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)/5318-21

Dated.23/05/2012

Mr. Salahuddin Rifai,
Head of Project Implementation Unit,
USAID GTIP Project,
AEAI, Islamabad.

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

Reference:
i) Your Office Letter No. dated 16.11.2011.
ii) Meeting with Hagler Bailly Pakistan auditor on dated 18.04.2012 in the office of DD (MMS) TPS Muzaffargarh.

With reference to above mentioned, it is hereby intimated please that,

i) An individual Action committee on each phase, to implement Environmental Mitigation & Monitoring Plan (EMMP) For Repair and Rehabilitation Work at Muzaffargarh Thermal Power Station, covered under USAID, has been constituted, headed by an HSE Officer as discussed in the meeting.

ii) Proper Handling/Storage of equipment and consequent waste produced hereafter installation, as per Waste Disposal Plan is being ensured.

iii) Concerned HSE Officer has prepared Block wise progress report for the period from November 2011 to April 2012, on the prescribed proforma by collecting all data relating to procurement/installation and consequent waste generation, w.e.f commencement of FARA agreement at TPS Muzaffargarh, in a report form, as instructed in the EMMP Plan and is hereby being attached for your information as desired please.

Chief Executive Officer
NPGCL, TPS Muzaffargarh

DA/Progress Report

C.C To:
- CE/TD TPS Muzaffargarh.
- Mr. Hassan Ahmed Auditor Hagler Bailly Pakistan.
- PA to CEO TPS Muzaffargarh.

NORTHERN POWER GENERATION COMPANY LTD
GENCO-III

IMPLEMENTATION OF ENVIRONMENTAL MITIGATION & MONITORING PLAN (EMMP) FOR REPAIR AND REHABILITATION WORK AT **PHASE-1** THERMAL POWER STATION MUZAFFARGARH

PROGRESS REPORT

FOR THE PERIOD FROM NOVEMBER-2011 TO APRIL-2012

NPGCL, (GENCO-III), TPS,
MUZAFFARGARH

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	01
Reporting Period	01- 06 - 2010 to 07- 05 - 2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Project Activities Carried Out

Activity	Status
Rehabilitation of Boiler Super Heater Tubes	Boiler Super Heater Tubes have been replaced.

Waste Generated and Handled

Waste Type	Sources	Quantity	Status
Steel Alloy	Boiler # 1,2 & 3	20000 Kg	Survey report has been submitted to Convener of Survey Committee (Dir. Technical)

Summary of Occupational Safety and Health Environmental Issues Identified

No	Issue	Location	Discussion	Decision / Action	Responsible Person	Target Date
1	Nil	Nil	Nil	Nil	Nil	Nil
2	Nil	Nil	Nil	Nil	Nil	Nil

Follow-up of Outstanding Issues

No	Date Issue Raised	Issue and Action	Status	Discussion	Responsible Person	Revise Target Date
	Nil	Nil	Nil	Nil	Nil	Nil
	Nil	Nil	Nil	Nil	Nil	Nil

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	02

Reporting Period	01-06-2012 to 07-05-2012
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I

Inspection

A-Rating Codes for the Checklist

Rating Code	Rating	Description
3	Excellent	The activity, area, system, and/or knowledge are superior comments detailing
2	Adequate	The activity, area, system, and/or knowledge meet the basic minimum Requirements which includes proper documentation and full implement
1	Deficient	The activity, area, system, and/or knowledge are weak and not up to acceptable standards (Documented and not implemented or implemented and not documented). Comments outlining weaknesses required
0	Unsatisfactory	The activity, area, system, and/or knowledge are missing or of such a nature to warrant serious no compliance. Comments detailing concerns required.
N/A	Not Applicable	The question is not applicable to the type of operation, or the item was unable to be addressed during the audit.

Checklist

Requirement	3	2	1	0	N/A	Details
A. Waste Handling and Storage						
1- Use of protective leather gloves while handling sharp edged metals	√					
2. All parts and machines dispatched from site to storage yard after dismantling, preferably on the same day		√				
3. Marking and segregation of wastes in scrap yard and a clear passage way marked by lines on the ground for walking of staff. No waste stored within the passage way.		√				
4. Sharp edged metal are not to be left unattended at any time. In the storage yard, the storage area for sharp edged metals cordoned off using clearly visible tapes.	√					
5. All Parts and machines dispatched from site after dismantling to store yard as soon as possible, preferably on the same day		√				
6. Before final disposal, any potentially hazardous substance such as lead or material containing lead are identified and disposed of accordingly.	√					

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	03
Reporting Period	01-06-2010 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Requirement	3	2	1	0	N/A	Details
7. To the extent possible any oil or grease in the equipment to be replaced is removed before dismantling of the equipment					√	
8. All efforts are made to avoid spilling the oil on the floor					√	
9. Any spillage is removed immediately. For this purpose, spill control kits are made available near the work areas.					√	
10. Waste oil is stored in leak proof containers					√	
11. Oil is stored in designated and clearly marked areas. The oil storage area is lined with impervious flooring					√	
12.The oil storage area is away from direct heat and fire source					√	
13. The oil storage area has dykes constructed around it to control accidental leakages and					√	
14. All type of plastic is collected and stored in separate bins marked for this purpose		√				
15. Plastic waste is not burnt in open air or disposed off by dumping in the areas surrounding the plant site	√					
16. Nails are removed from the woods	√					
17. All type of waste is collected and stored in separate bins marked for the designated purpose	√					
18. The equipment are opened only under the supervision of a qualified person. Any potentially hazardous material such as mercury is identified prior to dismantling and appropriate safety measures are taken.	√					
19. Masks are used to avoid respiratory infections while handling carbon soot	√					
20. Soot is transported and stored in covered containers	√					
21. Soot is preferably disposed as soon as it is removed from the duct. Prolonged storage, particularly at the site, is generally avoided.		√				
22. Waste is not burnt in open air or disposed of by dumping in the areas surrounding the plant site	√					

