

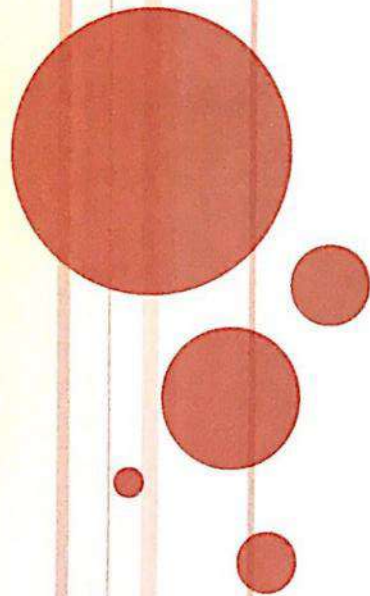


# SUGANDHA ENTERPRISES

ENGINEERING CONTRACTORS  
ELECTRICAL, MECHANICAL & CIVIL PROJECTS



# EMERGENCY, HEALTH & SECURITY PLAN



*Artisign*



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**CONCERN FOR QUALITY, ENVIRONMENT, OCCUPATIONAL SAFETY & HEALTH DRIVES M/S SUGANDHA ENTERPRISES TO CONDUCT ITS OPERATIONS IN A RESPONSIBLE MANNER**

We, at M/s Sugandha Enterprises, shall strive to:

- Meet Client's requirements for quality of works and project completion time;
- Comply with applicable environmental, occupational safety and health related legislations;
- Prevent and control pollution, minimize consumption of resources and generation of waste through adoption of better practices and technology;
- Provide safe and healthy work environment through adoption of better practices and technology for prevention of injury and ill-health;
- Carry out audits on regular basis to ensure that systems are in place, updated and continually improved; and
- Improve awareness, through campaigns and training programs among employees, contractors, and clients, about significant environmental aspects, occupational safety and health risks and control measures.
- It would be our endeavor to make M/s Sugandha Enterprises, the Most Reliable Company in India to work with providing quality product in an eco-friendly, healthy and safe environment



Arpit Singh

(Authorised Signatory)



# 1. APPROACH TO ENVIRONMENTAL, SAFETY AND HEALTH MANAGEMENT

Our approach to Environmental, Safety and Health (ESH) Management is based on overall objective of continually improving ESH performance.

The guiding principles in ESH management are:

- Prevention of environmental impact and safety risks through sound design practices;
- Establishing and maintaining systems for “Resource Conservation & Waste Minimization” and “Injury Free Work Environment” in digging/ laying of cable activities; and
- Monitoring of ESH parameters for timely corrective and preventive actions.

The approach takes into account following :

- Statutory / regulatory and other requirements;
- Significant environmental aspects and potential hazards; and
- Clients Requirements.





## 2. SITE ENVIRONMENT

Site Address: 220 KV S/S Gopalpur (DTL) to DJB Burari (TPDDL) Grid

Client Details: KEC INTERNATIONAL LIMITED (MAIN CLIENT: TPDDL)

Name Of Project: Laying, Testing & Commissioning of 66kV 3C x 300sqmm, XLPE Cable between 220 KV S/S Gopalpur (DTL) to DJB Burari (TPDDL) Grid

Details Of Work: Laying, Testing & Commissioning of 66kV 3C x 300sqmm, XLPE Cable

Completion Period: 6 Months

Major Activities.

- Survey and alignment fixing, Temporary Site Installations
- Mobilization of plant & equipment.
- General area cleaning, leveling & filling (Site preparation).
- Vehicle movement – site transport
- Site, store and other establishment.
- Electrification of work site
- Use of excavators, dumpers, hydra for lifting & shifting operations
- Mechanical / electrical repairs
- Reinforcement fabrication & placing in position



### 3. HSE TEAM

HSE Team for the project shall comprise:-

- Site Level: Safety Officer

M/s Sugandha Enterprises firmly believes that line management is integral part of HSE Team and will strive to ensure that all project personnel work in unison.

