

Format No: _____ **JOB SAFETY ANALYSIS (JSA), IB THERMAL POWER STATION, OPGC**

Serial No.	Department	Equipment	Location	Job description		
	Civil(Cleaning and Housekeeping Team)	Tractor		Cleaning Of Ash by using Construction Equipment-“Tractor”		
JSA performed by:	Signature	Reviewed by (TL)-	Signature	Date of Issue	Date of revision	Revision No
		Reviewed by (Shift I/C) –	Signature			

HAZARD TEXT/TYPE

PHYSICAL HAZARDS	PHYSICAL HAZARDS	PHYSICAL HAZARDS	ELECTRICAL HAZARDS	CHEMICAL/ GAS HAZARDS	EXCAVATION	OTHERS
Noise	Fall from height	Force (Push/Pull)	Shock/ Electrocutation	Flammable/ Explosive	Collapse/Sliding	Fire
Radiation	Fall (Slip/Trip)	Caught in/on or between	Static electricity	Fumes Inhalation	Underground live cable damage	Heavy Wind/Rain
Confined space	Fall down/below	Struck by/against ✓	Arc/flash blast	Ingestion/Absorption	Ergonomics	Dust exposure ✓
Exposure to pressurised Steam/Air	Fall of Objects from height	Extreme weather (Hot/Cold)	Biological Hazards	Body/Eye Contact	Poor Posture	Human factor
Contact with Hot surface	Contact with moving parts	Poor illumination	Snake/Insect bite/Virus infection	Spillage ✓	Repetitive motion	Any other


Tools required

Important Note- While deciding hazard control measures, consider hierarchy of hazard control steps in order of preference

SEQUENCE OF BASIC STEPS	SAFETY, HEALTH & ENVIROMENT HAZARDS	HAZARD CONTROL MEASURES				Are control Measures adequate to mitigate the risk (Yes/No)
		ELIMINATION/ SUBSTITUTION	ENGINEERING	ADMINISTRATIVE	PPEs	

<p>Obtain Permit or area clearance for Cleaning Of Ash activities</p>	<p>Unauthorized work cause injury/damage</p>			<p>1. Get PTW before starting the job or entry the job details in the communication log (available in the AHP Control room), housekeeping JSA should be approved by AP of AHP and JSA should be communicated to the crafts before starting any activities. 2. Permit should be close only after thoroughly inspecting the work area.</p>	<p>Safety helmet, Safety shoes, Nose Mask, Ear Plug, Safety goggles etc.</p>	<p>YES Note: - If cleaning or housekeeping carried out on Commissioning or running equipment, valid PTW shall be obtained from AHP PTW Office.</p>
<p>Cleaning Of Ash</p>	<p>1. Trips and falls 2. Contact with Sharp Objects. 3. Fall in to the unprotected cable trench.</p>	<p>1. All waste generated shall be contained and disposed of in designated waste skips. 2. All opening should be properly protected.</p>	<p>1. All materials shall be removed from the site to a safe storage location immediately after the work.</p>	<p>1. Proper supervision must be provided for housekeeping. 2. Floor opening caution signage to be displayed on the proper places. 3. PJB & proper Permit must be followed before starting the work.</p>	<p>Safety helmet, Safety shoes, Nose Mask, Ear Plug, Safety goggles etc.</p>	<p>YES</p>
<p>Cleaning Of Ash by using construction equipment (Tractor)</p>	<p>Uneven Road Approach / Slippery</p>	<p>Movement of equipment in uneven surface shall be strictly prohibited.</p>		<p>Road Inspection shall be done by the operator before starting the movement / Operation</p>	<p>Safety helmet, Safety shoes, Nose Mask, Ear Plug, Safety goggles etc.</p>	<p>YES</p>
<p>Unauthorized Operator</p>	<p>Only trained and valid license holder operator should be allowed to play the Tractor at site.</p>		<p>1. Valid License and Authorization card given by the contractors. 2. Competency Gap Analysis to be done.</p>			

