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ENVIRONMENTAL AUDIT REPORT ENVIRONMENTAL COMPLIANCE MONITORING OF MUZAFFARGARH THERMAL POWER STATION

REPORT 01

April 2012

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USAID ENERGY POLICY PROGRAM

ENVIRONMENTAL AUDIT REPORT

ENVIRONMENTAL COMPLIANCE MONITORING OF MUZAFFARGARH THERMAL POWER STATION

Report-01

Submission Date: April 29, 2012

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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.

Acronym

AEAI	Advanced Engineering Associates International, Inc
ARE	Assistant Resident Engineer
CEO	Chief executive Officer
EMMP	Environmental Management and Monitoring Program
FARA	Fixed Amount Reimbursement Agreement
HBP	Hagler Bailly Pakistan
HSE officer	Health Safety and Environment Officer
ID	Identification number or code
JPCL	Jamshoro Power Company Limited
JTPS	Jamshoro Thermal Power Station
NEQS	National Environmental Quality Standards
OHS	Occupational Health and Safety
USAID	United States Agency for International Development

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) against the Environmental Management and Monitoring Program (EMMP) during the rehabilitation and construction work.

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

Environmental Audit Activities

The environmental audit was undertaken on April 18, 2012.

The activities undertaken during this visit included:

- ▶ Opening Meeting with the plant management (**Photograph 01**) which was attended by the following:
 - ▷ Mr Shams ul Arfeen, CE Technical Directors – MTPS
 - ▷ Mr Abdul Karim Khimbar, Deputy Director, (MMS) – MTPS
 - ▷ Mr Khalid Ali Siddique, Assistant resident engineer– MTPS
 - ▷ Mr Anwar Mughal, Assistant resident engineer– MTPS
 - ▷ Mr Mansoor Ahmed, Assistant resident engineer– MTPS
- ▶ Walk through the plant to inspect the storage of equipment and sites, specifically where the Project activities are undertaken. This included the following:
 - ▷ Store area
 - ▷ Units were rehabilitation and repair work has been completed
 - ▷ 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.

Progress of Project

The following is a brief status of the Project as provided by MTPS management:

- FARA Item # 1: Super heater tubes were replaced and waste tubes have been placed in the waste yard and were monitored for compliance with EMMP
- FARA Item # 2: Procurement under process
- FARA Item # 3: Procurement under process
- FARA Item # 4: Cold layer element of RAH have been replaced and waste elements are placed in the waste yard and were monitored for compliance with EMMP
- FARA Item # 5: Procurement under process
- FARA Item # 6: Procurement under process
- FARA Item # 7: D.C Storage batteries have been replaced and waste batteries are placed in the waste yard and were monitored for compliance with EMMP
- FARA Item # 8: Procurement under process
- FARA Item # 9: Procurement under process
- FARA Item # 10: Air Pre heater elements and seals have been replaced and waste elements have been placed in the waste yard and were monitored for compliance with EMMP
- FARA Item # 11: Procurement under process
- FARA Item # 12: Procurement under process
- FARA Item # 13: Procurement under process
- FARA Item # 14: Procurement under process
- FARA Item # 15: Procurement under process
- FARA Item # 16: Procurement under process
- FARA Item # 17: Impeller has been received at MTPS and were monitored for compliance
- FARA Item # 18: Procurement under process
- FARA Item # 19: Procurement under process
- FARA Item # 20: Procurement under process
- FARA Item # 21: Procurement under process
- FARA Item # 22: Procurement under process
- FARA Item # 23: Procurement under process
- FARA Item # 24: Procurement under process

- FARA Item # 25: Procurement under process
- FARA Item #26: Procurement under process
- FARA Item # 27: Procurement under process
- FARA Item # 28: Procurement under process
- FARA Item # 29: Procurement under process
- FARA Item # 30: Procurement under process
- FARA Item # 31: Procurement under process
- FARA Item # 32: Material stored at storage area and was monitored for compliance
- FARA Item # 33: Procurement under process
- FARA Item # 34: Procurement under process

During the audit visit no activities were taking place at MTPS.

Summary of the results

During the audit 10 observations were made and issues were shared with the plant management. Most of the proposed corrective actions were agreed to be completed within one to two days, whereas for some identified issues target dates were agreed. The observations and agreed corrective actions are presented on the following pages.

