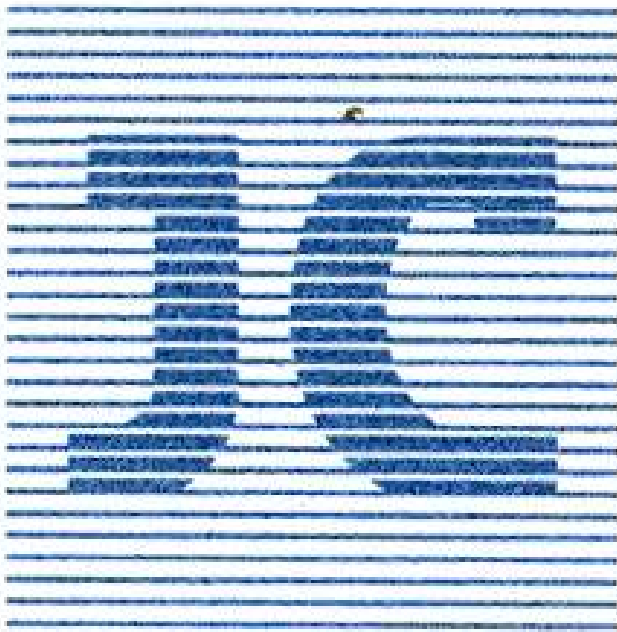


Safety for a better tomorrow

SITE SAFETY PLAN



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General Contractors

SITE SAFETY PLAN

1.0 INTRODUCTION: The maintenance of a safe working environment at site is of primary concern to JAMMY's TEAM.

1.1 The purpose of implementing this plan is to have an effective safety program so that the following issues are addressed:

- 1.1.1** State clearly a worksite policy on safe work and working conditions.
- 1.1.2** Establish and communicate a clear goal for safety and define objectives for meeting that goal.
- 1.1.3** Provide visible top management involvement in implementing the health and safety plan, so that all employees are reassured of management's commitment to health and safety.
- 1.1.4** Delegate responsibility for all aspects of the plan, so that managers, supervisors and junior employees all know and understand what performance is expected of them.
- 1.1.5** Provide adequate authority and resources to the responsible parties, so that assigned responsibilities can be effectively undertaken.
- 1.1.6** Provide all employees with safety training so as to recognize unsafe working situations and develop consciousness to safety to enable timely reporting of deviations.
- 1.1.7** Review health and safety plan at regular intervals so that deficiencies can be identified and the plan appropriately revised.

1.2 The plan includes the following:

- 1.2.1** Jammy's safety standards and procedures.
- 1.2.2** Emergency response plan.
- 1.2.3** Safety orientation and training for all employees.
- 1.2.4** Provision of personal protective equipment.
- 1.2.5** Site safety audits and inspections.
- 1.2.6** Employee incentive/ motivation schemes.

2.0 SAFETY PHILOSOPHY: Jammy's team is committed to safety. Our safety philosophy is based on the following principles:

- 2.1** Almost all accidents and injuries can be prevented and/ or risk minimized to an acceptable level.
- 2.2** Safety takes priority over all business considerations.
- 2.3** Safety requires a continuous effort.
- 2.4** Adequate and effective training and supervision is provided to all of the sub-contractor's employees.
- 2.5** Each person associated with the project has a personal responsibility for his/ her own safety as well the safety of those around him/ her.
- 2.6** A safety conscious attitude must be developed.

We believe that almost all accidents are avoidable. Safety depends on honest efforts and good judgment of each one of us on a continuous basis.

3.0 RESPONSIBILITIES: The project manager on site has the primary responsibility for the safety for all his employees/ sub-contractor employees and for providing safe working conditions at the project site.

4.0 SAFETY ORGANIZATION: The existence of safety organization is essential for any safety plan to be successfully implemented.

4.1 Site safety organization shall consist of the following:

4.1.1 The project manager shall be responsible for the safety of all employees working under him (including sub-contractor employees)

4.1.2 The safety advisor shall co-ordinate the overall safety activities.

4.1.3 Safety supervisors shall be appointed to coordinate the safety activities. Their duties shall include:

4.1.3.1 Ensure that safety is given the highest priority.

4.1.3.2 Carry out daily inspection of their work site.

4.1.3.3 Advise the project manager about potential hazards in new work areas before work starts and take necessary precautions in a bid to ensure they can be avoided.

