

CONTRACT MANAGEMENT

QHSE REQUIREMENTS

SCOPE AND APPLICATION

Contractor/Service providers are the key stake holder and an integral part of Gujarat Gas Ltd (GGL's) business. Contractors'/Service provider' Quality, Health, Safety and Environment (QHSE) performance reflects on the company's business performance and reputation. GGL has established QHSE Management Systems, Procedures & Guidelines to ensure compliance with GGL's QHSE requirements. These requirements apply to all jobs whilst conducting work for GGL including; Project, Construction, Operation & Maintenance, Field Operations and Services within any given contract or agreement.

The overall objective of QHSE management in contract/agreement is to improve the company and Contractor's/Service providers' QHSE performance in all aspects of activities. Active and on-going participation by both the GGL and Contractor/Service provider is essential to achieve this objective.

RESPONSIBILITIES

It is responsibility of GGL management and staffs to ensure that all Contractors/Service providers work under their direction & control are provided with relevant Integrated Management System (IMS) Policies, Procedures & Guidelines that describe the GGL requirements for undertaking work within the company. It is also the responsibility of Contractors/Service providers to ensure that their staff are informed of and comply with GGL's requirement whilst working for the company.

GGL HSE department provides advice and assistance on QHSE requirements across the complete spectrum of all work activities. Contract Owner (Department Head) and Contract Holder (Work in-charge) are responsible to ensure safe execution of work/service include the following:

- Ensuring that the QHSE Policy, Procedures & Guidelines are known and understood by all contractors'/service providers' staff and work force
- Monitoring, Inspecting & Auditing execution of work, activities to ensure adherence to the QHSE compliance requirements

The Contractors'/Service provider' will take the responsibility for implementation of GGL's QHSE Policy, Procedures, Guidelines and other requirements with the advice and support of the GGL's Contract Owner / Contract Holder and HSE representative.

Contractor/Service provider to ensure that all aspects relating to QHSE are adequately addressed and implemented in accordance with the GGL QHSE requirements and QHSE Management Plan, which shall include the management processes and activities to be implemented during the course of work with GGL.

Contractor/Service provider shall be responsible for ensuring that adequate HSE resources are put in place to enable satisfactory implementation of QHSE Management Plan.

This responsibility also applies to ensure the Health and Safety of the people are directly and indirectly engaged / involved whilst working or present at GGL's work area / sites.

MOBILIZATION

- Post selection and awarding of contract, GGL shall arrange a kick-off meeting with Contractor/Service provider where GGL team members Contract Owner (CO), Contract Holder (CH) & HSE representative) will discuss on QHSE Management aspects / plan and requirements in order to make sure that Contractor/Service provider and their team are fully understand the expectation of GGL. During the meeting, QHSE Management Plan shall be discussed and agreed between GGL and Contractor/Service provider
- Contractor/Service Provider shall ensure that all tools, tackles, equipment, machineries & instruments are adequately deployed and are 'Fit for Purpose'. Pre mobilisation checks/inspection shall be carried out by GGL team for the same before the start of work.
- GGL emphasizes on the importance of the Health and Fitness of all staff/work force deployed at GGL work sites. Contractor/Service provider shall adhere to medical check-up as per the GGL Health check-up matrix (as applicable)
- A proper HSE orientation and training will be organised by GGL for the Contractor/Service provider workforce before the start of work; under no circumstances should the Contractor/Service provider commence the work unless they have undergone the HSE training (as applicable)
- Contractor/Service provider shall ensure that all their staff/work force are provided required Personal Protective Equipment (PPEs) as per GGL PPE matrix (as applicable)
- Contractor/Service Provider shall ensure all required emergency arrangements like Medical treatment, FIRST AID box and Fire fighting equipment (as applicable)

EXECUTION

Contractor/Service provider is responsible to ensure the compliance with GGL QHSE requirements. GGL overall QHSE performance is directly influenced by the contractors' performance.

- Contractor/Service provider is responsible for QHSE compliance monitoring at site/work activities to ensure that work/activity is performed in a safe manner. Moreover, they are responsible for reporting of all incidents, Hazard and Near Miss that might happen during work/activity
- Contractor/Service provider shall follow and comply with GGL "Work Permit" system
- During work execution and activities, GGL team will regularly monitor and evaluate the performance of the Contractor/Service provider to identify the shortfalls and weaknesses and assist to improve the overall performance including QHSE performance through CPAR process (as applicable)

We believe that everyone at GGL, Employees, Contractors, Service providers and Associates have the right to go home safely to their families.