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	04
Reporting Period	01-06-2010 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Requirement	3	2	1	0	N/A	Details
23. Standard protective equipment including eye protective glass, gloves and mask are used.	√					
B- Waste Disposal						
1. Separate oil contaminated parts from the rest					√	
2. The oil contaminated parts of waste is cleaned before being fed into furnace. Alternatively, the cleaning may be undertaken at power station.					√	
3. Segregate wires and other copper material and insulation material from the rest.					√	
4. Before final disposal, any potentially hazardous substance such as lead or material containing lead is identified.	√					
5. The risk associated with the wastes is identified, and accepted disposal methods for such waste are followed.	√					
6. Only certified recycling contractors are used for disposal from the relevant agencies.	√					
7. Agreement with the contractors for the disposal of plastic waste in the designated pre-identified municipal landfill site.					√	
8. The soot is disposed of in an onsite landfill.	√					
9. The landfill design shall be located on land owned by MTPS; in areas with deep water table (> 20 m); preferably in an area with hard rock bed.	√					
10. After dumping of the soot in the landfill, it is immediately spread into layer and a layer of soil is spread over it.		√				
11. Soot is transported and stored in covered containers		√				
12. It is preferable to dispose of the soot as soon as it is removed from the duct. Prolonged storage, particularly at the site, is avoided.		√				
C- Transportation of Equipment from Karachi to MTPS						
1. Vehicles used for the transportation are NEQS compliant for the emissions and noise.	√					

Report No	[illegible] (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	[illegible]S AID	Page	05
Reporting Period	01-06-2012 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Requirement	3	2	1	0	N/A	Details
D. Onsite Handling and Storage of New Equipment						
1. The new equipment is stored in properly demarcated and identified areas	√					
2.Separate storage of each item is adopted and each area [illegible] either on floor or cordoned off by tapes	√					
3. Lifting equipment (cranes) used for the equipment follows the prescribed safety specification.	√					
4. Material Safety Data Sheet (MSDS) for chemicals. [illegible] shall accompany the consignment. A copy of the MSDS is available near the storage area at all times.		√				
E. Repair, Rehabilitation and Installation Activities—General						
1. Appropriate [illegible] is provided to the workers and ensured [illegible] PPE's are used.		√				
2. The staff is provided with training in use of PPE.	√					
3. Proper scaffolding platforms are provided for all work areas located more than 1 m above floor level.	√					
4. First Aid facilities and fire protection devices are [illegible] areas where activates are to be perfor[illegible]	√					
5. Ear protection devices are used if the noise level is above [illegible](A)	√					
F. Repair, Rehabilitation and Installation Activities—Working in Confined Spaces						
1. All confined spaces are identified	√					
2. The temperature of the confined spaces is in the human [illegible] range		√				
3. Artificial [illegible] physically safe lighting are provided in [illegible] confined spaces	√					
4. If there [illegible] of gases or fumes in the confined space [illegible] provisions for ventilation is made.	√					

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O& M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	01
Reporting Period	01-06-2010 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Project Activities Carried Out

Activity	Status
Special Cooling Water Treatment	Re-tendering is in process

Waste Generated and Handled

Waste Type	Sources	Quantity	Status
NA	NA	NA	NA

Summary of Occupational Safety and Health Environmental Issues Identified

No	Issue	Location	Discussion	Decision / Action	Responsible Person	Target Date
1	NA	NA	NA	NA	NA	NA
2	NA	NA	NA	NA	NA	NA

Follow-up of Outstanding Issues

No	Date Issue Raised	Issue and Action	Status	Discussion	Responsible Person	Revise Target Date
	NA	NA	NA	NA	NA	NA
	NA	NA	NA	NA	NA	NA

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US	Page	01
Reporting Period	21- 04- 2010 to 07- 05- 2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Project Activities Carried Out

Activity	Status
Use of Fuel Oil Additive	Tender Evolution is in process

Waste Generated and Handled

Waste Type	Sources	Quantity	Status
NA	NA	NA	NA

Summary of Occupational Safety and Health Environmental Issues Identified

No	Issue	Location	Discussion	Decision / Action	Responsible Person	Target Date
1	NA	NA	NA	NA	NA	NA
2	NA	NA	NA	NA	NA	NA

Follow-up of Outstanding Issues

No	Date Issue Raised	Issue and Action	Status	Discussion	Responsible Person	Revise Target Date
	NA	NA	NA	NA	NA	NA
	NA	NA	NA	NA	NA	NA

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
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Reporting Period	01-06-2010 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Project Activities Carried Out

Activity	Status
Replacement of cold layer Element for RAH	Material has been replaced.

Waste Generated and Handled

Waste Type	Sources	Quantity	Status
Carton Steel "A"	RAH Unit # 1,2&3	18000 Kg	Survey report has been submitted to Convener of Survey Committee (Dir. Technical)

Summary of Occupational Safety and Health Environmental Issues Identified

No	Issue	Location	Discussion	Decision / Action	Responsible Person	Target Date
1	Nil	Nil	Nil	Nil	Nil	Nil
2	Nil	Nil	Nil	Nil	Nil	Nil

Follow-up of Outstanding Issues

No	Date Issue Raised	Issue and Action	Status	Discussion	Responsible Person	Revise Target Date
	Nil	Nil	Nil	Nil	Nil	Nil
	Nil	Nil	Nil	Nil	Nil	Nil

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	02
Reporting Period	01-06-2010 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Inspection

Rating Codes for the Checklist

Rating Code	Rating	Description
3	Excellent	The activity, area, system, and/or knowledge are superior comments detailing
2	Adequate	The activity, area, system, and/or knowledge meet the basic minimum Requirements which includes proper documentation and full implement
1	Deficient	The activity, area, system, and/or knowledge are weak and not up to acceptable standards {Documented and not implemented or implemented and not documented). Comments outlining weaknesses required
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N/A	Not Applicable	The question is not applicable to the type of operation, or the item was unable to be addressed during the audit.