4.1.3.4 Ensure implementation of methods of safe working arising from new developments.

4.1.3.5 Conduct safety orientation/ training of all employees.

4.1.3.6 Ensure availability of personal protectives and firefighting equipment.

4.1.3.7 Ensure that all equipment and tools meet safety standards.

4.1.3.8 Ensure compliance with Incident/ Injury Reporting procedure and carry out investigations as necessary.

4.2 The safety supervisor shall make safety committees which shall be sub-divided on the basis of different areas with each area headed by the area supervisor who shall be responsible for:

4.2.1 Conducting pre-job safety talk.

4.2.2 Safety audit of his area.

4.2.3 Ensuring the use of personal protectives.

4.2.4 Inspecting and issuing scaffolding certificates.

4.2.5 Conducting weekly safety meeting in his area.

4.2.6 Reporting and helping in the investigation of all incidents in his area.

5.0 GENERAL WORK PRACTICES: It is the responsibility of the safety supervisor and all the employees to ensure that the following conditions are fulfilled before commencement of work.

- 5.1** The employee is familiar with the work area.
- 5.2** Personal protectives are worn before starting work depending on the type of work to be performed.
- 5.3** The work area is kept neat and tidy and after work the tools etc. are stored in their designated storage area.
- 5.4** Entrance to areas where warning signs are posted is prohibited unless accompanied by authorized personnel.
- 5.5** No change/ modification to an existing facility to be carried out unless authorized to do so and aware of the safety procedures involved.
- 5.6** Entrance into areas where heavy machinery is operating is prohibited unless the equipment operator is informed.
- 5.7** All unsafe acts, defective/ faulty equipment and hazardous working conditions are reported to the supervisor. Ensure employees are reminded that failure to do so may prove life threatening.
- 5.8** Driving without a valid drivers license is to be prohibited strictly. Driving in the project area unless familiar with road conditions is not allowed and speed limits are to be followed at all times.
- 5.9** No person shall be allowed to sit on the fender or next to the operator of any mobile equipment.

6.0 PERSONAL PROTECTIVE EQUIPMENT: Personal protective equipment in adherence with standard specifications shall be made available for use at the construction site and it will be ensured that this equipment is used.

- 6.1 Safety helmets with company logo shall be worn by all persons at all times when on site and helmets shall NOT be painted.
- 6.2 Dust goggles shall be worn by tractor operators, especially dozer operators or in particularly dusty areas.
- 6.3 Safety glasses with side shields shall be worn by all persons on the construction site.
- 6.4 Proper eye protection shall be worn by all workers involved in welding, chipping, grinding etc.
- 6.5 Proper welding gloves shall be worn by all welders.
- 6.6 Working gloves shall be worn by all the workers when handling objects with rough surfaces or substances which could cut, tear or burn the hands.
- 6.7 Gloves shall not be used near moving parts of machinery.
- 6.8 Ear protection shall be used by persons working with jack hammers or hydraulic rock breakers.
- 6.9 All permanent staff (engineers and supervisors) of the company and sub-contractor shall wear safety shoes on site. All other workers shall wear a minimum of closed toe heel strap leather sandals.
- 6.10 No one shall be allowed to work without a shirt.
- 6.11 Long cuff rubber gloves shall be worn by all persons handling hot coatings. Rubber boots shall be worn by those who work in concrete, mud or water.
- 6.12 Suitable respirators shall be used when working with toxic or paint spraying fumes.
- 6.13 Safety nets or sheets shall be installed to prevent falls where installation/ use of other means is not practical.
- 6.14 The contractor shall have available sufficient quantity of safety harness for use on site.
- 6.15 All employees shall be instructed in the correct use and care of personal protective equipment.

7.0 FIRST AID FACILITIES

- 7.1 A first aid facility will be made available at the site office for the duration of all field works.
- 7.2 The first aid facility will comprise of necessary equipment to provide adequate first aid to injuries requiring immediate treatment.

- 7.3 A medical assistant will be available at the site office to cover all emergencies at all times when work is in progress on site.
- 7.4 A permanent record will be kept at the field to maintain current information on the number of injuries treated and accident cases.
- 7.5 If work is being carried out in separate locations which are more than 500 meters apart, a separate cabinet with a First Aid Kit shall be provided for every group consisting of more than fifty (50) workmen.

