

Issue No.	Rev. No:00	Effective Date: 06/04/2018	SOP/MEC/151
Issued By: MR		Approved By: HOD MECHANICAL	
HAG Nozzle Maintenance Work			

Scope : This SOP is applicable to Safe working for Hot air Generator(HAG)- 1 &2 Coal and Diesel/Pyrolysis oil Nozzle maintenance work

Responsibility : **Section Engineer.**

Accountability : **Section Head – Mills**

PPE:

1. Safety helmet
2. Safety shoe
3. Dust Mask,
4. Gloves.
 - Cotton knitted
 - Leather
5. Safety belt
6. Goggles
7. Welding Shield

Tools:

1. 2MT chain block-1nos
2. Nylon belt slings- 2Nos.
3. Pipe Wrench
4. Screw Spanner
5. Ring and DE Spanner set

Auxiliaries

1. Welding Set
2. Cutting Set

Hazards:

Risks associated

Body injury

Mitigating Measures

- 1.Safe and tested tools and tackles
2. on job training

Training needs:

1. Emergency preparedness
2. On job training
3. Assembly procedure

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LOTO required for:

1. HAG
2. Blowers
3. Fans

Procedure:

1. Make the coal and Diesel Line Empty before take job.
2. Take electrical isolation permit (EIP) of HAG ,blowers , Fans and Dampers with LOTO system.refer Enclosed isolation matrix
3. The Permit Paper should be with the person who is responsible for the job.
4. Trained Worker will be engaged for working with related PPE's.
5. Take Height work permit and hot work permit to perform the job.
6. Loosen the bolts/Hose and connectors before remove the the coal or oil nozzle
7. Use certified chain block to hold the Coal Nozzle taking out
8. Clean the Accumulated Coal above the Nozzle and in case of Diesel/pyrolysis inside oil collect in bin then clean
9. Replace /Repair the damage part or wear part
10. While doing the welding care to be taken.No flammable material surrounding of work area
11. Always Keep ABC Fire extinguisher near to work area
12. After changing/ done the repair work tighten the bolt,Hose & Connectors
13. Remove the Chain block.
14. Tight Properly and Check the Leakages before starting the HAG
15. Get clear the EIP and Work permits and informed to CCR person.

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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 Line clearance/permit in mechanical department.
2. JSA is enclosed below.

JOB SAFETY ANALYSIS :(JSA)

Job Safety Analysis	Job: HAG- 1 & 2 Coal And Diesel/Pyrolysis oil Nozzle maintenance work	Date: 06.04.18	Analysis by; Section Engineer	Reviewed by: Section Head
Title of employee doing job: Section Engineer	Supervisor: Section Head, Out Sourcing Supply Supervisor	Department: Mechanical	Section: Mills	Approved by: HOD
eq'd/recommended PPE: Helmet, Shoe, Nose mask, Cotton Gloves, Leather gloves, Ear plug, Safety belt, Goggles, Shield				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Nozzle flange bolt or Connections loosening/tightening	Hand injury	Use proper tools and tackles with certification	Spanner slip /Broken	Check the condition of spanner
Nozzle holding clamp cutting	Body injury	Use proper cutting set with flash back arrester	Hose pipe damage Fire in pipe	Check the condition of hose pipe. Periodical replacement is recommended Ensure empty out the material before carry out the work
Grinding	Eye and body injury	1.Use proper guard/locking and tested grinding machine 2.Ensure life of the grinding wheel	Wheel may slip out from the machine 2.wheel broken	1. To cross check the tightness of wheel 2.check the expiry date of the grinding wheels.

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Spare Nozzle Replacement	Hand injury	1. Use proper tools and tackles with certification	Chain block may slip from its lifting position	Check the condition of lifting equipments. 1. Lifting Belts 2. Chain block Periodical replacement is recommended for belts and ropes. Periodical servicing required for Chain blocks.
Welding operation	Hand and Eye injury	Use proper leather hand gloves and welding shield	Damage the welding shield glass and hand glove	Cross check the Periodical replacement of PPE

SL No	Activity				Tag / Name of the Equipment	
					Isolation Type	
					Electrical Energy	Other Energy

1	HAG- 1 Maintenance	Name and Tag for the Equipment	371FN1 / CA Fan & 371FN2 / DA Fan	371BL1 / Blower		371SD 1 (close)	371LD1 & LD 2 (Close)		
2	HAG-2 Maintenance	Name and Tag for the Equipment	381FN1 / CA Fan & 381FN2 / DA Fan	371BL1 / Blower		381SD 1 (close)	381LD1 & LD 2 (Close)		