*Arpit Singh*



# 5. MAJOR PROJECT ACTIVITIES

- Site preparation
- Escape, Traffic and Transport Routes.
- Excavations.
- Transport Equipment and Lifting Gears.
- Working with Temporary Electrification.
- Working at Heights.
- Establishing and maintaining labor camps.





## 6. ENVIRONMENTAL RISK ANALYSIS (ERA)

As a part of preparation of HSE Plan we have analyzed project activities with a view to :

- ☛ Identify environmental aspects associated with all activities that can be controlled and those activities which can be influenced;
- ☛ Assess environmental impact(s) arising out of each identified aspect;
- ☛ Decide aspects that can have significant impact on environment; and
- ☛ Decide appropriate preventive/control measures.

We have identified significant environmental aspects at this site as:

- ☛ Dust Generation Due to Vehicle Movement ;
- ☛ Water pollution due to spillage of construction material and/or POL;
- ☛ Noise generation due to Plant & Machinery;
- ☛ Disposal of Construction Waste; and
- ☛ Disposal of Wastewater from labor camps

As a part of Integrated Management System, M/s Sugandha Enterprises has documented procedures for addressing these risks.

*Signature*



# 7. HAZARD IDENTIFICATION AND RISK ASSESSMENT (HIRA)

As a part of Integrated Management System, M/s Sugandha Enterprises has documented procedure for hazard identification and risk assessment. Procedure for Occupational Safety and Health Risk assessment (OSHRA) is at Enclosure I.

Bid-stage analysis of project activities has been carried out with a view to identify risk mitigation measures. Hazards identified at this stage are as:

- ☞ Working with and around machinery
- ☞ Working at heights
- ☞ Material handling
- ☞ Temporary electrification
- ☞ Working near over water reservoir
- ☞ Excavation

Before execution detailed Hazard Identification and Risk Assessment (HIRA) shall be carried out as Group Risk Assessment (GRA) during mobilization phase and also will be considered as pre-requisite before starting any new activity.

## Contract Specific HSE Requirements

We have gone through, understood and undertake to abide by following specific requirements of TDL in execution of the work -

- Welfare, Medical and First Aid Provision for all contractors workers
- Health, Safety & Environmental Policies
- Personal Protective Equipment (PPE)
- HSE Orientation and Training
- Permit to Work System
- Risk Assessments
- Pre-Task Discussion/Daily Team Talks (Tool Box Talks)
- Working at Heights
- Ladders
- Steel Erection/ Hard barricading
- Fire Protection
- Hot Work (General)
- Digging Tools & Equipment
- Mechanical Plant & Equipment
- Machinery Guarding
- Noise
- Lifting Equipment
- Electricity
- Housekeeping & Removal of Material
- Transport
- Access
- Site Notices
- Environment
- Registers
- Authorizations

These requirements are in line with M/s Sugandha Enterprises HSE commitment and will be fulfilled in project execution

*Arjun Singh*





## 8. Safety and Health Operational Control Procedures

To minimize hazards and risks, control measures shall be introduced in the following order of priority: -

- ☞ Engineering controls
- ☞ Administrative controls
- ☞ PPE

### Engineering controls

- ☞ Barricades and guardrails for heights and use of fall arrestors
- ☞ Machine guards and standard safety devices for machines; limit switches and locking devices
- ☞ Supports for the excavations
- ☞ Diversions around work zones

### Administrative Controls

- ☞ Removal of unwanted persons from the work area
- ☞ Restricted entry to work area
- ☞ Earmarking no PPE zones
- ☞ Filling up of check lists
- ☞ Control over movement of personnel

### PPE

- ☞ Helmets, boots, gloves and goggles
- ☞ Safety harness
- ☞ High Visibility Jackets, Lifebuoys & Life Jackets

The project shall implement safety through Safety and Health Operational Control procedures (SHOP). These comprise :

- ☞ SHOP-1 - Issue and Use of Personal Protective Equipment
- ☞ SHOP-2 - Working at Height
- ☞ SHOP-3 - Scaffolds and Working Platforms