8.0 FIRE FIGHTING AND PREVENTION

- 8.1 Firefighting equipment will be available to maintain an adequate fire prevention standard. Details are as follows:
 - 8.1.1 Following types of fire extinguishers will be used:
 - a) Carbon Dioxide
 - b) Dry Powder
 - c) Foam
 - 8.1.2 Safety gloves (Leather).
 - 8.1.3 Monkey Ladders.
 - 8.1.4 Oxygen gas cylinders (for breathing)
 - 8.1.5 Gas masks.
 - 8.1.6 Megaphone.
- 8.2 Fire extinguisher will be installed in the warehouse, laydown and site office areas in easy access locations.
- 8.3 Fire extinguishers installed will be inspected before installation takes place.
- 8.4 Clearly visible '**NO SMOKING**' and '**FIRE WARNING**' signs will be posted throughout the warehouse and laydown areas.
- 8.5 All flammable liquid and gases will be adequately segregated from the offices in order to minimize hazardous conditions.
- 8.6 Firefighting instructions will be distributed as a written procedure. Regular fire drills on the use of the firefighting equipment will be held.
- 8.7 All flammable liquids will be stored and transported in specifically designed containers and the containers shall be clearly marked as '**FLAMMABLE**'

9.0 EMERGENCY PROCEDURES: An emergency situation at Jammy's site can be created by two distinct sources:

- a) Emergency situation in warehouse/ workshop.
- b) Emergency on site itself.

9.1 For all emergency situations all personnel working on site shall strictly follow the instructions provided to them in Jammy's Emergency Response Plan.

9.2 In case of an emergency due to activity at site, the following procedure shall be followed:

9.2.1 in case of emergency, in-charge safety will supervise the operation with the help of the following staff:

- i) in-charge administration
- ii) area engineer
- iii) safety technicians
- iv) first aid personnel

The following steps will be taken as emergency response:

- i) all work shall be stopped immediately
- ii) all equipment shall be shut down
- iii) in-charge safety shall immediately be informed by the foreman of area(s) concerned
- iv) after receiving the relevant information the in-charge safety shall take action and issue necessary instructions
- v) if immediate evacuation of site is required the safety personnel will announce the nature of the emergency evacuate the site using the megaphone
- vi) all workers will be advised to assemble at the designated assembly points
- vii) a roll call will be taken by the concerned foreman to determine if any worker is missing
- viii) in case of any missing worker(s) the emergency squad/ concerned foreman will try to locate him immediately

Each subcontractor shall have contact numbers of their site supervisor(s) at hand for after office hours so that in case of any emergency at site prompt contact can be made.

9.3 Jammy's representative shall be immediately informed about the emergency situation (i.e. serious injury, fire, critical damage of equipment etc.)

9.4 While transmitting a message by telephone, radio or messenger, it shall be ensured that detailed information regarding the nature and seriousness of the emergency, exact location etc. are conveyed. Name and badge numbers of the reporting person shall also be identified.

10.0 INCIDENT/ INJURY REPORTING.

10.1 Purpose: The purpose of this procedure is to provide means for reporting and investigating all incidents/ injuries that may occur at site.

10.2 Definitions:

10.2.1 Near miss: any incident which, had it happened would have caused injury to personnel or damage to equipment or liability claims.

10.2.2 Recordability: injuries and illnesses which require medical treatment (other than first aid) These are further classified as:

a) Fatality: death resulting from work injury

b) Lost Workday Injury (LWL): any injury which prevents the employee from performing all the duties of his regularly assigned job on any workday following the incident on which the employee has been scheduled to work. All such non-working days to be defined as lost workdays.

c) Restricted Work Case: any work related injury that restricts the employee from performing all or part of his normal duties during all or part of the workday.