	Malfunctioning of Safety devices (Breaks, Lights, Indicators, Reverse Horn)	PM schedule of Tractor should be established, implement and maintained at site.	Reverse horn should be attached with the gear and reverse horn should be properly audible at site.	Function of all Safety device shall be checked by Operator on daily inspection checklist		
	Horse Play / Over speed			Operator must follow speed limit(20Km/Hr)		
	Blind Spot		Before equipment mobilized at site blind spot area of the equipment should be identified and proper training to be imparted to operator and helper of that equipment.	1. Spotter / Helper shall be always available with vehicle to ensure the safe Operation. 2. Spotter should have all the time Flag& Whistle for communication. 3. Well Trained spotter must be deployed with the construction equipment.		
	Hydraulic Leakage - Failure of load, Jack etc.	PM schedule of Tractor should be established, implement and maintained at site.		Daily Inspection checklist shall be maintained at site.		
	Using of Ear Phone			During Operation Ear Phone is strictly Prohibited.		
	Poor Weather			Parked the vehicle at the designated parking zone.		
	Crush		Proper reverse horn to be fitted with the equipment.	Designated a trained flag person along with signs, signals and barricades as necessary.		
Manual Material Handling	Un-comfortable lifting and handling.	1. Safe lifting load of person to be respected (Adult	1. The task to be clearly defined and planned.	1. Job rotation system need to implement. 2. Training on Safe Manual handling procedures need	Safety helmet, Safety shoes, Nose Mask, Ear	YES

		<p>Male=50Kgs. And Adult Female=30Kgs .-As per Odisha Factories Rules-1950-Section-34-Section-34-Rule-57).</p> <p>2. Characteristics of the Load need to consider.</p> <p>3. Competency and Capacity of Individuals to be considered.</p>	<p>2. Environmental conditions such as slippery surface, water logging need to be considered.</p> <p>3. Mechanisation of the process need to be practiced.</p>	to be imparted by demonstration.	Plug, Safety goggles etc.	
	Improper ergonomic practices	<p>1. Mechanisation of the process need to be practiced.</p> <p>2. Job rotation system need to implement.</p> <p>3. No person to stand or touch any commissioning equipment.</p>	<p>1. The working environment needs to be ergonomically designed and defined.</p> <p>2. 5S System need to practice.</p> <p>3. Training to be imparted at regular intervals.</p>	<p>1. Floors to be check before erecting ladder.</p> <p>2. Ensure toppling of ladder.</p> <p>3. Training on Safe Manual handling procedures need to be imparted by demonstration. 4. Supervisor must present at site during work.</p>		
	Falling objects while cleaning & inspection.					
	Shifting of material (from the racks) from height using ladder.					
Cleaning Of Ash near Rotary Equipment	<p>1. Trips and falls</p> <p>2. Risk of injuries from entanglement</p> <p>3. Caught in between.</p>		<p>1. Before starting housekeeping near rotary equipment ensure that all rotating part shall be properly guarded.</p>	<p>1. Make safe distance from the rotary equipment.</p> <p>2. Loose clothes to be avoided (Example-Towel, Winter Scarf Muffler etc.).</p> <p>3. Long hair (unfasten), jewellery etc. to be avoided.</p>	Safety helmet, Safety shoes, Nose Mask, Ear Plug, Safety goggles etc.	YES

Emergency Safety Measures:	Emergency Contacts-Main Control Room- 222, 233,244, AHP Control Room-7077728552,Fire- 777, 222257, Ambulance- 248/277, Hospital-660
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Overall Job Risk Category- (High/Medium/Low) :	
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JSA Review during PJB:

Pre Job Briefing (PJB) is applicable to all persons involved with the task.

Pre Job Briefing (PJB) Acknowledgement: I undertake that the JSA is communicated to me effectively

Name	Agency's name	Signature