Checklist

Requirement	3	2	1	0	N/A	Details
A. Waste Handling and Storage						
1 . Use of protective leather gloves while handling sharp edged metals	√					
2. All parts and machines dispatched from site to storage yard after dismantling, preferably on the same day		√				
3. Marking and segregation of wastes in scrap yard and a clear passage way marked by lines on the ground for walking of staff. No waste stored within the passage way.	√					
4. Sharp edged metal are not to be left unattended at any time. In the storage yard, the storage area for sharp edged metals cordoned off using clearly visible tapes.	√					
5. All Parts and machines dispatched from site after dismantling to store yard as soon as possible, preferably on the same day		√				
6. Before final disposal, any potentially hazardous substance such as lead or material containing lead are identified and disposed of accordingly.	√					

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Reference	US AID	Page	03
Reporting Period	01-06-2010 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Requirement	3	2	1	0	N/A	Details
7. To the extent possible any oil or grease in the equipment to be replaced is removed before dismantling of the equipment					√	
8. All efforts are made to avoid spilling the oil on the floor					√	
9. Any spillage is removed immediately. For this purpose, spill control kits are made available near the work areas.					√	
10. Waste oil is stored in leak proof containers					√	
11. Oil is stored in designated and clearly marked areas. The oil storage area is lined with impervious flooring					√	
12.The oil storage area is away from direct heat and fire source					√	
13. The oil storage area has dykes constructed around it to control accidental leakages and					√	
14. All type of plastic is collected and stored in separate bins marked for this purpose						
15. Plastic waste is not burnt in open air or disposed off by dumping in the areas surrounding the plant site					√	
16. Nails are removed from the woods	√					
17. All type of waste is collected and stored in separate bins marked for the designated purpose.	√					
18. The equipment are opened only under the supervision of a qualified person. Any potentially hazardous material such as mercury is identified prior to dismantling and appropriate safety measures are taken.	√					
19. Masks are used to avoid respiratory infections while handling carbon soot	√					
20. Soot is transported and stored in covered containers					√	
21. Soot is preferably disposed as soon as it is removed from the duct. Prolonged storage, particularly at the site, is generally avoided.					√	
22. Waste is not burnt in open air or disposed off by dumping in the areas surrounding the plant site					√	

Requirement	3	2	1	0	N/A	Details
23. Standard protective equipment including eye protective glass, gloves and mask are used.	√					
B- Waste Disposal						
1. Separate oil contaminated parts from the rest					√	
2. The oil contaminated parts of waste is cleaned before being fed into furnace. Alternatively, the cleaning may be undertaken at power station.					√	
3. Segregate wires and other copper material and insulation material from the rest.					√	
4. Before final disposal, any potentially hazardous substance such as lead or material containing lead is identified.	√					
5. The risk associated with the wastes is identified, and accepted disposal methods for such waste are followed.	√					
6. Only certified recycling contractors are used for disposal from the relevant agencies.	√					
7. Agreement with the contractors for the disposal of plastic waste in the designated pre-identified municipal landfill site.					√	
8. The soot is disposed of in an onsite landfill.					√	
9. The landfill design shall be located on land owned by MTPS; in areas with deep water table (> 20 m); preferably in an area with hard rock bed.					√	
10. After dumping of the soot in the landfill, it is immediately spread into layer and a layer of soil is spread over it.					√	
11. Soot is transported and stored in covered containers					√	
12. It is preferable to dispose of the soot as soon as it is removed from the duct. Prolonged storage, particularly at the site, is avoided.					√	
C- Transportation of Equipment from Karachi to MTPS						
1. Vehicles used for the transportation are NEQS compliant for the emissions and noise.	√					

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	05
Reporting Period	01-06-2010 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Requirement	3	2	1	0	N/A	Details
D. Onsite Handling and Storage of New Equipment						
1. The new equipment is stored in properly demarcated and identified areas	√					
2.Sepate storage of each item is adopted and each area is marked either on floor or cordoned off by tapes	√					
3. Lifting equipment (cranes) used for the equipment follows the prescribed safety specification.	√					
4. Material Safety Data Sheet (MSDS) for chemicals, if any, shall accompany the consignment. A copy of the MSDS is available near the storage area at all times.		√				
E. Repair, Rehabilitation and Installation Activities—General						
1. Appropriate PPE is provided to the workers and ensured that the PPEs[1] are used.		√				
2. The staff is provided with training in use of PPE.	√					
3. Proper scaffolding platforms are provided for all work areas located more than 1 m above floor level.	√					
4. First Aid facilities and fire protection devices are placed in areas where activates are to be performed	√					
5. Ear protection devices are used if the noise level is above 85 dB(A)	√					
F. Repair, Rehabilitation and Installation Activities—Working in Confined Spaces						
1. All confined spaces are identified	√					
2. The temperature of the confined spaces is in the human tolerance range		√				
3. Artificial and intrinsically safe lighting are provided in the confined spaces	√					
4. If there is a risk of gases or fumes in the confined space the provisions for ventilation is made.	√					

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	01
Reporting Period	01-06-2012 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Project Activities Carried Out

Activity	Status
Modification of Excitation System (03 Set)	In Progress

Waste Generated and Handled

Waste Type	Sources	Quantity	Status
NA	NA	NA	NA

Summary of Occupational Safety and Health Environmental Issues Identified

No	Issue	Location	Discussion	Decision / Action	Responsible Person	Target Date
1	NA	NA	NA	NA	NA	NA
2	NA	NA	NA	NA	NA	NA

Follow-up of Outstanding Issues

No	Date Issue Raised	Issue and Action	Status	Discussion	Responsible Person	Revise Target Date
	NA	NA	NA	NA	NA	NA
	NA	NA	NA	NA	NA	NA