10.3 Treatments that are always medical.

10.3.1 Sutures: the suturing of any wound.

10.3.2 Fractures: treatment of fractures.

10.3.3 Casts: application of a cast or other means of immobilizing an injured part of the body.

10.3.4 Infections: treatment of an infection arising out of an injury.

10.3.5 Bruises: treatment of bruise by drainage of blood.

10.3.6 Debridement: surgical removal of dead or damaged skin.

10.3.7 Abrasion: treatment of abrasions that occur to greater than full skin.

10.3.8 Burns: the treatment of second and third degree burns is always medical treatment.

10.4 First Aid: First Aid is limited to any one off treatment and/ or a follow-up visit for the purpose of observation of minor scratches, cuts, burns, splinters and so forth, which do not ordinarily require medical care. First aid can be provided by a physician

or nurse. Monitoring including overnight observation which reveals no injury shall be considered first aid if the employee reports for his next scheduled workday(s)

10.5 Reporting incidents: all incidents/ injuries at site shall be promptly reported using the standard procedure and not later than twenty-four (24) hours of occurrence to Jammy's Safety Advisor.

10.6 All lost workdays, injuries, fatalities, damage to property, fires, serious near misses shall be investigated by a committee comprised of the following:

- i) Jammy's Project Manager
- ii) Concerned Supervisor
- iii) Safety Supervisor

A detailed report of the investigation and its findings on the standard formats will be presented to Jammy's site executive within seven (7) days of the incident occurring.

Notwithstanding any of the above, the company is bound to undertake all legal formalities and report them to the relevant local government authorities. This includes all LWI's, fatalities, electrocutions etc. that may happen during the course of the project.

11.0 HOUSEKEEPING

- 11.1** The layout material storage areas, site offices, parking areas, warehouses etc., shall be planned so as to ensure safe access around the site to pedestrians, vehicles and equipment.
- 11.2** All materials are to be stored in designated areas and taken out only when they are required for work.
- 11.3** Small tools, fittings, etc., shall be kept in racks, at a suitable location in the warehouse. Timber with protruding nails shall be removed from site to avoid injury. Drum containers will be provided in the offices, laydown areas, warehouses etc. for trash and debris, and shall be clearly marked. These containers will be emptied daily.
- 11.4** Loose and surplus material shall not be stored within operational areas.
- 11.5** Special attention shall be given to oily rags, paper, trash or debris that could constitute a fire hazard.
- 11.6** Stairways, platforms, walkways, ramps etc. shall be kept clear at all times to avoid tripping.
- 11.7** All employees will maintain a good standard of housekeeping in their work area.
- 11.8** A housekeeping team shall be set-up and it will be responsible for maintaining a clean site.

12.0 CONSTRUCTION EQUIPMENT MAINTENANCE AND INSPECTION

- 12.1** All equipment will undergo a thorough inspection to satisfy established safety standards before any work commences.
- 12.2** Equipment inspection requirements will be met at all times prior to the mobilization of equipment at job site.
- 12.3** It will be the responsibility of the contractor's equipment supervisor to implement and enforce maintenance procedures for all the contractor's equipment.
- 12.4** Periodic maintenance inspection will be carried out at least once every fifteen days for all road vehicles.
- 12.5** At the end of a work day, every piece of mobile equipment will be properly parked in accordance with established safety procedures.
- 12.6** A record keeping system will be estimated for all inspections and/or maintenance checks made on all the equipment.
- 12.7** No equipment shall be left unattended while running.

The proper size and type of wheel shall be fitted to the equipment so that maximum permissible periphery speed of the wheel does not exceed the maximum speed displayed on

the machine. No grinding machine shall be used unless the maximum speed is clearly marked on the case. All wheels shall be fitted with adequate guards.

13.0 HAND AND POWER TOOLS

- 13.1** The correct type, size and weight of tool shall be used for each job.
- 13.2** Properly insulated and non-conductive tools shall be used for electrical work.
- 13.3** All tools shall be used for their specified service only, and within the guidelines of the manufacturer.
- 13.4** All tools will be inspected prior to use.
- 13.5** All tools will be maintained in proper working condition.
- 13.6** All electrical supply cables will be protected in areas of heavy foot or mobile traffic.
- 13.7** All air connections shall be secured against separation when connected to tools or other air hoses. If compressed air is to be used for cleaning purposes, the pressure must not exceed 30 PSI and personal protectives shall be used.
- 13.8** No safety feature shall be rendered inoperable or eliminated from any tool.
- 13.9** All damaged tools shall be returned to the tool room immediately.
- 13.10** All specially adapted tools shall be inspected and approved prior to use by the sub-contractor's concerned supervisor. These are tools that have been welded or modified for special use.
- 13.11** Jacks shall be positioned under the center of the load and placed on solid support. Jacks shall be operated slowly. It shall be ensured that no one comes under the items being picked up.
- 13.12** Power Tools: all portable power tools shall be stored in clean, dry conditions. Power tools shall not be left lying around the job site where they may be damaged. Rotating tools shall be switched off and held until rotation has completely stopped before they are set down. Tools shall be discounted before changing bits, blades, cutters, or wheels. All portable power tools shall be equipped with properly functioning 'deadman switches'.
- 13.13** Grinding machine: care shall always be taken to ensure that the grinding wheel is free from defect before mounting.