- ☞ SHOP-4 - Working at Night
- ☞ SHOP-5 - Electricity
- ☞ SHOP-6 - Excavations
- ☞ SHOP-7 - Arc Welding and Flame Cutting
- ☞ SHOP-8 - Manual Handling
- ☞ SHOP-9 - Use of Plant, Equipment and Machines
- ☞ SHOP-10 - Lifting Appliances and Lifting Gears
- ☞ SHOP-11 - Fire Prevention and Fighting
- ☞ SHOP-12 - House Keeping
- ☞ SHOP-13 - Work Permits
- ☞ SHOP-14 - Health

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We will maintain following records as part of SHOPS

- ☞ Checklist for Safety Inspection – Heights
- ☞ Checklist for Safety Inspection – Earthwork/Excavation
- ☞ Checklist for Safety Inspection – Temporary Electrification
- ☞ Checklist for Safety Inspection
- ☞ Accident/Incident Investigation Report
- ☞ Pre-work Training : EHS Risk Assessment
- ☞ Immediate Reporting Of Injuries And Dangerous Occurrence And Dangerous Occurrences
- ☞ Health And Safety Return – Monthly Report
- ☞ Toolbox Talk Form – Monthly Report
- ☞ Safety Inspection Form - Senior Management
- ☞ Training Record – Monthly Report

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### 9. TRAINING AND AWARENESS PLAN

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**M/s Sugandha Enterprises** concurs with following HSE Principles:

- Unsafe behavior causes injuries
- Line management is accountable for safety
- Standard determines performance
- Silence is consent
- Behavior indicates attitude





- Understanding increases motivation
- Hazardous can be minimized
- Safety has highest priority
- Safety is daily responsibility

These principles would be guiding force in training and awareness programmes.

Training will be organized as follows:

| Topic                   | Participants | Duration | Frequency                             |
|-------------------------|--------------|----------|---------------------------------------|
| HSE Awareness           | All          | 30 min   | Once a month                          |
| Work Permit System      | Supervisors  | 30 mins  | Once a month                          |
| Safe Working Techniques | Supervisors  | 30 mins  | Once in 2 months                      |
| Incident Reporting      | Supervisors  | 30 mins  | Once in a month                       |
| Induction Training      | All          | ½ hr     | Prior to being put on work first time |

In addition to above, Supervisors/engineers will deliver toolbox talks to all workers/operators twice a week. Special emphasis shall be laid on the following: -

- ☞ Saving cement, steel, aggregates, diesel, water, and electricity
- ☞ Proper Storage and Disposal of Waste
- ☞ Reduction in Noise Levels
- ☞ Manual handling of stores
- ☞ Housekeeping and its importance
- ☞ Electrical hazards
- ☞ Care during crane operations
- ☞ Working around plant equipment and vehicles
- ☞ Excavations and pits.
- ☞ Heights, platforms, ladders and walkways.



## 10. MEASURING AND MONITORING OF EHS PARAMETERS

Key HSE performance indicators are as under:

- ☞ Key performance indicators for EOCPs and SHOPS;
- ☞ Key indicators for continual improvement; and
- ☞ Non-conformance and action taken reports.

These will include:

- Number of near-misses/DOs during the month
- Number of lost-time injuries and time lost during the month
- Number of reportable injuries during the month
- Number of persons trained in various programmes during the month
- Number of tool box talks conducted during the month

Implementation of HSE performance at site will be ensured by :

- Daily visit by the safety manager / engineer
- Weekly safety walk about by the Project manager
- Internal safety audits
- Completion of checklists by sites
- External audit through specialists
- Monthly safety meetings
- Formulation of action plan by sites.
- Safety performance review in monthly review meetings
- Safety review at the Company level

The following site safety rules must be implemented/followed/ensured at all work sites for ensuring ESH parameters without fail