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	01
Reporting Period	01-06-2010 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Project Activities Carried Out

Activity	Status
Electric Motor for CT Fan (02 Nos.)	Purchase Order issued Dated: 23-09-2011 (In Progress)

Waste Generated and Handled

Waste Type	Sources	Quantity	Status
NA	NA	NA	NA

Summary of Occupational Safety and Health Environmental Issues Identified

No	Issue	Location	Discussion	Decision / Action	Responsible Person	Target Date
1	NA	NA	NA	NA	NA	NA
2	NA	NA	NA	NA	NA	NA

Follow-up of Outstanding Issues

No	Date Issue Raised	Issue and Action	Status	Discussion	Responsible Person	Revise Target Date
	NA	NA	NA	NA	NA	NA
	NA	NA	NA	NA	NA	NA

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	01
Reporting Period	01-06-2012 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Project Activities Carried Out

Activity	Status
Electric Motor for GRC Fan (01 No.)	Purchase Order issued Dated: 23-09-2011 (In Progress)

Waste Generated and Handled

Waste Type	Sources	Quantity	Status
NA	NA	NA	NA

Summary of Occupational Safety and Health Environmental Issues Identified

No	Issue	Location	Discussion	Decision / Action	Responsible Person	Target Date
1	NA	NA	NA	NA	NA	NA
2	NA	NA	NA	NA	NA	NA

Follow-up of Outstanding Issues

No	Date Issue Raised	Issue and Action	Status	Discussion	Responsible Person	Revise Target Date
	NA	NA	NA	NA	NA	NA
	NA	NA	NA	NA	NA	NA

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	01
Reporting Period	01-06-2010 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Project Activities Carried Out

Activity	Status
DC Storage Batteries (01 Set)	The Batteries have been installed at Unit # 1

Waste Generated and Handled

Waste Type	Sources	Quantity	Status
Batteries (Cell)	Batteries of Unit # 1	130 Nos. (7150 Kg.)	Survey report has been submitted to Convener of Survey Committee (Dir. Technical)

Summary of Occupational Safety and Health Environmental Issues Identified

No	Issue	Location	Discussion	Decision / Action	Responsible Person	Target Date
1	Nil	Nil	Nil	Nil	Nil	Nil
2	Nil	Nil	Nil	Nil	Nil	Nil

Follow-up of Outstanding Issues

No	Date Issue Raised	Issue and Action	Status	Discussion	Responsible Person	Revise Target Date
	Nil	Nil	Nil	Nil	Nil	Nil
	Nil	Nil	Nil	Nil	Nil	Nil

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	02
Reporting Period	01-08-2010 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Inspection

Rating Codes for the Checklist

Rating Code	Rating	Description
3	Excellent	The activity, area, system, and/or knowledge are superior comments detailing
2	Adequate	The activity, area, system, and/or knowledge meet the basic minimum Requirements which includes proper documentation and full implement
1	Deficient	The activity, area, system, and/or knowledge are weak and not up to acceptable standards {Documented and not implemented or implemented and not documented). Comments outlining weaknesses required
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N/A	Not Applicable	The question is not applicable to the type of operation, or the item was unable to be addressed during the audit.

Checklist

Requirement	3	2	1	0	N/A	Details
A. Waste Handling and Storage						
1 . Use of protective leather gloves while handling sharp edged metals	√					
2. All parts and machines dispatched from site to storage yard after dismantling, preferably on the same day		√				
3. Marking and segregation of wastes in scrap yard and a clear passage way marked by lines on the ground for walking of staff. No waste stored within the passage way.	√					
4. Sharp edged metal are not to be left unattended at any time. In the storage yard, the storage area for sharp edged metals cordoned off using clearly visible tapes.					√	
5. All Parts and machines dispatched from site after dismantling to store yard as soon as possible, preferably on the same day		√				
6. Before final disposal, any potentially hazardous substance such as lead or material containing lead are identified and disposed of accordingly.		√				

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	03
Reporting Period	01-06-2010 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Requirement	3	2	1	0	N/A	Details
7. To the extent possible any oil or grease in the equipment to be replaced is removed before dismantling of the equipment					√	
8. All efforts are made to avoid spilling the oil on the floor					√	
9. Any spillage is removed immediately. For this purpose, spill control kits are made available near the work areas.					√	
10. Waste oil is stored in leak proof containers					√	
11. Oil is stored in designated and clearly marked areas. The oil storage area is lined with impervious flooring					√	
12.The oil storage area is away from direct heat and fire source					√	
13. The oil storage area has dykes constructed around it to control accidental leakages and					√	
14. All type of plastic is collected and stored in separate bins marked for this purpose	√					
15. Plastic waste is not burnt in open air or disposed off by dumping in the areas surrounding the plant site	√					
16. Nails are removed from the woods					√	
17. All type of waste is collected and stored in separate bins marked for the designated purpose	√					
18. The equipment are opened only under the supervision of a qualified person. Any potentially hazardous material such as mercury is identified prior to dismantling and appropriate safety measures are taken.	√					
19. Masks are used to avoid respiratory infections while handling carbon soot	√					
20. Soot is transported and stored in covered containers					√	
21. Soot is preferably disposed as soon as it is removed from the duct. Prolonged storage, particularly at the site, is generally avoided.					√	
22. Waste is not burnt in open air or disposed off by dumping in the areas surrounding the plant site					√	