QHSE Defaults and Penalties (As applicable)		
SN	Description	Penalty amount (will be decided by Contract Owner)
1	Non-compliance - HSE Engineer	-
2	Un authorised work	-
3	Work without PtW/WA	Rs. 1,000/- per instance
4	Non-compliance - Safety Training Card (STC)	Rs. 1,000/- per instance
5	Non-compliance - Health Check up	Rs. 2500/- per person
6	Non-compliance - PPEs	Rs. 1,000/- per instance

Remark: Issuance of MEMO against HSE non compliances including above mentioned defaults shall be decided by Contract Holder

QHSE GUIDELINE (AS APPLICABLE) FOR ALL TYPE OF CONTRACTS

1 Contractor/Service provider...

- a) shall ensure that all staff/work force comply with the requirements of the GGL HSE Management System, QHSE policy, standard, procedures, guideline, plan & Life Savers at work site
- b) shall ensure issuance of Identity Card to their team members
- c) shall apply and obtain Permit to work (PtW/WA) before start of the work
- d) shall arrange work related Personal Protective Equipment (PPEs) for their staff/work force and ensure proper use during the execution of job
- e) shall carry out the work within the duty hours/office hours. No Work shall be carried out without permission of GGL's representative beyond the official duty hours unless otherwise agreed upon prior to start of work and recorded appropriately
- f) shall ensure that all tools, tackles, appliances, machines, vehicles, instruments or other equipment are Fit for Purpose and maintained safe working condition at all times and are used only by authorized and competent persons
- g) shall ensure that all the QHSE requirements are properly discussed for any sub-contracted activities with GGL. No such activity shall be performed without clearance from GGL management
- h) shall ensure that all Hazards, Near miss, accident, incident, injuries are reported promptly to GGL. Action arises due to reported Hazards, Near miss, incident investigation; audit/inspection shall be closed out as per agreed timelines with site in-charge
- i) shall deploy staff & work force trained, qualified and competent for the work and well aware of risks and mitigation action/s for the activities undertaken
- j) shall make necessary arrangements for safe custody of equipment, materials in stores/warehouse and at site
- k) shall ensure safe transportation, storage and handling of materials to prevent any damage which may impair safe performance of the equipment / material etc
- l) shall initiate immediate actions to hospitalize injured person(s)
- m) shall ensure an injury free, incident free workplace and protect people from harm caused by work activities
- n) shall ensure use of seatbelts while driving four-wheeler and use of crash helmet for Two wheeler riders during job execution
- o) shall ensure Lock out and Tag out (LOTO) after de-energizing and double check before starting any jobs. In case of conducting job for the purpose of fault finding & monitoring of voltage & current it is to be considered live working and all PPE'S to be worn to avoid exposure of flash arc current
- p) shall take note that the use of open wires in sockets, use of wires with tape joints shall not be accepted at work site.
- q) shall ensure proper collection, storage and disposal of solid / liquid waste as per GGL procedure and guideline
- r) staff/work force shall not smoke or resort to misuse of drugs, medicines or alcohol while on duty

- 2** In case of any incident like fire, gas leakage etc. due to gross negligence of the Contractor's staff/work force, GGL reserves the right to impose penalty up to actual damage cost and or termination of work order depending upon the gravity of the situation.
- 3** Any breach of the QHSE requirements shall be deemed by the company to be a material breach of the terms & condition of the contract. GGL shall be entitled to take appropriate actions including instructing the contractor to (a) remedy the breach; (b) suspend the work or (c) terminate the contract.
- 4** All activities shall be carried out as per GGL's documented procedures and QHSE requirements, deviation from it shall be dealt with very strictly

PENALTY MATRIX RELATED TO INJURY CASES

SN	Parameter	Penalty (INR)
1	Fatal incident	For each fatal case either 1,00,000/- or 10 % of total contract value, whichever is lower
2	Lost time injury	For each injury case either 20,000/- or 5 % of total contract value, whichever is lower
3	Medical Treatment case / Restricted workday case (Excluding animal/insect bite cases)	For each injury case either 10,000/- or 2 % of total contract value, whichever is lower

Note: Penalty shall be imposed over and above the payment & compensation that would be made by the service provider to the injured person or family of deceased vide the statutory provisions.

