address/ Reason of Delay*
08	1-10	01	No safety measures were taken in storage of the Lead acid batteries	–	April 18, 2012	Proper safety measures should be taken while handling, storage and disposal of these batteries as they contain toxic material (**EMMP. Ref: 3.2**) It is recommended that the batteries should be stored in shed areas away from direct sunlight and rain with impervious floor).	DD (MMS)	July, 2012 (1) October 31, 2012	Batteries were auctioned as per WAPDA protocols.	Yes	Batteries were auctioned as per WAPDA protocols. The management has to provide documentary evidence of final disposal	–	Issue will be closed when documentary evidance provided of safe disposal
09	1-11	01	Final disposal of waste has not been scheduled	–	April 18, 2012	The different types of waste should be timely disposed in accordance with the procedure mentioned in **section 3 of EMMP**	DD (MMS)	May 1, 2012 (1) October 31, 2012	Open	–	Disposal of non-valued waste such as used cotton, plastic packages and other, needed to be disposed off appropriately.	–	The plant management waiting for all replacement work to be completed for one time disposal

Serial Number	*Issue ID*	*Visit No.*	*Issue*	*Photographic ID*	*Date Raised*	*Proposed Corrective Action*	*Responsibility*	*Target/ Revised Target Date*	*Status*	*Verification*	*Comments*	*Addressed Date*	*Days taken to Address/ Reason of Delay*
New Issues from Recent Visit													
10	2-01	02	Iron waste stored in yard is not properly marked.	01, 02, 03, 04	September 19, 2012	In the store yard all waste shall be properly marked and segregated. A clear passage way marked by lines on the ground shall be left for walking of staff. No waste shall be stored within the passage way (**EMMP Ref: 3.2**).	DD (MMS)	October 31, 2012	Open	–	–	–	–

Serial Number	*Issue ID*	*Visit No.*	*Issue*	*Photographic ID*	*Date Raised*	*Proposed Corrective Action*	*Responsibility*	*Target/ Revised Target Date*	*Status*	*Verification*	*Comments*	*Addressed Date*	*Days taken to Address/ Reason of Delay*
11	2-02	02	Quantity and final distination of Lead acid batteries to be provided	–	September 21, 2012	Inventory of all waste shall be prepared. For each type of waste the quantity and disposal mechanism shall be identified and where necessary, audit of the waste contractor (**EMMP Ref: Exhibit 4.1**) Lead and acid from theses batteries should be removed from the used battery cells (**EMMP Ref: Exhibit 3.2**) The acid may be reused or recycled **EMMP Ref: Exhibit 3.2**) Proper safety measures should be taken while handling, storage and disposal of these batteries as they contain toxic material (**EMMP Ref: Exhibit 3.2**)	DD (MMS)	October 31, 2012	Open	–	–	–	–

Serial Number	*Issue ID*	*Visit No.*	*Issue*	*Photographic ID*	*Date Raised*	*Proposed Corrective Action*	*Responsibility*	*Target/ Revised Target Date*	*Status*	*Verification*	*Comments*	*Addressed Date*	*Days taken to Address/ Reason of Delay*
Issues Closed													
12	1-02	01	MTPS has not formulated any environmental team to implement EMMP	–	April 18, 2012	Environmental team will be designated at each unit and their job description will be documented (**EMMP Ref: section 4.5**).	CEO and HSE officer	September 27, 2012	Closed	Yes	An environmental committee has formed for implementation of EMMP (see **Appendix B**)	September 25, 2012	160
13	1-05	01	After the machines or equipment were used packing material waste from storage area was thrown at different places	05	April 18, 2012	All type of waste shall be collected and stored in separate bins marked for this purpose **EMMP Ref: Exhibit 3.2**)	DD (MMS)	April 25, 2012	Closed	Yes	Removed and shifted to yard	April 25, 2012	05

3. Areas of Concern and Corrective Actions

See **Exhibit 3.1** on following page:

Exhibit 3.1: Areas of Concern and Corrective Actions

Issue	*Issue ID/ Visit No. (see **Exhibit 2.1**)*	*Monitoring Indicator(s)*	*Proposed Corrective Action in EMMP*
Vehicles used for the transportation are NEQS compliant for the emissions and noise	▶ 1-01/ 01	Results of the noise and emissions	▶ Vehicles used for the transportation shall be monitored for the emissions and noise (**EMMP Ref: Exhibit 4.1**).
Trainings on occupational health and safety has not been scheduled	▶ 1-03/ 01	Documentation record and walk through audit observations	▶ Appropriate PPE shall be provided to the workers and it shall be ensured that the PPE are used (**EMMP Ref: Exhibit 4.1**). ▶ The staff shall be provided with training in use of PPE (**EMMP Ref: Exhibit 4.1**). ▶ Proper scaffolding platforms shall be provided for all work areas located more than 1 m above floor level (**EMMP Ref: Exhibit 4.1**). ▶ First Aid facilities and fire protection devices should be placed in areas where activates will be performed (**EMMP Ref: Exhibit 4.1**). ▶ Ear protection devise shall be used if the noise level is above 85 dB(A) (**EMMP Ref: Exhibit 4.1**).
Improper solid waste management	▶ 1-05/ 01 ▶ 1-07/ 01 ▶ 1-08/ 01 ▶ 1-09/ 01 ▶ 1-10/ 01 ▶ 1-11/ 01 ▶ 2-01/ 02 ▶ 2-02/ 02	Quantity of waste generated, their classification and disposal mechanism	▶ Inventory of all waste shall be prepared. For each type of waste the quantity and disposal mechanism shall be identified (**EMMP Ref: Exhibit 4.1**). ▶ Where necessary, audit of the waste contractor (**EMMP Ref: Exhibit 4.1**). ▶ Implementation of waste management plan presented in **Section 3 of EMMP**.
Storage of new equipment	▶ 1-04/ 01 ▶ 1-06/ 01	Walk through audit observations	▶ The new equipment shall be stored in properly demarcated and identified areas (**EMMP Ref: Exhibit 4.1**). ▶ Separate storage of each item should be adopted and each area should be marked either on floor or cordoned off by tapes (**EMMP Ref: Exhibit 4.1**). ▶ Lifting equipment (cranes) used for the equipment shall follow the prescribed safety specification tapes (**EMMP Ref: Exhibit 4.1**). ▶ Material Safety Data Sheet (MSDS) for chemicals, if any, shall accompany the consignment. A copy of the MSDS shall be available near the storage area at all times tapes (**EMMP Ref: Exhibit 4.1**).

4. Waste Inventory and Disposal Record

As part of the EMMP, an inventory of the waste generated during the rehabilitation and repair activities is required. Inventory of various wastes generated during the rehabilitation project is listed in **Exhibit 4.1**. However, the data in the table is taken from the EMMP (except the data for line item no. 1 and 4, which was given by the plant management) and provided only to indicate the relative magnitude of the generated waste. The ultimate disposal of the waste is to be provided by the management of the plant.

Exhibit 4.1: Waste Inventory and Disposal Record

Line Item No.	*Estimated Generated Waste*															
	Solid														*Liquid*	
	Steel/ Iron (kg)	*Disposal Status*	*Copper (kg)*	*Disposal Status*	*Wool (kg)*	*Disposal Status*	*Battries (No.)(kg)*	*Disposal Status*	*Plastic, Wood, Cloth & Packaging (kg)*	*Disposal Status*	*Electronics (kg)*	*Disposal Status*	*Soot (kg)*	*Disposal Status*	*Oil (liters)*	*Disposal Status*
1	20,000	Kept in yard	–	–	–	–	–	–	50	–	–	–	–	–	–	–
2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
3	40	–	–	–	–	–	–	–	800	–	–	–	–	–	–	–
4	250 no. Weight: ??	Kept in yard	–	–	–	–	–	–	200	Kept in yard	–	–	–	–	–	–
5	–	-	–	–	–	–	–	–	–	–	–	–	–	–	–	–
6	300	–	20	–	–	–	–	–	50	–	–	–	–	–	–	–
7	–	–	–	–	–	–	130	–	400	–	–	–	–	–	–	–
8	10	-	50	–	–	–	–	–	100	–	–	–	–	–	–	–
9	1,500	-	–	–	–	–	–	–	100	–	–	–	–	–	–	–
10	100	–	20	–	–	–	–	–	50	–	–	–	–	–	–	–
11	50	–	100	–	–	–	–	–	–	–	600	–	–	–	–	–
12	100	-	100	–	–	–	12	–	–	–	250	–	–	–	–	–
13	–	-	–	–	–	–	–	–	–	–	–	–	–	–	–	–
14	–	-	–	–	–	–	–	–	–	–	–	–	–	–	–	–
15	–	-	–	–	–	–	–	–	–	–	–	–	–	–	–	–
16	–	–	50	–	–	–	–	–	100	–	500	–	–	–	–	–