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	04
Reporting Period	01-06-2010 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Requirement	3	2	1	0	N/A	Details
23. Standard protective equipment including eye protective glass, gloves and mask are used.	√					
B- Waste Disposal						
1. Separate oil contaminated parts from the rest					√	
2. The oil contaminated parts of waste is cleaned before being fed into furnace. Alternatively, the cleaning may be undertaken at power station.					√	
3. Segregate wires and other copper material and insulation material from the rest.	√					
4. Before final disposal, any potentially hazardous substance such as lead or material containing lead is identified.	√					
5. The risk associated with the wastes is identified, and accepted disposal methods for such waste are followed.	√					
6. Only certified recycling contractors are used for disposal from the relevant agencies.	√					
7. Agreement with the contractors for the disposal of plastic waste in the designated pre-identified municipal landfill site.					√	
8. The soot is disposed of in an onsite landfill.					√	
9. The landfill design shall be located on land owned by MTPS; in areas with deep water table (> 20 m); preferably in an area with hard rock bed.					√	
10. After dumping of the soot in the landfill, it is immediately spread into layer and a layer of soil is spread over it.					√	
11. Soot is transported and stored in covered containers					√	
12. It is preferable to dispose of the soot as soon as it is removed from the duct. Prolonged storage, particularly at the site, is avoided.					√	
C- Transportation of Equipment from Karachi to MTPS						
1. Vehicles used for the transportation are NEQS compliant for the emissions and noise.	√					

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	05
Reporting Period	01-06-2010 to 07-05-2012.		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Requirement	3	2	1	0	N/A	Details
D. Onsite Handling and Storage of New Equipment						
1. The new equipment is stored in properly demarcated and identified areas	√					
2.Separate storage of each item is adopted and each area is marked either on floor or cordoned off by tapes	√					
3. Lifting equipment (cranes) used for the equipment follows the prescribed safety specification.	√					
4. Material Safety Data Sheet (MSDS) for chemicals, if any, shall accompany the consignment. A copy of the MSDS is available near the storage area at all times.		√				
E. Repair, Rehabilitation and Installation Activities—General						
1. Appropriate PPE is provided to the workers and ensured that the PPEs[1] are used.		√				
2. The staff is provided with training in use of PPE.	√					
3. Proper scaffolding platforms are provided for all work areas located more than 1 m above floor level.					√	
4. First Aid facilities and fire protection devices are placed in areas where activates are to be performed	√					
5. Ear protection devices are used if the noise level is above 85 dB(A)					√	
F. Repair, Rehabilitation and Installation Activities—Working in Confined Spaces						
1. All confined spaces are identified	√					
2. The temperature of the confined spaces is in the human tolerance range		√				
3. Artificial and intrinsically safe lighting are provided in the confined spaces	√					
4. If there is a risk of gases or fumes in the confined space the provisions for ventilation is made.	√					

Report No	01 (Unit # 1,2 & 3 Phase-I TPS, M / Garh	Prepared By	Office of RE (O&M)-I
Date	07-05-2012	Distribution	
Reference	US AID	Page	01
Reporting Period	01-06-2010 to 07-05-2012		
Monitoring / Inspection Team	Mr. Rasheed Ahmad Bhatti (Convener) , AE of each Section & ASM-I		

Project Activities Carried Out

Activity	Status
220 KV Circuit Breaker S.F-6 (06 Nos.)	Purchase Order issued Dated: 27-03-2012 (In Progress)

Waste Generated and Handled

Waste Type	Sources	Quantity	Status
NA	NA	NA	NA

Summary of Occupational Safety and Health Environmental Issues Identified

No	Issue	Location	Discussion	Decision / Action	Responsible Person	Target Date
1	NA	NA	NA	NA	NA	NA
2	NA	NA	NA	NA	NA	NA

Follow-up of Outstanding Issues

No	Date Issue Raised	Issue and Action	Status	Discussion	Responsible Person	Revise Target Date
	NA	NA	NA	NA	NA	NA
	NA	NA	NA	NA	NA	NA

PEPCO

NORTHERN POWER GENERATION COMPANY LTD

GENCO-III

IMPLEMENTATION OF ENVIRONMENTAL MITIGATION & MONITORING PLAN (EMMP) FOR REPAIR AND REHABILITATION WORK AT UNIT NO.4 MUZAFFARGARH THERMAL POWER STATION

PROGRESS REPORT

FOR THE PERIOD FROM NOVEMBER-2011 TO APRIL-2012

NPGCL, (GENCO-III), TPS, MUZAFFARGARH

INTRODUCTION

The Government of united States of America(USG) through united States Agency for International Development (USAID) is funding the repair and rehabilitation of three Thermal Power Plants-Guddu, Muzaffargarh and Jamshoro (GENCO-I,II&III) and one Hydropower Plant (Tarbela). For the implementation of the Projects, USAID has tasked Advanced Engineering Associates International (AEAI) to carry out monitoring and support for the implementation of the Projects, part of which is to ensure that all repair and rehabilitation works are environmentally compliant in accordance with the applicable USG and Government of Pakistan policies and regulations.

AEAI acquired the services of Hagler Bailly Pakistan (HBP) to Develop Environmental Mitigation and Monitoring Plans (EMMPs) for the four projects. This report presents the EMMP of Unit-4, Muzaffargarh Thermal Power Station (MTPS).

BRIEF HISTORY

- Purchase order issued on dated: 29.11.2010 to M/s Shanghai Sitico International trading company P. R. China.
- Purchase order No.4223/GMT/P&S/MZG/T-1705.
- Air pre-heater elements intermediate layer Qty 240 Nos.
- Air pre-heater elements cold end layer Qty 288 Nos.
- Total FOB value of the order US$ 287616.
- Country of Origin China.
- L/C No.10580FLC 16042-11 dated: 10.01.2011.
- Material received at site Unit-4 TPS, Muzaffargarh dated:12.07.2011
- Inspection of material carried out by the surveyor along-with inspection committee Dated: 28.07.2011.
- Material taken on stock dated: 28.07.2011.
- Goods receipt note (GRN) issued dated: 28.09.2011.
- Material received from store vide MRNS No.012944 dated: 08.12.2011.
- Material dismantled returned to store vide SSNo.3507 dated:12.01.2012.