14.0 CRANES AND LIFTING

- 14.1** No crane shall be operated without current inspection sticker at Jammy's site.
- 14.2** The operator shall be in possession of valid operator's license.
- 14.3** Cranes shall not enter the Restricted Area or operate within 1-1/4 boom length of an oil line, gas line or overhead power lines unless a specific work permit has been obtained from the respective supervisor of the area involved.
- 14.4** Operating cranes shall maintain a distance as specified by the owner/ employer, from overhead power lines. A special work permit must be obtained from the superintendent utilities for a closer approach to power lines.
- 14.5** Cranes working in an area where there is a possible release of hydrocarbons shall have a spark arrestor on the engines.
- 14.6** Cranes shall not be used for transportation of person(s).
- 14.7** Cranes shall be avoided from towing of trailers. However, if unavoidable, properly constructed attachment shall be used.
- 14.8** Crane operators shall have a guide when travelling with load.
- 14.9** Only one person shall give signals to the operator while working.
- i) Do not walk under the load
 - ii) Taglines to guide the load shall be used
 - iii) The weight of a load shall be taken smoothly
 - iv) Loads shall not be dragged or pulled sideways
 - v) Swinging shall be done slowly
- 14.10** Cranes will be operated for their specific service only, within manufacturer's specifications.
- 14.11** Crane booms, boom rotation, hook and park brake will be properly secured whenever the crane is not in service.
- 14.12** Cranes shall not be closer to the edge of an excavation than the distance of 45 degree angle measured from the bottom of the excavation.
- 14.13** All slings and lifting gear will be visually inspected prior to its use.
- 14.14** All equipment will be used for its specified service only, within the manufacturer's specifications.
- 14.15** Damaged slings and lifting gear will be disposed of properly to prevent its use elsewhere.
- 14.16** No sling or lifting gear shall be changed, altered or modified.
- 14.17** Slings shall be protected against bends, kinks or abrasions during operation.
- 14.18** No lifting attachments such as hooks, shackles or lifting eyes shall be painted. Painting may hide cracks or flaws.

15.0 WELDING AND BURNING OPERATIONS: welding and burning operations have high potential for personal injuries and fires. When doing either the following precautions will be taken:

15.1 Before starting to burn or weld, the work area shall be inspected to insure that sparks or molten metal will not fall on combustible materials.

15.2 No welding or burning shall be done in a hazardous area without obtaining written authorization from the responsible authority.

15.3 All personnel shall use proper personal protective equipment while doing welding or cutting works. It will also be ensured that suitable fire extinguishing equipment is available in the work area.

15.4 Suitable eye protection with suitable lenses shall be worn.

15.5 Burning or welding equipment shall be maintained in safe operating conditions.

15.6 All welding leads and burning hoses shall be kept off walkways and stairways.

15.7 No welding or burning shall be carried out on barrels, tanks, piping or other systems which may have contained either combustible or unknown products without first obtaining approval from responsible authority.

15.8 WELDING

i) Approved eye protection shall be worn by all those who are exposed to flying objects from chipping slag or other welding cleaning activity.

ii) When arc-welding is carried out near other workmen, they shall be protected from the arc rays by non-combustible screens or adequate eye protection.

iii) The frames of all welding machines shall be grounded. Earth cable shall be firmly clamped to the work piece. It shall also be ensured that NO CURRENT flows through any routing equipment as this can damage bearings and windings.

15.9 BURNING

i) Matches shall not be used to light torches. Spark ignites will be used. Torches will not be used to light smoking materials.

ii) Appropriate gloves will be worn.

iii) A crescent or special wrench, if required to operate the acetylene cylinder valve, will be kept in position on the valve.

15.10 VENTILATION AND PROTECTION: Welding, burning and heating performed in confined spaces would require ventilation to reduce the concentration of smoke and fumes to acceptable levels. If adequate ventilation cannot be provided, employees will be provided with and required to use air-supplied breathing apparatus. All employees working under such conditions will be trained in the use of portable air packs.