MEMO FORMAT

 GUJARAT GAS	MEMO	Doc. No.	HSE-F-50
		Rev. No.	0
		Effective Date	02/07/2018

Memo No:	Date:	Time:
GA/Location		
Name of the activity		
Name of the contractor / Service Provider		
Memo Issued to		
Memo Issued by		
Observation		
SN	Non Compliance Observed	Close-out timeline
1		
2		
3		
4		

Remarks:

	GGL	Contractor
Name		
Designation		
Signature		

FIRST AID BOX CONTENTS

 GUJARAT GAS	First Aid Box Contents At worksite – PE/PNG/Steel/CNG Project/Admin and Office vehicles including O&M vehicles & MCV		Doc. No.	HSE-F-40B
			Rev. No.	01
			Effective Date	01/11/2018
SN	First Aid Box Contents			Minimum required Quantity
1	Small sterilized dressings			3
2	Medium size sterilized dressings			3
3	Large size sterilized dressings			3
4	Large size sterilized burn dressings			5
5	15 gm. packets of sterilized cotton wool			3
6	100 ml bottle of suitable antiseptic solution			1
7	Scissors			1 pair
8	Adhesive plaster (2 cm x 1 meter)			2 rolls
9	Sterilized eye pads in separate sealed packets			3
10	Analgesic or Aspirin tablets			10 nos.
11	Medical disposable gloves			2 pairs
12	Safety pins			1 dozen

FIRST AID BOX CONTENTS USAGE FORMAT

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PPE APPLICABILITY MATRIX

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TRAINING APPLICABILITY MATRIX

 GUJARAT GAS	Training Applicability Matrix		Doc. No.	HSE-F-46
			Rev. No.	0
			Effective Date	15.06.2018
Job Positions / Area of Work	Basic Safety Training + Fire fighting (Classroom Training)	Competency Training	Practical Fire fighting Training	First Aid Training
Contractor Staff / TPI / Outsourced Employee - Technical				
Plumber	✓	✓	×	×
Plumber - Working at Height	✓	✓	×	×
Supervisor - Working at Height (Rescue Training)	✓	✓	×	✓
PE Pipe Welder (Welder qualification)	✓	✓	×	×
Steel Pipe Welder (Welder qualification)	✓	✓	✓	×
Fitter/Fabricator	✓	×	✓	×
Helper (Project jobs)	✓	×	×	×
Site Supervisor or Mukadam (All jobs)	✓	×	✓	✓
Qualified HSE Engineer	✓	×	✓	✓
QA/QC Engineer	✓	×	×	×
Outsourced Employees - Technical	✓	×	✓	✓
TPI (of TPIA)	✓	×	✓	✓
Construction Supervisor (of TPIA)	✓	×	✓	✓
Project/O&M In-charge/Manager	✓	×	×	×
PE/PNG O&M Staff / Emergency response team	✓	✓	✓	✓
Steel pipeline O&M Staff	✓	✓	✓	✓
PNG (Dom/Com) AMC team	✓	×	×	×
CNG Station Supervisor	✓	✓	✓	✓
CNG Filler	✓	✓	✓	×
Compressor Operator	✓	×	✓	✓
CNG O&M Staff	✓	×	✓	✓
CNG Project Supervisor / In-charge	✓	×	✓	✓
CNG Project Technician	✓	×	×	×
Civil Staff - CNG Projects	✓	×	×	×
Certified Electrician	✓	×	✓	✓
PRI OEM O&M Staff	✓	×	×	×
Odorant Handling staff	✓	×	✓	✓
Terminal Compressor O&M Staff	✓	×	✓	✓
Terminal Compressor O&M Supervisor	✓	×	✓	✓
Security staff at Gas Installation	✓	×	✓	✓
MCV Driver	✓	✓	✓	×
Hired Vehicle Drivers (non O&M)	✓	✓	×	×
HDD/Hydra/Crane/Excavator Operator	✓	×	×	×
Contractor Staff / TPI / Outsourced Employee - Non- Technical				
Security staff at offices and warehouse	✓	×	✓	✓
Billing staff	✓	×	×	×
DMA/CDMA staff	✓	×	×	×
House Keeping Staff	✓	×	✓	×
GGL Employee (Technical/Non-Technical)				
GGL Employee - New (including GET/MT) - Technical	On joining	On joining	✓	✓
GGL Employee - New (including GET/MT) - Non-Technical	On joining	On joining	×	×
GGL employees - staff & shift engineer as part of emergency response team	✓	✓	✓	✓
Floor Warden	×	×	✓	×
First Aider	×	×	×	✓