A committee comprising of following Members constituted to implement Environment Mitigation & Monitoring Plan (EMMP) for repair and rehabilitation work at Unit-4 Thermal Power Station, Muzaffargarh.

1.	Mr. Mansoor Hussain Asstt:Resident Engineer(M)Unit-4	Health & Safety Executive
2.	Mr.Muhammad Aslam Anjum Asstt:Mech.Engineer(Unit-4)	Member
3.	Mr.Muhammad Shahzad Asstt:Inst.Engineer (Unit-4)	Member
4.	Mr.Azeem Abbasi Asstt:Elect.Engineer	Member
5.	Mr.Muhammad Usman Asstt:Store Manager	Member

Part No.	01	Prepared By:	
Date	10.05.2012	Distribution	
Reference		Page	
Reporting Period	November-2011 to April-2012		
Monitoring/Inspection Team	Mansoor Hussain HSE, Muhammad Aslam (Member), Muhammad Usman (Member)		

Project Activities Carried Out.

Activity	Status
Installation of RAH Elements	Complete

Waste Generated and Handled

Waste Type	Sources	Quantity	Status
i) RAH Elements	Removed from RAH	528 Nos	Returned to Store
ii)Wooden Scrap	Packing of RAH Elements	200 Kg	Returned to Store

Summary of Occupational Safety and Health and Environmental Issued Identified.

No	Issue	Location	Discussion	Decision/Action	Responsible Person	Target Date
1	Nil	-	-	-	-	-
2						

Follow-up of Outstanding Issues

No.	Date Issue Raised	Issue and Action	Status	Discussion	Responsible Person	Revised Target Date
	N.A.	-	-	-	-	-

Inspection

A. Rating Codes for the Checklist

Rating Code	Rating	Description
3	Excellent	The activity, area, system, and/or knowledge are superior comments detailing.
2	Adequate	The activity, area, system, and/or knowledge meet the basic minimum requirements which includes proper documentation and full implementation.
1	Deficient	The activity, area, system, and/or knowledge are weak not up to acceptable standards (documented and not implemented or implemented and not documented). Comments detailing concerns required.
0	Unsatisfactory	The activity, area, system, and/or knowledge are missing or of such a nature to warrant serious no compliance. Comments detailing concerns required.
N/A	Not Applicable	The question is not applicable to the type of operation, or the item was unable to be addressed during the audit.

B. Checklist

Requirement	3	2	1	0	N/A	Details
A. Waste Hadling and Storage						
1. Use of protective leather gloves while handling sharp edged metals.		√				
2. All parts and machines dispatched from site to storage yard after dismantling, preferably on the same day.		√				
3. Marking and segregation of wastes in scrap yard and a clear passage way marked by lines on the ground for walking of staff. No waste stored within the passage way.			√			
4. Sharp edged metal are not to be left unattended at any time.			√			
5. All parts and machines dispatched from site after dismantling to store yard as soon as possible, preferably on the same day.		√				
6. Before final disposal, and potentially					√	

	hazardous substance such as lead or material containing lead are identified and disposed off accordingly.					
.	To the extent possible any oil or grease in the equipment to be replaced is removed before dismantling of the equipment.				√	
8.	All effort are made to avoid spilling the oil on the floor.				√	
9.	Any spillage is removed immediately. For this purpose, spill control kits are made available near the work areas.				√	
0.	Waste oil is stored in leak proof containers.				√	
11.	Oil is stored in designated and clearly marked areas. The oil storage area is lined with impervious flooring.				√	
12.	The oil storage area is away from direct heat and fire source.				√	
13.	The oil storage area has dykes constructed around it to control accidental leakages and spills.				√	
14.	All type of plastic is collected and stored in separate bins marked for this purpose.				√	
15.	Plastic waste is not burnt in open air or disposed off by during in the areas surrounding the plant site.				√	
16.	Nails are removed from the woods.		√			
17.	All type of waste is collected and stored in separate bins marked for the designated purpose.			√		
18.	The equipment are opened only under the supervision of a qualified person. Any potentially hazardous material such as mercury is identified prior to dismantling and appropriate safety measures are taken.				√	

19. Masks are used to avoid respiratory infections while handling carbon soot.		√				
20. Soot is transported and stored in covered containers.			√			
21. Soot is preferably disposed as soon as it is removed from the duct. Prolonged storage, particularly at the site, is generally avoided.		√				
22. Waste is not burnt in open air or disposed off by dumping in the areas surrounding the plant site.	√					
23. Standard protective equipment including eye protective glass, gloves and mask are used.		√				
B. Waste Disposal						
1. Separate oil contaminated parts from the rest.					√	
2. The oil contaminated parts of waste is cleaned before being fed into furnace. Alternatively, the cleaning may be undertaken at power station.					√	
3. Segregate wires and other copper material and insulation material from the rest.					√	
4. Before final disposal, any potentially hazardous substances such as lead or material containing lead is identified.					√	
5. The risk associated with the wastes is identified, and accepted disposal methods for such waste are followed.		√				
6. Only certified recycling contractors are used for disposal from the relevant agencies.					√	
7. Agreement with the contractors for the disposal of plastic waste in the designated					√	

pre-identified municipal landfill site.						
8. The soot is disposed off in an onsite landfill.			√			
9. The landfill design shall be located on land owned by MTPS, in areas with deep water table (>20m); preferably in an area with hard rock bed.				√		
10. After dumping of the soot in the landfill, it is immediately spread into layer and a layer of soil is spread over it.				√		
11. Soot is transported and stored in covered containers.				√		
12. It is preferable to dispose of the soot as soon as it is removed from the duct. Prolonged storage, particularly at the site, is avoided.		√				
C. Onsite handling and storage of new equipment						
1. The new equipment is stored in properly demarcated and identified areas.		√				
2. Separate storage of each item is adopted and each area is marked either on floor or cordoned off by tapes.	√					
3. Lifting equipment(cranes) used for the equipment follows the prescribed safety specification.	√					
4. Material safety data sheet(MSDS) for chemicals, if any, shall accompany the consignment. A copy of the MSDS is available near the storage area at all times.					√	
D. Repair, rehabilitation and installation activities-General						
1. Appropriate PPE is provided to the workers and ensured that the PPEs' are used.		√				
2. The staff is provided with training in use of PPE.			√			
3. Proper scaffolding platforms are provided for all work areas located more than 1m			√			