- 15.11** Welding machine other than rotary type shall be provided with a transformer having the secondary winding isolated from primary winding.
- 15.12** Connection to the power supply shall be made by the means of a board mounted switch with suitable fuse.
- 15.13** Metal frames of welding machines shall be effectively earthed.
- 15.14** When welding is discontinued, machines shall be isolated by opening both the switch on the machine and the one on the power supply line.
- 15.15** All equipment shall be maintained in proper operating condition at all times.
- 15.16** All equipment shall be of proper specifications and rating.

16.0 STORAGE AND HANDLING OF CYLINDER GASES.

- 16.1** Only cylinders that adhere to modern health and safety requirements shall be held on site.
- 16.2** Cylinders shall be legibly marked for the identification of gas contents.
- 16.3** Protective caps shall be kept on all cylinders not in actual use and during transportation within Jammy's site.
- 16.4** Cylinders shall be used by experienced and authorized persons only.
- 16.5** Cylinders shall be returned to an approved area of storage when not in use.
- 16.6** Correct type of regulators shall be used.
- 16.7** Should a gas leak occur, the control valve shall be closed and the cylinder removed to a place of safety.
- 16.8** Empty and charged cylinders shall be stored in separate locations.
- 16.9** Cylinders shall be kept upright and shall be properly secured to prevent from tipping.
- 16.10** Cylinders shall not be left in locations exposed to the sun or other heat source unless a suitable protective screen is provided.
- 16.11** Cylinders shall never be used as work support, rollers, etc.
- 16.12** Cylinder gases shall be used for the specified purpose only.
- 16.13** Cylinders shall not be taken into basements or other underground locations unless provision has been made for their removal in case of emergency.
- 16.14** Cylinders shall be stored in approved storage areas complying with statutory requirements.
- 16.15** Oxygen and acetylene (or other fuel gas) cylinders in storage will be separated from each other by 20 feet or by a 5 foot barrier which has a one hour fire rating.
- 16.16** Cylinder gas stores shall be equipped with at least two 10 kg capacity each fire extinguishers.

- 16.17** Cylinders being transported on site shall be capped and properly secured against any movement which could result in damage. They shall not be dropped or permitted to strike against each other with force.
- 16.18** Cylinders shall never be slung or lifted using magnets, chain sling or wire ropes.
- 16.19** A crescent or special wrench, if required to operate the acetylene cylinder valve shall be kept in position on the valve when in use.
- 16.20** Copper or copper alloy fittings shall never be used with acetylene.
- 16.21** Cylinders shall not be taken into confined spaces.
- 16.22** RUBBER HOSES:
- 16.22.1** All hoses used in welding and cutting operations shall be suitable for this purpose and be of the specifications approved by the manufacturers of the equipment.
 - 16.22.2** Hoses shall be thoroughly examined before use to ensure that all threads, sealing surfaces are clean and undamaged.
 - 16.22.3** Hoses used, where a flashback has occurred shall be replaced.
 - 16.22.4** Proper fittings shall be used for making hose connections and shall be done by a qualified person.
 - 16.22.5** Hoses shall not be exposed to heat, oil and/ or grease or any other combustible material.
 - 16.22.6** Correctly color coded hose pipes shall be used with the appropriate gas.
 - 16.22.7** Sharp bends or kinks shall not be allowed to form in the hoses.
 - 16.22.8** Operators shall be prevented from working with hoses routed over their shoulders or between their legs.
 - 16.22.9** Flashback arrestor shall be fitted at the torch and hose.
- 16.23** PRESSURE REGULATORS
- 16.23.1** Pressure regulators must be fitted to cylinders in use.
 - 16.23.2** Pressure regulators shall be maintained in accordance with the instructions.
 - 16.23.3** Naked flame shall not be used to thaw out frozen equipment.
 - 16.23.4** Equipment shall not be left unattended during work breaks.