TRAINER FREQUENCY & TRAINER MATRIX

 GUJARAT GAS	Training Frequency & Trainer Matrix		Doc. No.: HSE-F-47
			Rev No.: 02
			Effective Date: 29.09.2023
Training Title	Frequency (Years)	Trainer	Target Group
Basic Safety Training	Once in 3 years	HSE Rep - GA / Corporate	As per Training Applicability Matrix
Practical Fire Fighting Training	Once in 3 years	HSE Rep - GA / Corporate	
First Aid Training	Once in 3 years	External Agency	
Emergency Response Team Training	Once in a year / On inclusion or role change in ERT	HSE Rep - GA	ERT members
Induction Training - HSE	On joining	HSE Corporate	GGL Employee - New (including DET/GET/MT)
Functional Training	On joining	Based on recommendation of GAH/Function Head	GGL Employee - New (including DET/GET/MT)
Technical Competency Trainings			
Gas pipe Plumbing Training including Basic Safety + Practical Fire fighting	Once in 3 years	External Agency	Mandatory - Plumber, Plumbing supervisor Suggested - TPI, CS, Outsourced employees of PE-PNG dept.
Working at Height Training	Yearly	External Agency	WAH-Plumber (Level-I), Rescuer (Level-II) and Plumbing Supervisor (Level-III)
PE Welder Training	Once in 3 years	External Agency	Mandatory - PE welder, Supervisor Suggested - TPI, CS, Outsourced employees of PE-PNG dept.
CNG Filling Training including Basic Safety + Practical Fire fighting	Yearly	External Agency	CNG Filler & CNG station supervisor
On Job Training for CNG fillers	Half Yearly	GA - CNG O&M / HSE Rep	CNG Filler & CNG station supervisor
Steel Pipe Welder Qualification	As per TPI Certification	TPIA	Steel Pipe-welder
Steel/PE/PNG O&M & Emergency Handling Training Including including Basic Safety + Practical Fire fighting	Once in 3 years	External Agency	Steel/PE/PNG O&M Staff / Emergency handling team including GGL Employees - staff & shift engineer of emergency response / O&M team
LNG/LCNG O&M & Emergency Handling Training	Yearly	External Agency	LNG/LCNG O&M Staff, Emergency handling team & LNG Tanker driver including GGL Employees - staff & shift engineer of emergency response / O&M team
Defensive Driving Training	Once in 3 years	External Agency	CNG/LNG Transportation Drivers, Hired Drivers, Emergency/O&M vehicle drivers, Patrolmen

WASTE MANAGEMENT MATRIX

 GUJARAT GAS	Waste Management Matrix			Doc. No.	HSE-F-51
				Rev. No.	0
				Effective Date	02-07-2018
Waste item	Responsibility of collection	Storage Location	Responsibility of Storage & Disposal	Method of Disposal	Record to be maintained
Hazardous Waste					
O&M Waste					
Used oil from Compressor / DG set	GGL EIC through contractor	CNG Station / CGS	Contractor	Disposed to SPCB authorised vendor	From-3, Form 4, Manifest
Oil with Water Compressor / DG set		CNG Station / CGS	Contractor	Disposed to SPCB authorised vendor	From-3, Form 4, Manifest
Cotton Waste- Contaminated with Used oil		CNG Station / CGS	Contractor	Disposed at land fill sites	
Used Gas filter cartridge		GGL Store / Warehouse	GGL Warehouse – rep.	Disposed at land fill sites	Manifest
Ethyl Mercaptan scrubber drums having residual neutralized contaminated EM		CNG Station / CGS	Vendor	Disposed to SPCB authorised vendor	Manifest
Used Suraksha hose		GGL Store / Warehouse	GGL Warehouse – rep.	Disposed at land fill sites	Manifest
Condensate during pigging		Condensate tank at site	Contractor	Disposed to SPCB authorised vendor	Manifest
Used Odorant Tank with residual neutralized contaminated EM		GGL Store / Warehouse	GGL Warehouse – rep.	Disposed to SPCB authorised vendor	Manifest
Project Waste					
Used Welding Electrodes	GGL Site In-charge through contractor	Respective Contractor store	Respective Project Contractor	Disposed to SPCB authorized vendor	Manifest
Equipment-Used Oil				Disposed to SPCB authorised vendor	
Coating / Chemical cans				Disposed to SPCB authorized vendor	
Coating applicator Pad				Disposed to SPCB authorized vendor	
Used Hydro-test Water		Contractor water tanker		During de watering, care shall be taken to properly dispose the discharging water in order to avoid pollution, damages to fields under cultivation and / or existing structures and interference with the traffic. As chemical have been added to water, dewatering shall be done in such a way that the composition of the efficient water does not exceed the limit set in IS 2490 (Part-I) tolerance limits for industrial effluents discharged into in land surface water. Hence, dewatering circuit shall include chlorination before letting the water out of the pipe section to the environment.	
Other Hazardous Waste					
Plastic / other non-biodegradable scrap < 50 micron	GGL Site In-charge through contractor	GGL Store / Warehouse	GGL Warehouse – rep.	Sold to SPCB approved re-cycler	Monthly Patrak
Used batteries	GGL EIC			Sold to dealers having authorisation to collect used batteries	Form-VIII
E-waste	GGL IT In-charge			Sold to vendors having authorisation for collecting e-waste	Register
Used empty paint cans	GGL EIC	Respective Contractor Store	Respective Contractor	Sold to SPCB approved re-cycler	Manifest