above floor level.						
4. First aid facilities and fire protection devices are placed in areas where activates are to be performed.		√				
5. Ear protection devise are used if the noise level is above 85 dB(A).		√				
E. Repair, rehabilitation and installation activities-Working in confined spares						
1. All confined spaces are identified.		√				
2. The temperature of the confined space are in the human tolerance range.		√				
3. Artificial and intrinsically safe lighting are provided in the confined spaces.	√					
4. If there is a risk of gases of fumes in the confined space the provisions for ventilation is made		√				

PEPCO

Northern Power Generation Company Limited
(GENCO-III)

IMPLEMENTATION OF ENVIRONMENTAL MITIGATION & MONITORING PLAN (EMMP) FOR REPAIR AND REHABILITATION WORK AT UNIT 5&6, TPS MUZAFFARGARH

Progress Report

For the period from November, 2011 to April, 2012

NPGCL, (GENCO-III), TPS,
Muzaffargarh

INTRODUCTION

The Government of United States of America (USG) through United States Agency for International Development (USAID) is funding the repair and rehabilitation of three Thermal Power Plants-Guddu, Muzaffargarh and Jamshoro (GENCO-I,II&III) and one Hydropower Plant (Tarbela). For the implementation of the Projects, USAID has tasked Advanced Engineering Associates International (AEAI) to carry out monitoring and support for the implementation of the Projects, part of which is to ensure that all repair and rehabilitation works are environmentally compliant in accordance with the applicable USG and Government of Pakistan policies and regulations.

AEAI acquired the services of Hagler Baily Pakistan (HBP) to develop Environmental Mitigation and Monitoring Plans (EMMPs) for the four Projects. This report presents the EMMP of Units 5&6. Muzaffargarh Thermal Power Station (MTPS).

A committee comprising of following Members constituted vide office order No.CEO/MZG/RE-U-5&6/ARE(M)/3181dated 10-05-2012 to implement Environment Mitigation & Monitoring Plan (EMMP) r repair and rehabilitation work at Units 5&6, Thermal Power Station Muzaffargarh.

Sr. Engineer (I&C)	Convener
Jr. Engineer (Mech.)	Member
Jr. Engineer (Elect.)	Member
ASM Units 5&6	Member

The till –todate detailed report of the handling/storage of equipment and consequent waster produced hereafter installation as per disposal plan is submitted

BRIEF HISTORY

- Purchase order issued on dated 21.06.2010 to M/s Shanghai Electric E&A Industrial Development Co., China.
- Purchase order No. 4206/GMT/P&S/MZG/T-1693 dated 21.06.2010.
- Impellers Alongwith Shaft and Hub for I.D Fan

01.	Rotor Units	02 Nos.
02.	Impeller	02 Nos.
03.	I.D Fan Casing	04 Nos.
04.	Inlet	08 Nos.

- Total FOB value of the Order RMB/Million 57660.0
- Country of origin:- China.
- L/C No. CRRK/ED/IL/2158/5596-96 dated 12.08.2010.
- Material received at site Units 5&6, TPS Muzaffargarh on dated 26.02.2011
- Inspection of Material carried out by the surveyor alongwith inspection committee dated 28.03.2011.
- Material taken on stock dated 01.04.2011
- Goods receipt note (GRN) issued dated 23.04.2011
- Material received from store vide MRS No.15/018513 dated 02.04.2011

Report No	01	Prepared By:	
Date	16.05.2012	Distribution	
Reference		Page	
Reporting Period	Nov-2011 to April 2012		
Monitoring/ Inspection Team	Muhammad Akram, Kamran Ali (Member), Muhammad Asif (Member), Mr. Shahid Asmin (Member)		

Project Activities Carried Out

Activity	Status
Installation of I.D Fan Impeller along with Shaft	In-Complete. (Material will be installed completely during forth coming Major Overhauling of U#5 & 6 w.e.f 01-08-12 to 01.10.12 & 01.11.12 to 2012.12 respectively.

Waste Generated and Handled

Waste Type	Sources	Quantity	Status

Summary of Occupational safety and health and environmental issues Identified

No	Issue	Location	Discussion	Decision/Action	Responsible Person	Target Date
1	Nil					
2						

Follow-up of Outstanding Issues

No	Date Issue Raised	Issue and Action	Status	Discussion	Responsible Person	Revised Target Date
	N.A					

Report No		Prepared By:	
Date		Distribution	
Reference		Page	
Reporting Period			
Monitoring/ Inspection Team			

Inspection

A. Rating Codes for the Checklist

Rating Code	*Rating*	*Description*
3	Excellent	The activity, area, system, and/or knowledge are superior Comments detailing
2	Adequate	The activity, area, system, and/or knowledge meet the basic minimum requirements which includes proper documentation and full implementation.
1	Deficient	The activity, area, system, and/or knowledge are weak and not up to acceptable standards (documented and not implemented or implemented and not documented). Comments outlining weaknesses required.
0	Unsatisfactory	The activity, area, system, and/or knowledge are missing or of such a nature to warrant serious no compliance. Comments detailing concerns required.
N/A	Not Applicable	The question is not applicable to the type of operation, or the item was unable to be addressed during the audit.