17.0 PRESSURE TESTING: Testing of all equipment and piping will be done as per standard testing procedure.

- 18.0 SAND BLASTING:** All sand blasting operations shall comply with regulations set below.
- 18.1 RESPIRATORY PROTECTION:** The sand blast operator shall wear an air supplied hood approved for sandblasting. Others working in or around the area shall wear a dust mask approved for silica.
- 18.2 BREATHING AIR SUPPLY.**
- 18.2.1** The air intake shall be located so that it may not take in exhaust gases from its own engine or harmful gases or dust source.
- 18.2.2** Compressors that are not oil lubricated shall be preferred, but in case they are oil lubricated, the following precautions will be taken:
- i) A high temperature sensor which will shut down the compressor if it over heats to guard against producing carbon monoxide and products of oil breakdown.
 - ii) To remove oil mist from all breathing air supply lines a replaceable filter cartridge shall be used.
 - iii) Before use, air samples from the compressor shall be tested by an outside agency to certify their breathability. Thereafter they shall be tested at least once every month or immediately after any equipment breakdown.
- 18.3 EYE AND BODY PROTECTION.**
- 18.3.1** The air supply line shall have an attendant who will shut off the air flow if the nozzle is dropped or when signaled to by the sand blast operator.
- 18.3.2** The hose nozzle, couplings etc. shall be fitted positively to prevent unplanned disengagement.
- 18.3.3** The sand blast operator shall wear a heavy cloth apron, safety boots, good quality gauntlet gloves, heavy shirt and trousers to protect parts of the body not covered by the hood from rebound sand or intended blast(s) from the sand jet.
- 18.3.4** Since the sand blast operator cannot see or hear people approaching him no one shall be allowed within range of the sand jet while it is being operated.
- 18.3.5** Workers operating the machine shall not leave it unattended and shall wear all protective safety equipment.
- 18.3.6** Persons in the said area without proper protective equipment shall not be allowed within the range of rebound sand or exhaust dust.
- 18.3.7** The sand used shall be approved by the client.
- 18.3.8** The area where sand blasting is taking place shall be cordoned off and a 'NO ENTRY. SAND BLASTING IN PROGRESS' warning sign shall be displayed on all approaches on all entry points to the work site.

18.3.9 The site supervisor shall be responsible for observing the distance of rebound and for moving ropes and barricades and signs clear of rebound.

18.4 STATIC ELECTRICITY.

18.4.1 A properly bonded or electrically conductive hose will be used to prevent accumulation of static electricity in the operator's body. The hose will be bonded with the sand blasting machine and the machine itself will be bonded with the piece being sand blasted.

18.4.2 To prevent ignition of hydrocarbons in classified area, the appropriate precautions listed in work permit instructions shall be followed.

18.5 NOISE.

If the noise level is over 90 DBA hearing protection shall be worn.

19.0 PAINTS AND COATING.

19.1 Appropriate personal protective gear, for instance, working gloves, safety hats, goggles, etc., shall be used when working on surface painting and or handling the paint/ coating materials. For spray painting respirators shall be used.

19.2 The paints shall be mixed in an adequately ventilated area.

19.3 Solvents and paints shall not be applied to surfaces warmer than summer ambient temperature.

19.4 Paints, solvents or coating materials shall be saved from exposure to extreme heat such as direct sunlight in the summers.

19.5 Prior to flame cleaning of the surface, it will be ensured that no flammable material exists in the vicinity of the work area.

19.6 Piping weld joints or bolts and nuts will NOT be painted before hydrotesting.

20.0 WORKING ABOVE GROUND LEVEL.

20.1 Suitable safety equipment to prevent falling shall be provided to persons working at places from which they are likely to fall.

For working at heights more than twelve (12) feet above ground level, safety harness is mandatory.

20.2 Safe access to and from all places shall be provided and maintained.

20.3 Scaffolding shall be constructed in accordance with standards and provided with handrails and toe boards. Where this is not possible, cradles, working platforms or safety nets will be used.

20.4 Scaffold inspection system will be enforced. Scaffolding standard will be followed in general.

20.5 If the use of cage/ cradle is necessary due to the location of the work then the cage/ cradle used will conform to standards. The person(s) in the cage/ cradle will wear safety harnesses at all times and the harness shall be attached to the crane hook separately.

20.6 When working aloft, tools and materials shall be handled and stowed in a proper manner so as to prevent them from falling.

20.7 Equipment shall be lowered using ropes or tackles.

20.8 Areas where overhead work is being carried out shall be cordoned off.

20.9 At least two flagmen shall be deputed to ensure that no persons enter the area where a major lift is in progress.

21.0 SMOKING REGULATIONS.

Smoking on site is prohibited and shall only be allowed in designated areas.