 GUJARAT GAS	Waste Management Matrix			Doc. No.	HSE-F-51
				Rev. No.	0
				Effective Date	02-07-2018
Waste item	Responsibility of collection	Storage Location	Responsibility of Storage & Disposal	Method of Disposal	Record to be maintained
Non- Hazardous Waste					
Project and O&M Waste					
Cotton waste	GGL Site In-charge through contractor	Respective Contractor store	Contractor	Dust bins / garbage container	Challan
Discarded Grinding Disc		Respective Contractor store		Sold to authorised scrap dealer	
Used Stringer brush				Sold to authorised scrap dealer	
Bevel Protector				Sold to authorised scrap dealer	
Foam Pig		Contractor truck		Sold to authorised recycler	
Bentonite Mud used for HDD	Landfill Site				
Metal Scrap (CS, MS) Pipe, Fittings, Valves	GGL Site In-charge through contractor	GGL Store / Warehouse	GGL Warehouse – rep.	Sold to authorised recycler/scrap dealer	
Other Metallic / Non-metallic scrap e.g. meters, regulators etc.					
Aluminium, Brass, Copper Scrap					
Scrap PE pipe pieces, Fittings, valves					
Non-usable Project surplus – Steel & PE					
Admin Waste					
Canteen Wastes	Admin In-charge through respective Contractor	At designated location in premises	Admin Contractor	Local Authority Waste Management arrangement – e.g. Municipal Corporation waste truck	
Used Plastic Water Bottle					
Waste paper/banner/posters					
Broken glasses	Admin In-charge through respective Contractor	GGL Store / Warehouse	GGL Warehouse – rep.	Sold to authorised recycler/scrap dealer	
Electrical bulbs/tube lights etc.					
Rubber Scrap / damaged PPEs					
Wooden Scrap	EIC through contractor	GGL Store / Warehouse	GGL Warehouse – rep.		
Office Chairs, Fan, Water Cooler					
Electrical Waste - Motor, Pump, Panel, UPS					
Other Non-Hazardous waste					
Plastic / other non-biodegradable scrap > 50 micron	Respective Function In-charge	Waste bins / garbage container	Respective Function In-charge	Local Authority Waste Management arrangement – e.g. Municipal Corporation waste truck	
Housekeeping waste	Contractor		Admin		
Expired First aid items	Respective Function In-charge		Respective Function In-charge		
Building material (civil) waste	GGL EIC through contractor		Contractor		