B. Checklist

Requirement	*3*	*2*	*1*	*0*	*N/A*	*Details*
A. Waste Hadling and Storage						
1. Use of protective leather gloves while handling sharp edged metals		✓				
2. All parts and machines dispatched from site to storage yard after dismantling, preferably on the same day			✓			
3. Marking and segregation of wastes in scrap yard and a clear passage way marked by lines on the ground for walking of staff. No waste stored within the passage way.					✓	
4. Sharp edged metal are not to be left unattended at any time. In the storage yard, the storage area for shard edged metals cordoned off using clearly visible tapes.			✓			
5. All parts and machines dispatched from site after dismantling to store yard as soon as possible, preferably on the same day			✓			
6. Before final disposal, any potentially hazardous substance such as lead or material containing lead are identified and					✓	

Report No		Prepared By:	
Date		Distribution	
Reference		Page	
Reporting Period			
Monitoring/ Inspection Team			

Requirement	*3*	*2*	*1*	*0*	*N/A*	*Details*
23. Standard protective equipment including eye protective glass, gloves and mask are used						
B. Waste Disposal						
1. Separate oil contaminated parts from the rest.					✓	
2. The oil contaminated parts of waste is cleaned before being fed into furnace. Alternatively, the cleaning may be undertaken at power station.					✓	
3. Segregate wires and other copper material and insulation material from the rest					✓	
4. Before final disposal, any potentially hazardous substance such as lead or material containing lead is identified.					✓	
5. The risk associated with the wastes is identified, and accepted disposal methods for such waste are followed.					✓	
6. Only certified recycling contractors are used for disposal from the relevant agencies.			✓			
7. Agreement with the contractors for the disposal of plastic waste in the designated pre-identified municipal landfill site.					✓	
8. The soot is disposed off in an onsite landfill.		✓				
9. The landfill design shall be located on land owned by MTPS; in areas with deep water table (> 20 m); preferably in an area with hard rock bed.					✓	
10. After dumping of the soot in the landfill, it is immediately spread into layer and a layer of soil is spread over it.			✓			
11. Soot is transported and stored in covered containers					✓	
12. It is preferable to dispose of the soot as soon as it is removed from the duct. Prolonged storage, particularly at the site, is avoided.		✓				
C. Transportation of equipment from Karachi to JTPS MTPS						
1. Vehicles used for the transportation are NEQS compliant for the emissions and noise.					✓	

Report No		Prepared By:	
Date		Distribution	
Reference		Page	
Reporting Period			
Monitoring/ Inspection Team			

Requirement	3	2	1	0	N/A	Details
D. Onsite handling and storage of new equipment						
1. The new equipment is stored in properly demarcated and identified areas		✓				
2. Separate storage of each item is adopted and each area is marked either on floor or cordoned off by tapes	✓					
3. Lifting equipment (cranes) used for the equipment follows the prescribed safety specification.	✓					
4. Material Safety Data Sheet (MSDS) for chemicals, if any, shall accompany the consignment. A copy of the MSDS is available near the storage area at all times.					✓	
E. Repair, rehabilitation and installation activities–General ✓						
1. Appropriate PPE is provided to the workers and ensured that the PPEs' are used		✓				
2. The staff is provided with training in use of PPE.			✓			
3. Proper scaffolding platforms are provided for all work areas located more than 1 m above floor level.			✓			
4. First Aid facilities and fire protection devices are placed in areas where activates are to be performed		✓				
5. Ear protection devise are used if the noise level is above 85 dB(A)		✓				
F. Repair, rehabilitation and installation activities–Working in confined Spaces ✓						
1. All confined spaces are identified		✓				
2. The temperature of the confined space are in the human tolerance range		✓				
3. Artificial and intrinsically safe lighting are provided in the confined spaces	✓					
4. If there is a risk of gases or fumes in the confined space the provisions for ventilation is made		✓				

BRIEF HISTORY

- Purchase order issued on dated 22.02.2010 to M/s Shanghai East Best Arts, Crafts Co., China.
- Purchase order No. 4189/GMT/P&S/MZG/T-1618-D dated 22.02.2010.
-

01.	Interlock Switch	25 Nos.
02.	Control Switch	50 Nos.
03.	Seal Oil Cooler (H_2 Side)	04 Nos.
04.	Seal Oil Cooler (Air Side)	04 Nos
05.	Lube Oil Pump for main transformer	02 Nos.
06.	Lube Oil Pump for starting transformer	02 Nos.

- Total FOB value of the Order US$ 63528.00
- Country of origin:- China.
- L/C No. 10580 FLC 13381-10 dated 30.06.2010.
- Material received at site Units 5&6, TPS Muzaffargarh dated 24.12.2010
- Inspection of Material carried out by the surveyor alongwith inspection committee dated 03.01.2011.
- Material taken on stock dated 13.01.2011
- Material will be issued during the forth coming major overhauling of unit #5 w.e.f. 01-08-12 to 30-10-12 and unit #6 w.e.f. 01-11-12 to 31-12-12.

BRIEF HISTORY

- Purchase order issued on dated 04.03.2010 to M/s Chlight Corporation - China.
- Purchase order No. 4191/GMT/P&S/MZG/T-1618-C dated 04.03.2010.
-

01.	De- Excitation MK Breaker	02 Nos.
02.	Silicon Controlled Rectifier	18 Nos.
03.	Pilot Exciter	02 Nos.

- Total FOB value of the Order US$ 116529.48
- Country of origin:- China.
- L/C No. 10580 FLC 13385-10 dated _____
- Material received at site Units 5&6, TPS Muzaffargarh dated 10.02.2011
- Inspection of Material carried out by the surveyor alongwith inspection committee dated 28-02-2011.
- Material taken on stock dated 16.04.2011 (SMB)
- Goods receipt note (GRN) issued dated 26.04.2011
- Material will be issued during the forth coming major overhauling of unit #5 w.e.f. 01-08-12 to 30-10-12 and unit #6 w.e.f. 01-11-12 to 31-12-12.