



MECHANICAL SOP

Issue No. 01	Rev. No: 02	Effective Date: 17.10.2017	SOP/MEC/73
Issued By: M.R		Approved By: HOD Mechanical	
ESP ELECTRODE / HAMMER REPLACEMENT			

SCOPE: **S O P FOR ESP ELECTRODE/HAMMER REPLACEMENT**

Responsibility: Engineer/SH

PPE:

1. Safety helmet,
2. Safety shoe,
3. Mask,
4. Safety goggles
5. Gloves
6. Apron
7. Full body harness
8. Retractable lifeline
9. Rope ladder

TOOLS:

1. Hammer
2. Rope 1" dia 30 m length
3. Set of spanners
4. Chain blocks 2 tonn 2 no's
5. Wire slings 3m
6. Cutting set
7. Welding set
8. D shakles

Hazard Analysis:

Risks associated:

Mitigating Measures

Electrution

follow LOTO standards & procedures

Fine clinker dust may cause eye irritation / injury

use safety goggles & dust mask

Fall of person/material

follow WAH procedures & standards

Breathing problem

follow CSE standards & procedures

Contact with hot surface

cool the ESP to atmosphere,

Temperature before entering in , &

follow HOT WORK standards &

procedures while cutting & welding job.



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Procedure:

Please ensure the Earthing connection for discharge the electrodes for all the fields is intact during the period of the maintenance.

1. Take LOTO permit.
2. Ask electrical dept. to discharge the ESP by giving earthing connection
3. Main key box should be opened by electrical dept.
4. Open the required chamber using the door key in the main key box.
5. Check if any material is in hoppers, if any empty the material.
6. Take confined area clearance with safety officer.
7. Take working at heights clearance from the safety officer
8. Start replacing the hammer, taking minimum tools inside.
9. Remove the Hammer bolt & replace the new hammer.
10. After completing the job. Ask electrical dept. to remove the earthing connection.
11. Check for any unwanted tools / welding rods inside.
12. Close all the doors ensure that there are no leakages.
13. Return the line clearance to electrical dept. and safety officer.
14. Start the field once and check for any abnormality in field.
15. If everything is under control give clearance to CCR to take ESP into circuit.

Emergency / Emergency Shut OFF:

If any injury takes place, provide First aid and inform to the Safety department or Call Emergency number 3108/9865152222

Records/Annexure:

1. Refer OEM manuals.
2. JSA as enclosed below



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JOB SAFETY ANALYSIS :(JSA)

Job Safety Analysis		Job: ESP ELECTRODE / HAMMER REPLACEMENT.	Date : 01/09/2014	Analysis by: Section Engineer	Reviewed by: Section Head
Title of employee doing job : Section engineer		Supervisor: Section Engineer	Department: Mechanical	Section: Pyro	Approved by: HOD-Mechanical
Reqd./recommended PPE's : Safety Helmet, Safet shoe, Hand Gloves, Safety goggles. Nose mask.					
Sl. No	Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What could go wrong	Corrective action
1	Open the required chamber door.	Electrution	Follow the LOTO standards & procedures	Electrical burns	Allot trained workers Use PPE
2	Open the required chamber door.	Hand injury	Use safety PPE	Fine clinker dust may cause eye irritation / injury	Allot trained workers Use PPE
3	Inspection & replacement of hammer	asphyxiation	Follow CSE standards & procedures	Breathing problem	O2 level check in every shift .Allot trained workers
4	Hammer replacement	Burns	Follow HOT WORK standards & procedures.	Contact with hot surface	Allot trained workers



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SL No	Activity			Isolation Matrix For Cooler							
				Isolation Type							
				Electrical Energy				Other Energy			
4	Cooler ESP	Name and Tag for the Equipment		IESP all the Fields	ESP fan	All RALs of the ESP	Raping Drive			Discharge Earthing Connetion for all the fields.	