LIFE SAVER COMPLIANCE



LIFE SAVERS- FOLLOW LIFE SAVER RULES TO AVOID ACCIDENTS



1. Driving



- Plan your journey in advance considering route, duration, road condition and weather condition
- Never drive or allow driving when driver is fatigued or under influence of substances like alcohol, painkillers, anxiolytics, recreational drugs etc.
- Ensure vehicle is fit for purpose
- Ensure periodic inspection, servicing and maintenance of vehicles
- Ensure provision of leg guards on two wheelers
- Always wear seatbelt while driving / travelling in passenger or commercial vehicle
- Always wear crash helmet while riding two-wheeler
- Never exceed passenger limit in vehicle nor allow unauthorized person in driver's cabin of hazardous goods vehicle
- Avoid use of two-wheeler / three-wheeler for travel on highways and / or dark roads
- Practice defensive driving - Respond promptly to unsafe act of others on the road
- Obey traffic rules, traffic signs and signals
- Obey speed limits
- Avoid harsh braking and harsh acceleration
- Avoid overtaking on the road without divider
- Drive in correct lane only
- Reduce speed based on road conditions and at accident prone areas like sharp turn, blind turn, steep curve, narrow bridge, heavy traffic area, road under construction, road diversions, etc.
- Maintain safe distance from the vehicle ahead
- Never use mobile phones or any other communication device while driving
- Keep parking lights ON when parking on highway and use reflective parking triangle to avoid accident
- Look for traffic while getting down from vehicle

2. Safe System of Work (SSoW)



- Before commencement of any job, ensure:
 - Job & site related hazards are identified and appropriate control measures are in place
 - An appropriate emergency/ rescue plan is in place
- Obtain Permit to Work (PTW) authorization from issuing authority as applicable to the job
- Ensure that approved PTW mentions detailed scope of work, must have clearly identified hazards, associated risks and necessary control measures
- Ensure no personnel is working at worksite without prior intimation and authorisation
- Avoid Simultaneous Operations (SIMOPS) which have potential to lead to hazardous situations
- Carry out Tool Box Talk (TBT)
- Provide cautionary instructions about exposure to hazards to people in vicinity of worksite
- Prior to commencing a job on isolated facilities, get confirmed all electrical & mechanical isolations (e.g. Gas installation, Gas pipe section, equipment, etc.) by authorised person and follow Lockout & Tag out (LOTO) system
- Ensure the job is performed by trained & competent personnel
- Ensure safety critical job is being supervised by competent supervisor
- Wear appropriate Personal Protective Equipment (PPE) for the concerned job
- Ensure material, tools and equipment required for performing the job are fit for purpose
- If unsure about job to perform safely, stop the job immediately and discuss with supervisor/ manager
- Intervene and stop unsafe job at site
- For any change in conditions, stop work, reassess the risk and obtain reauthorisation as appropriate
- In case of exposure of worksite to road traffic, ensure safety measures like use of flashlight, reflective traffic cones, barricades with reflective stripes to divert the traffic well before the working location / parked vehicle/equipment etc.
- Do not override or bypass any safety controls without proper authorisation and additional safety measures to mitigate the risk
- Before closing & leaving the site, ensure that site is safe, clear & tidy
- Follow Management of Change (MoC) process for changes to plant/equipment

3. Excavation, Manual Boring and Horizontal Directional Drilling



3.1 Excavation

- Follow "Safe System of Work" Life Saver rules
- Identify, locate and protect all underground utilities e.g. power cable, gas pipeline, etc. as necessary
- Use insulated crow bar / pick-axe for manual excavation
- Identify & mitigate the hazards as necessary e.g. contaminated soil, equipment movement, traffic etc.
- Follow correct trench protection techniques as per soil conditions like step cut (benching) or sloping ("V" shape) or shoring
- Keep machinery and excavated spoil away from edge of trench / pit
- For any change in ground conditions, stop work and consult supervisor
- Keep children away from pit / trench / work sites
- Display warning signs, use appropriate barricades at work area and provide easy means for getting in and out of trench / pit
- Make provision of proper crossover on trench for pedestrian as required

3.2 Manual Boring

- Follow "Safe System of Work" Life Saver rules
- Identify, locate and protect all underground utilities e.g. power cable, gas pipeline, etc. as necessary
- Identify & mitigate the hazards as necessary e.g. contaminated soil, equipment movement, traffic etc.
- Give preference to open cut excavation over manual boring
- Before each manual boring work, ensure:
 - Approved bore plan is in place
 - Entry and exit locations for manual bore are visibly marked
 - Permit to Work (PTW) for the job is in place
- Ensure protection against potential electric shock by:
 - Use of electrical shock resistant (Teflon or equivalent approved insulating material coated) manual boring tool
 - Wearing of rated electric shock resistant hand gloves and shoes
 - Provision of "Electrical Insulating Rubber Mat" on the ground
 - Avoiding work in wet conditions if electrical power supply is not isolated