Line Item No.	Estimated Generated Waste															
	Solid														Liquid	
	Steel/ Iron (kg)	Disposal Status	Copper (kg)	Disposal Status	Wool (kg)	Disposal Status	Battries (No.)(kg)	Disposal Status	Plastic, Wood, Cloth & Packaging (kg)	Disposal Status	Electronics (kg)	Disposal Status	Soot (kg)	Disposal Status	Oil (liters)	Disposal Status
17	800	–	50	–	–	–	–	–	50	–	–	–	–	–	–	–
18	300	–	–	–	–	–	–	–	50	–	–	–	–	–	–	–
19	10,000	–	500	–	–	–	–	–	100	–	–	–	–	–	–	–
20	4,500	–	100	–	–	–	–	–	100	–	–	–	–	–	–	–
21	200	–	–	–	–	–	–	–	50	–	–	–	–	–	–	–
22	800	–	–	–	–	–	–	–	50	–	–	–	–	–	–	–
23	170,000	–	–	–	–	–	–	–	800	–	–	–	3000	–	–	–
24	100	–	–	–	–	–	–	–	50	–	–	–	–	–	–	–
25	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
26	2,000	–	50	–	–	–	–	–	50	–	–	–	–	–	–	–
27	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
28	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
29	10,000	–	100	–	–	–	–	–	100	–	–	–	–	–	–	–
30	100	–	10	–	–	–	–	–	50	–	–	–	–	–	–	–
31	1,000	–	50	–	–	–	–	–	50	–	–	–	–	–	–	–
32	2,500	–	500	–	–	–	–	–	100	–	–	–	–	–	–	–
33	20	–	300	–	–	–	–	–	100	–	1,000	–	–	–	–	–

Appendix A: Photographs

Photograph 01: Iron waste stored in yard is not properly marked.

Photograph 02: Iron waste stored in yard is not properly marked.

Photograph 03: Iron waste stored in yard is not properly marked.

Photograph 04: Wooden waste stored in yard is not properly marked.

Photograph 05: FARA Items stored at non designated area at the plant

Photograph 06: FARA item stored at non designated area

Photograph 07: Different waste without proper segregation

Photograph 08: Different waste without proper segregation

Photograph 09: FARA item stored in godown without clearly marked

Photograph 10: I.D Impeller housing after installation

Appendix B: Reference Documents

See following pages:

Appendix B-1: Formation for Environmental Committee

PEPCO

NORTHERN POWER GENERATION COMPANY LTD.

Ph: No. 066/9200295
066/9200165
Fax No. 066/9200166

Office of the
Chief Executive Officer
NPGCL, TPS, Muzaffargarh.

No.C.E.O/MZG/ 2216-20

Dated: 28/ 02 / 2009

OFFICE ORDER

A committee consisting of the following officers of TPS Muzaffargarh is hereby constituted to look after the environmental issues of the Power Station as well as colony:-

1.	Director (MMS)	Convener
2.	Sr. Chemist	Member
3.	Sr. Engineer (Decanting)	Member
4.	Sr. Medical Officer Wapda Fortified Dispensary.	Member
5.	XEN(Civil)	Member
6.	Jr. Chemist Unit-4	Member

The meeting should be held on fortnightly basis and report be submitted to the undersigned accordingly.

Chief Executive Officer
NPGCL, TPS Muzaffargarh

CC.

01. Chief Engineer/Technical Director, NPGCL, TPS Muzaffargarh.
02. All RE's. TPS Muzaffargarh.
03. All Director's TPS Muzaffargarh.
04. District Officer Environmental Protection Agency Muzaffargarh.
05. Members of the Committee.

Appendix B-2: Letter to CRRW

NORTHERN POWER GENERATION COMPANY LIMITED

TeleNo. 066-9200296

Fax No. 066-9200166

Office Of The
Chief Executive Officer
Genco-III, NPGCL, TPS,
Muzaffargarh

No. CEO/MZG/Dir (MMS)/4134-36

Dated. 18 / 04/2012

The Chief Resident Representative,
39-C Block-6 P.E.C.H.S
Karachi

Subject: **IMPLEMENTATION OF ENVIRONMENTAL MITIGATION & MONITORING PLAN (EMMP) FOR REPAIR AND REHABILITATION WORK AT MUZAFFARGARH THERMAL POWER STATION.**

As per Environmental Mitigation and Monitoring plan (EMMP) for repair and rehabilitation work at TPS Muzaffargarh under FARA submitted by USAID GTIP project's head, it is to ensure that, all the repair and rehabilitation works under FARA agreement are to be environmentally compliant in accordance with the applicable USG and Government of Pakistan Policies and regulations.

In this scenario, it is hereby desired that all the vehicles used for the transportation of Material/Equipment from Karachi to Thermal Power Station Muzaffargarh, covered under USAID Programme, must be National Environmental Quality Standards (NEQS) Compliant for the emissions and noise.

Chief Executive Officer
(Genco-III) NPGCL
TPS, Muzaffargarh

c.c.to:-

- Chief Engineer/Technical Director TPS Muzaffaragrh.
- Mr. Hassan Ahmed Auditor Hagler Bailly Pakistan.

Appendix B-3: Waste Survey Inventory Report

SURVEY REPORT

The survey report of the following Un-wanted material has been prepared and is being submitted which may kindly be passed on to the Dir:(Tech:) Conveners of the Survey committee for further necessary action please.

Sr. No	Survey Report No	Description.	Qty	Remarks.
01	289	M.S Scrap of Super Heater Tubes	20000 Kg.	

Submitted for further necessary action please.

Assistant Store Manager-I
TPS, Muzaffargarh.

A.R.E (M)-I 3/2/12

R.E. (O&M)-I 03/02/12

D. Tech.

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