22.0 SAFETY OF PROJECTIONS.

All projections of a temporary nature, interfering with access paths and roads necessitated by the procedures of construction of works less than 6 meter high shall be clearly lit and hung with white trips until the projection is removed or forms part of the permanent work.

23.0 FRAGILE ROOFING AND MATERIALS.

- 23.1** No person shall be allowed to pass across or work on or from materials that are likely to cause falls unless suitable and sufficient ladders, boards and other means are provided to prevent slipping.
- 23.2** Proper warning signs shall be prominently displayed close to the fragile materials.
- 23.3** All asbestos based materials shall be handled with extreme care. Cutting of asbestos gaskets etc. shall be carried out in a special room.

24.0 TRAINING.

- 24.1** All employees shall be given safety orientation/ training prior to starting work on site. The training is to include but not to be limited to the following:
- i) Employees are aware of the type of work to be done at site, type of tools/ equipment to be used, safety and work procedures to be followed.
 - ii) The responsibility of each employee to observe all safe working procedures and that failure to do so would result in disciplinary action.
 - iii) Each employee is aware of his role statement/ responsibility in the event of an emergency at site.
- 24.2** The success of any plan depends on its front line supervisors, therefore it must be ensured that people know the safety program and are capable of administrating and enforcing it. The supervisors must be familiar with the safety aspects of the jobs they will supervise and be in a position to provide instructions so as to remove any deficiencies observed in the execution of said job. The sub-contractor must provide training/ introduction to qualify the first line supervisory staff to carry out their safety responsibilities effectively. It is not enough that the responsibility for safety be left to first time supervisors, the top management must on a continuous basis reaffirm its commitment to safety in a visible manner, by being conscious to safety on visits to site and by attending safety seminars whenever possible.
- 24.3** Daily safety talk prior to commencement of job shall take place with emphasis on the day's activities.
- 24.4** Weekly safety meeting will be held on the job site. These meetings will be of maximum ten (10) minutes in duration and will discuss specific job related safety procedures or any safety related incident that might have occurred.

25.0 WORK PERMIT.

The purpose of a work permit system is to safeguard the employee, protect the equipment, prevent fire, and in general to ensure that all the work is carried out under the safest controlled conditions possible.

During construction phase a blanket permit is in force on Jammy's sites, however for the following activities, permits shall be obtained before commencing work:

- i) Vessel entry
- ii) Working on energizing electrical panels etc.
- iii) Radiography

For items i) to iii) permits shall be issued by the concerned contractor. During pre-commissioning/ commissioning activities Jammy's site will be taken under consideration and all permits/ procedures in force there will be applicable to Jammy's site.

26.0 MODIFICATION TO PLANT AND EQUIPMENT.

This procedure outlines the steps to be followed if any modification to plant or equipment is to be carried out.

26.1 No modification shall be carried out unless authorized in writing by the Project Safety Committee.

26.2 The intended modification shall be clearly documented.

- i) It shall be presented to the process group for review and approval.
- ii) It shall next be presented to the Mechanical Group for review and approval.
- iii) It shall then be presented to the Project Safety Committee for final approval.

27.0 MEETINGS AND INSPECTIONS.

27.1 Jammy's site executive, engineering and construction manager, sub-contractor's supervisors, safety in-charge and Jammy's safety advisor will meet monthly to review safety performance.

27.2 Jammy's safety advisor and sub-contractor's site in-charges will meet at least once a week to discuss safety issues.

27.3 Weekly on job safety committee meetings will be conducted by the sub-contractor's area supervisor.

27.4 Daily pre-job safety meetings will be held on job site.

27.5 Jammy's safety advisor and sub-contractor's site in-charge shall inspect the site every day.

27.6 Jammy's engineering and construction manager along with site executive, safety advisor and sub-contractor's site in-charge will jointly audit the site once a month.

28.0 INCENTIVE PROGRAM.

The motivation or safety awareness of a group can be substantially increased by having an incentive scheme. The scheme can be based on:

- i) Individual awards on completion of a set number of manhours by a group without having lost time and/ or accidents.
- ii) Group awards i.e. get-togethers, dinners etc., at various stages of project completion for working without lost time and/ or accidents.