3.3 Horizontal Directional Drilling (HDD)

- Follow "Safe System of Work" Life Saver rules
- Identify, locate and protect all underground utilities e.g. power cable, gas pipeline, etc. as necessary
- Identify & mitigate the hazards as necessary e.g. contaminated soil, equipment movement, traffic etc.
- Before starting HDD operation, ensure:**
 - Approved bore plan is in place
 - HDD entry and exit locations are visibly marked
 - Capacity of HDD drilling rig is adequate
 - Proper earthing / grounding of machine
 - Cable strike alarm is in working condition
 - Moving parts of machine are guarded
 - Out rigger of HDD machine is working and rigidly put on stable & firm ground
 - Availability of tracking equipment / device
 - Crane is in good condition
 - Preferably auto rod loading facility is available in the machine
- During drilling operation, do ensure:**
 - Track movement of the drilling tool is as per approved bore plan
 - Auto greasing & auto loading of machine rod is functioning properly, in case of manual loading of the machine rod, ensure additional safety measures to mitigate the risk from moving parts
 - Entry of unauthorised personnel in the work area is prohibited
 - No maintenance activity is carried out while HDD machine is in operation

4. Work at Height



- Follow "Safe System of Work" Life Saver rules
- Use only approved and certified working at height equipment e.g. rope access system, scaffold, ladder, etc.
- Give preference to life working platform in place of rope access system or ladder wherever possible for carrying out work at height job
- Ensure use of rope protectors to avoid any damage to ropes from sharp edges
- Identify 'fall from height' hazard before starting of plumbing job (including plumbing at balconies) and ensure use of safety harness with proper anchoring



LIFE SAVERS- FOLLOW LIFE SAVER RULES TO AVOID ACCIDENTS



5. Lifting Operation



- Always use a fall arrestor having:
 - Double action self-locking snap hooks
 - Proper anchor preferably mounted overhead that limits free fall to two meters
- If using a rope access system, ensure use of fall arrest harness
- Select safe routes for installation of Galvanised (GI) riser & lateral
- Never carry out any work at height when near an overhead power line
- Secure all tools and equipment while working at height
- Clearly display warning signs and have the area in control below the workplace wherein "working at height" is in progress
- Stop the work in adverse weather conditions i.e. rain, heavy wind, poor work lights etc.

6. Confined Space Entry



- Follow "Safe System of Work" Life Saver rules
- Ensure that approved lift plan is in place having details of lift method, selected lifting equipment, load chart, sketch showing lifting equipment location & orientation, lifting points & centre of gravity and Load movement path, etc.
- Use only correct, approved and certified lifting equipment, tools & tackles and safety devices
- Work according to a lift plan that is discussed, understood and followed by everyone involved in the job
- Do not exceed safe working load limit
- Ensure lifting equipment are working on stable & firm ground
- Ensure safety measures to avoid contact with overhead power line during lifting operation
- Ensure that lift area is fully protected from road traffic vehicles & movement of other equipment
- Prohibit entry of unauthorised personnel and do not allow anyone under the lifted load or in the lift path
- Ensure operator of lifting equipment and signal man are always in contact
- In case of rough weather conditions, stop the lifting operation and wait till condition is normal

7. Electrical



- Follow "Safe System of Work" Life Saver rules
- Ensure isolation of all connected power sources, use of Lockout & Tag out (LOTO) before commencement of electrical job and removal of LOTO after reconnecting the power sources
- Ensure that all concerned persons are informed and updated regarding status of isolation
- Consider all conductors are live unless proved dead with a certified testing instrument
- Ensure earthing of all electrical equipment and use of three pin plug and socket
- Never insert open wires in the socket, always use plug & socket
- All electrical work is to be done by certified electrical person and licensed contractor only
- Use portable electrical equipment with double insulation protection
- Ensure protective devices like ELCB / RCCB are used and in working conditions

