

| Format No: ER 5/10– F2, JOB SAFETY ANALYSIS (JSA), IB THERMAL POWER STATION, OPGC | | | | | | | |
|---|---|--|-----------------------------------|---|--|----------------------------------|--------------|
| Serial No. | Department | Equipment | Location | Job description: | | | |
| | Facility Management | ITPS colony | ITPS colony | AMC for Cleaning and housekeeping work at ITPS colony. | | | |
| JSA performed by: | Signature | Reviewed & Approved by | Signature | Date of Issue | Date of revision | | Revision No- |
| | | | | | | | |
| HAZARD TEXT/TYPE (For reference to identify the Hazard type) | | | | | | | |
| PHYSICAL HAZARDS | PHYSICAL HAZARDS | PHYSICAL HAZARDS | ELECTRICAL HAZARDS | CHEMICAL/ GAS HAZARDS | EXCAVATION | OTHERS | |
| Noise | Fall from height | Force (Push/Pull) | Shock/ Electrocuting | Flammable/ Explosive substances | Collapse/Sliding | Fire | |
| Radiation | Fall (Slip/Trip) | Caught in/on or between | Static electricity | Inhalation of toxic fumes | Underground live cable damage | Heavy Wind/Rain | |
| Confined space | Fall down/below | Struck by/against | Arcflash/ 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 | Oil spill | |
| Contact with Hot surface | Contact with moving parts | Poor illumination | Snake/Insect bite/Virus infection | Spillage | Repeatative motion | Human factor | |
| PPEs to be used | Safety shoes, hand gloves ,safety helmet, Nose mask, Ear plug/muff, Safety goggles, reflective vest, etc. | | | | | | |
| Tools required | broom,mop,toilet brush,road sweeping machine,grass cutting machine,bucket,tractor with trolley,vacuum cleaner,Hoe, pick axe, wood axe,spade, digging bar, measuring box, head pan, masonry trowel, circular saw, float, ladder, | | | | | | |
| 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 | SAFE JOB STEPS / HAZARD CONTROL MEASURES | | | | Are control Measures adequate to | |
| | | Elimination/ Substitution | Engineering | Administrative | PPE | | |
| Cleaning and sweeping of residential and non residential buildings in ITPS colony. | Body injury (Slip/trip) | | | Have a 360 degree vision and be alert about the area of work. Use proper and healthy tools. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | |
| | Dust exposure | | | Keep dust/fume mask with you. Use wherever needed.Check, whether the filters of the mask are clean before using. Use clean masks. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | |
| | Poor Posture | | | Take Rest in between the job. Do not overstretch your body. Keep in mind about your body limits. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask. | Yes | |
| | Electrocution | | | Ensure the insulation of cavum cleaner machine and its cable. Ensure that the power source is from a 30mA sensitive RCCB. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | |
| Collection, segregation and disposal of all kitchen waste from residential and non | Fall down/below from pick up truck. | | | Do not stand on the carrier of the truck while the vehicle is in motion. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask. | Yes | |
| | Fall of gabage waste/PVC dustbin during loading on pick up truck. | | | Do not try to lift the full dustbin, partially empty the dustbin and load it manually on to the garbage truck. | Safety shoes, rubber hand gloves ,safety helmet, safety goggles, nose mask | Yes | |
| | Inhalation of toxic fumes from the garbage. | | | Keep dust/fume mask with you. Use wherever needed.Check, whether the filters of the mask are clean before using. Use clean masks. | Safety shoes, rubber hand gloves ,safety helmet, safety goggles, nose mask | Yes | |
| Cleaning inside and outside area of storm water drains. | Dust exposure | | | Keep dust/fume mask with you. Use wherever needed.Check, whether the filters of the mask are clean before using. Use clean masks. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | |

| SEQUENCE OF BASIC STEPS | SAFETY, HEALTH & ENVIROMENT HAZARDS | SAFE JOB STEPS / HAZARD CONTROL MEASURES | | | | Are control Measures adequate to |
|--|---|--|---|--|--|----------------------------------|
| | | Elimination/ Substitution | Engineering | Administrative | PPE | |
| | Snake/ insect bite. | | | Proper inspection of the inspection chamber/manhole for any snake /insect, where cleaning work is to be done. Use long stick for inspection. Do not try to remove the snake/ insect on your own, please infrom the supervisor/autorised person. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| | Body injury (Slip/trip) | | | Have a 360 degree vision and be alert about the area of work. Use proper and healthy tools. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| Clearing and maintaining any chokes in inflow& outflow of manholes, inspection chambers. | Falling in to the deep manhole. | | | Using proper FRP ladder to access the manhole. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| | Inhalation of toxic fumes | | | Keep dust/fume mask with you. Use wherever needed.Check, whether the filters of the mask are clean before using. Use clean masks. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| | Confined space | | | Confined space permit should be ensured before starting of job | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| | Snake/ insect bite. | | | Proper inspection of the inspection chamber/manhole for any snake /insect, where cleaning work is to be done. Use long stick for inspection. Do not try to remove the snake/ insect on your own, please infrom the supervisor/autorised person. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| Cleaning and sweeping of roads using sweeping machine. | Dust exposure | | | Keep dust/fume mask with you. Use wherever needed.Check, whether the filters of the mask are clean before using. Use clean masks. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| | Struck by any moving vehicle on the road. | | | Only authorised operator should be allowed to operate the sweeping machine. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| Cleaning of chajja and roof terrace. | Fall of ladder/platform | | Ensure that the ladder/platform should be placed on a flat and rigid surface. | Ensure healthiness of ladder and its rungs before work. The ladder/platform should be placed on a flat and rigid surface. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | |
| | Falling of workmen from height. | | Ensure that the ladder/platform should be placed on a flat and rigid surface. | Use A-type FRP Ladder and one person must be holding the ladder at the time of climbing/decending. Have a firm grip on the ladder/platform and maintain a 3-point contact while climbing/decending on the ladder/platform. In case of platforms, ensure that top rail and midrails are healthy and strong. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |

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|---|---|--|---|--|--|----------------------------------|
| | | Elimination/ Substitution | Engineering | Administrative | PPE | |
| Trimming of trees and cutting down dead trees. | Fall of ladder/platform | | Ensure that the ladder/platform should be placed on a flat and rigid surface. | Ensure healthiness of ladder and its rungs before work. The ladder/platform should be placed on a flat and rigid surface. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| | Falling of workmen from height. | | Ensure that the ladder/platform should be placed on a flat and rigid surface. | Use A-type FRP Ladder and one person must be holding the ladder at the time of climbing/decending. Have a firm grip on the ladder/platform and maintain a 3-point contact while climbing/decending on the ladder/platform. In case of platforms, ensure that top rail and midrails are healthy and strong. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| | struck by falling tree/ branch. | | | barrication of entire area where trimming acvtvity is to be done . | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| cutting of wild growths and grasses by petrol operated grass cutting machine. | Contact with moving blade of the grass cutting machine. | | | Keep distance from the blade and always use guard for the blade during operation of machine. Only experinced grass cutter should be operating the machine. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| | Dust exposure | | | Keep dust/fume mask with you. Use wherever needed.Check, whether the filters of the mask are clean before using. Use clean masks. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| | Body injury (Slip/trip) | | | Have a 360 degree vision and be alert about the area of work. Use proper and healthy tools. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| | Struck by moving vehicle | | | Have a 360 degree vision and be alert about the moving vehicle on road . Always wear reflective vest during work. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | |
| | Body/Eye injury | | | Keep distance from the blade and always use guard for the blade during operation of machine. Only experinced grass cutter should be operating the machine. Wear safety googles during work. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | |
| Tractor loading and unloading for shifting of debris leaves,grass, shrubs,tree trunk and excavated earth to a specified location. | Body injury (Slip/trip) | | | Have a 360 degree vision and be alert about the area of work. Use proper and healthy tools. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| | Body eye conact/ hand injury | | | Engage inline experienced work person, Use healthy and tested Tools.Use safety goggles to avoid any foreign material to go inside your eye. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |
| | Dust/Ash/fumes | | | Keep dust/fume mask with you. Use wherever needed.Check, whether the filters of the mask are clean before using. Use clean masks. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes |

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|--|--|---|-------------|--|--|----------------------------------|--|--|--|--|--|
| | | Elimination/ Substitution | Engineering | Administrative | PPE | | | | | | |
| | Falling of Object from height | | | Proper supervision to be done, restrict unauthorized entry to the workplace. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | | | | | |
| | Poor Posture | | | Take Rest in between the job. Do not overstretch your body. Keep in mind about your body limits. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | | | | | |
| Excavation for construction of inspection chamber. | Electrocution/Shock from underground/burried cables | | | Ensure the proper isolation and put local LOTO on the RCCB/Main switch. Ensure zero voltage before starting the job. Use insulation mat while doing isolation. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | | | | | |
| | Body injury (Slip/trip) | | | Have a 360 degree vision and be alert about the area of work. Use proper and healthy tools. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | | | | | |
| | Body eye conact/ hand/leg injury while digging/manual excavation | | | Engage inline experienced work person, Use healthy and tested Tools. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | | | | | |
| | Poor Posture | | | Take Rest in between the job. Do not overstretch your body. Keep in mind about your body limits. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | | | | | |
| | Collapse/sliding of soil | | | Keep the excavated soil at a distance of 1 mtr from the excavated pit/trench. Barricade the area of work. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | | | | | | |
| | Dust/Ash/fumes | | | Keep dust/fume mask with you. Use wherever needed.Check, whether the filters of the mask are clean before using. Use clean masks. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | | | | | |
| | Fall of person inside excavated pit/trench | | | Barricade the working area with hard barrication. Use caution tapes and barriers wherever required. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | | | | | |
| Dismantling of brickwork and cement concrete of old inspetction chamber | Body injury (Slip/trip) | | | Have a 360 degree vision and be alert about the area of work. Use proper and healthy tools. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | | | | | |
| | Body eye conact/ hand injury | | | Engage inline experienced work person, Use healthy and tested Tools. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | | | | | |
| | Poor Posture | | | Take Rest in between the job. Do not overstretch your body. Keep in mind about your body limits. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | | | | | |
| | Falling of Object from height | | | Proper supervision to be done, restrict unauthorized entry to the workplace. | Safety shoes, hand gloves ,safety helmet, safety goggles, nose mask, ear plug/muff | Yes | | | | | |
| Emergency Safety Measures (Rescue/Fire Brigade etc): | | Emergency Contacts-Main Control Room- 222, 233,244, Fire- 777, 222257, Ambulance- 248/337, Hospital-666 | | | | | | | | | |
| Overall Job Risk Category- (High/Medium/Low) | | HIGH | | | | | | | | | |
| 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 | | | | | | | | | |
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