## **SITE SAFETY RULES**

- No one (including staff and workers etc.) will be allowed to enter the work site without prior induction training & without required PPE.
- Before start of work every day, five minutes pre work briefing / toolbox talks shall be conducted by each respective front engineers / supervisor with subcontractor's job supervisor present. The job to be undertaken that day
- **Section. 52** of the Act states that no adult worker shall be required or allowed to work in a factory on the first day of the week i.e. weekly holiday.
- Once every week toolbox talks on specific topics will be conducted by the front engineer/supervisor in the presence of safety officer, all talks will be documented on the company's specified format.
- No Staff or workers will be allowed to enter the work site or to start his everyday activity without necessary job related PPE's. If there is any non compliance, Safety Officer or Site Management will issue a warning and if it is repeated impose fine on the concerned person and concerned Sub contractors.
- Smoking is strictly prohibited in all parts of the worksites except specific smoking zone as authorized by the HSPPL Safety dept.
- Working under Influence of drugs, alcohol's etc. is strictly prohibited on worksite.
- Carrying unwanted flammable items, explosives etc. strictly prohibited at site.
- No vehicle shall be permitted to enter the work site or introduced into the job without prior induction by HSPPL and Safety dept.
- It is mandatory that all vehicle driver and operator of lifting equipments etc. (heavy Vehicles like JCB, Tipper, Crane Trench machine etc.) should posses valid authorization certificates from HSPPL dept. before starting of their respective job.
- It is mandatory that all electrical operated machinery's, equipments etc. (like Visceral Pump, water pump, welding rectifiers/ transformers, diesel welding , panels, Switch gear, starter switch, etc.) should be duly certified by HSPPL Electrical dept. prior to introduce into operation.
- Prior to introduction of any lifting tools, tackles, machinery's etc. in operation it is mandatory to conduct Third Party Competent



Persons checking and the SWL should be marked on the equipment.

- All employees including workers must know about the exact location and use of fire Fighting equipments. Never restrict the access towards the firefighting equipment, always keep the access free from any obstructions.
- Considering emergency situation always keep the access around the work site area free from any obstruction for rescue operation.
- Everyone including workers should inform about the accident / incident and dangerous Occurrence to Site In charge, Site Engg. And Safety Officer.
- Stay alert and keep your mind on the work, when you are engaged in the site work.
- Before starting of everyday work, routine checking of lifting Equipments, Tools & Tackles, Winch, all types of pumps etc. to be done by related Engg, Supervisor and Worker.
- Don't carry out unfamiliar work without proper instruction. Any error due to ignorance can cause serious damage.
- When working at site especially around the moving machinery's, operating winch machine etc., wearing of loose clothing like dhoti, lungi, open sleeve shirt etc. are strictly prohibited.
- Don't leave any tools or materials haphazardly, where they can cause obstruction and create tripping hazards.
- All platforms, walkways, gangways, ramp, work area etc. must be kept clear at all time.
- During gas cutting uses of FLASH BACK ARRESTOR / non return valve are mandatory on each cutting set.
- It is mandatory to use of Earth Leakage Circuit Breaker (ELCB) / Miniature Circuit Breaker (MCB) / Residual Current Circuit Breaker (RCCB) etc. on all site temporary electrical facilities.
- During lifting a load by a crane use of guy rope on both ends is mandatory.
- Always use minimum three cores double insulated cables for site electrification job.
- Never use compressed air for cleaning of your clothes or getting relief from excessive heat.
- It is mandatory to install Reverse Horn on all vehicles (Like JCB, Tipper and site vehicle) and swing horn, over hoist limit





switches for lifting equipments like Cranes.

- All materials must be stored in a safe manner and height of stacking should be maintained (below the man height) to protect collapsing of the stack and when material shifting work is carried out manually
- Horseplay inside the site during or after the job is strictly prohibited.
- Never roll the compressed gas cylinders (DA & O<sub>2</sub>) at site, either shift it manually or by gas trolley. Use of gas trolley is mandatory for all cutting sets.
- Keep all gas cylinders inside the proper shed in upright condition and lock it properly.
- Keep Diesel / Oil in its tank under the shed. Use oil spill trays below the canes.
- Religiously follow the speed limit for every Construction or Staff Vehicles 20 Kms/hr
- Inside the work premises



# Thank You

We will feel honored to work under your flagship.  
Looking forward for your positive reply.