Register of Audit Observations

Issue ID	Visit No.	Issue	Photographic ID	Date Raised	Proposed Corrective Action	Responsibility	Target date	Status	Verification	Comments
1	1	No evidence was available that the vehicles used for the transportation of project equipment were compliant with the national environmental quality standards (NEQs) (EMMP Ref: Exhibit 4.1)		April 18, 2012	The contractor will be asked to provide noise and emission testing results of the vehicles used for the transportation (Appendix A)	CEO and HSE officer	April 18, 2012	In 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 (Appendix A)
2	1	MTPS has not formulated any environmental team to implement EMMP (EMMP REF: Exhibit 4.3)		April 18, 2012	Environmental team will be designated at each unit and their job description will be documented	CEO and DD (MMS)	April 25, 2012	In Progress	—	—
3	1	Training for occupational health and safety has not been scheduled (EMMP Ref: Exhibit 4.3)		April 18, 2012	Training should be scheduled	DD (MMS)	May 1, 2012	In Progress	—	—

Issue ID	Visit No.	Issue	Photographic ID	Date Raised	Proposed Corrective Action	Responsibility	Target date	Status	Verification	Comments
4	1	Impellers were stored at non designated area in the passage way (EMMP Ref: Exhibit 4.1)	02	April 18, 2012	The new equipment shall be stored in properly demarcated and identified areas	ARE unit 5 & 6 and DD (MMS)	April 28, 2012	In Progress	—	—
5	1	After the machines or equipment were used packing material waste from storage area was thrown at different places	03	April 18, 2012	It is recommended that the packaging waste should be removed from the storage area as soon as the equipment is removed	ARE unit 5 & 6 and DD (MMS)	April 25, 2012	In Progress	—	—
6	1	Storage area for equipment was not demarcated and labeled (EMMP Ref: Exhibit 4.1)	04 and 05	April 16, 2012	Storage area will be demarcated. Area will be either marked on the floor or cordoned off by tapes	AREs and DD (MMS)	April 25, 2012	In Progress	—	—
7	1	Packing material waste record was not maintained and location was not known (EMMP Ref: Exhibit 4.1)		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	ARE Unit 4	May 1, 2012	In Progress	—	—

Issue ID	Visit No.	Issue	Photographic ID	Date Raised	Proposed Corrective Action	Responsibility	Target date	Status	Verification	Comments
8	1	Waste was not segregated in waste storage area. (EMMP Ref: Exhibit 3.2)	06	April 16, 2012	In the store yard all waste shall be stored separately. No waste shall be stored within the passage way.	HSE officer and storage yard in-charge	April 25, 2012	In Progress	—	—
9	1	Waste area was not demarcated.	07	April 18, 2012	In the store yard all waste shall be marked.	AREs and DD (MMS)	April 25, 2012	In Progress	—	—
10	1	No safety measures were taken in storage of the Lead acid batteries (EMMP: Ref 3.2)	08		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).	ARE Unit 1,2 and 3 and DD (MMS)	April 25, 2012	In Progress		

Issue ID	Visit No.	Issue	Photographic ID	Date Raised	Proposed Corrective Action	Responsibility	Target date	Status	Verification	Comments
11	1	Final disposal of waste has not been scheduled (EMMP Ref: Exhibit 4.3)		April 18, 2012	The different type of waste should be timely disposed in accordance with the procedure mentioned in EMMP for each type of waste (EMMP Ref: Exhibit 3.3)	AREs and DD (MMS)	May 1, 2012	In Progress	—	MTPS management auction iron waste to waste contractor for which initial survey has been conducted (Appendix A).

Exhibit I: Non-Compliance Photographs of MTPS



Photograph 01: Meeting with plant management



Photograph 02: Impeller was stored at non designated area



Photograph 03: Packaging material was thrown at different places



Photograph 04: Storage area was not demarcated and labeled



Photograph 05: Storage area was not demarcated and labeled



Photograph 06: Waste is not segregated in the waste yard



Photograph 07: Waste area was not demarcated and labeled



Photograph 08: Lead acid batteries were stored improperly

Appendix A: Reference Documents

See following page



NORTHERN POWER GENERATION COMPANY LIMITED

TeleNo. 066-9200296

Fax No. 066-9200166

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

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

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

Dated. 18/04/2012

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 Muzaffargarh.
- Mr. Hassan Ahmed Auditor Hagler Bailly Pakistan.



SURVEY REPORT

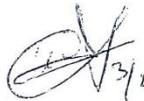
The survey report of the following Un-wanted material has been prepared and is being submitted which may kindly be passed on to the Dir:(Tech:) Conveners of the Survey committee for further necessary action please.

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.



Subject: **SURVEY REPORT**

The survey reports of the following Un-wanted and Un-serviceable material/scrap have been prepared and are being submitted which may kindly be passed on to the Dir:(Tech:) Convener of the Survey committee for further necessary action please.

Sr.No	Survey Report No	Description.	Qty	Remarks
01	288	Air Pre Heater Elements	18000 Kg	

Submitted for further necessary action please.

REI-371P
28/12/2011

A.R.E (M)-I

MA 28/12/11

Assistant Store Manager-I
TPS, Muzaffargarh.
28/12/2011

R.E. (O&M)-I

23/12/11

Dis Tech

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