8. Compressed Natural Gas (CNG) Handling



- Follow "Safe System of Work" Life Saver rules
- Ensure that CNG cylinder is within test life
- Avoid CNG filling if CNG cylinder is suspected to be spurious / altered / damaged
- Ensure CNG cylinder and CNG cascade are firmly secured
- Ensure flame proof integrity of all electrical installations in hazardous areas
- Secure high-pressure hose to avoid swinging action in case of failure
- Control the potential ignition sources (e.g. smoking / naked flame / use of phone / hot work etc.) within CNG handling area
- Control traffic of customer vehicles and movement of passengers / third party within premises
- Carry out periodic risk assessment of the routes used for CNG transport
- Ensure movement of CNG Transport Vehicle on designated path only at CNG station through use of marking and barricades / cones
- Ensure safe reversing of CNG Transport Vehicle with use of reversing camera, parking sensors / guiding staff
- Ensure safe parking of CNG Transport Vehicle with use of wedge lock and parking brake
- Ensure proper grounding of CNG Transport Vehicle and cascade prior to CNG loading / unloading
- Ensure putting the vehicle ignition key in the filling hose before connecting the couplings to avoid hose pull out incident during CNG loading / unloading operation
- Ensure that no passengers are allowed in the CNG filling area or vehicle movement area
- Ensure that vehicle engine is in switched off condition and driver is outside the vehicle before starting CNG filling
- Always use insulation pad / rubber mat to avoid contact of CNG filling hose with battery terminals of the vehicle being filled
- Be alert for any gas smell or abnormal sound before and during CNG filling
- Ensure driver does not start the vehicle before disengagement of CNG filling hose by the filler
- Ensure easy access to Emergency stop switches / shut down buttons

9. Liquefied Natural Gas (LNG) Handling



- Follow "Safe System of Work" Life Saver rules
- Follow safety procedure for LNG loading / unloading operations
- Use only non-sparking tools while handling LNG
- Control the potential ignition sources (e.g. smoking / naked flame / use of phone / hot work etc.) within LNG handling area
- Ensure proper grounding of LNG transfer assembly & LNG tanker prior to LNG loading / unloading
- Avoid direct contact with LNG (cryogenic) liquid or vapour
- Wear appropriate PPE (cryogenic gloves, cryogenic suit/apron, face shield, helmet, Safety shoes)
- After LNG loading / unloading is completed, ensure disconnection of hose pipe from LNG tanker
- Do not pour water on LNG spillage or leakage point
- Ensure easy access to Emergency stop switches / shut down buttons

10. Gas Escape Handling



- Follow "Safe System of Work" Life Saver rules
- In case of gas escape inside premises, open doors & windows to ventilate the escaped gas
- Give priority to protecting life
- Always wear appropriate PPE including fire retardant clothing
- Isolate / turn off gas supply as early as possible
- Check for presence of Gas with gas detector, identify gas affected area and if required, evacuate persons to a safe place
- Continuously monitor for presence of gas in atmosphere
- Control the potential ignition sources within Gas affected area / zone e.g. Do not permit smoking / naked flame / use of phone / operation of electrical switches, hot work etc.
- Cordon leak affected area and display warning signs
- Seek help of local authorities as required to keep traffic & people away
- Seek help of fire department and ambulance services as required
- Post leak repair, carry out leak check to ensure soundness of repaired leak as well as ensure there is no other gas leakage in the area

MEDICAL FITNESS CHECK UP MATRIX FOR CONTRACTOR PERSONNELS

Medical Assessment Required		TYPES OF ACTIVITIES							
		PE/ Steel Welding	Working at Height	CNG Fillers	Plumber	Canteen / Food handlers	Security	Drivers	Operators-Terminal Compressor
Personal Details									
	Name	R	R	R	R	R	R	R	R
	Age	R	R	R	R	R	R	R	R
	Sex	R	R	R	R	R	R	R	R
History									
	Present Complaints	R	R	R	R	R	R	R	R
	Past Complaints	R	R	R	R	R	R	R	R
Family History ¹	Diabetes	R	R	R	R	R	R	R	R
	T.B.					R			
	IHD		R					R	
	High B.P.	R	R	R	R	R	R	R	R
Personal	Addictions	R	R	R	R	R	R	R	R
	Medicines	R	R	R	R	R	R	R	R
	Diet	R	R	R	R	R	R	R	R
	Hygiene	R	R	R	R	R	R	R	R
Physical Examination									
	Height	R	R	R	R	R	R	R	R
	weight	R	R	R	R	R	R	R	R
	B.P.	R	R	R	R	R	R	R	R
	Pulse	R	R	R	R	R	R	R	R
Vision Test	Near	R	R	R	R	R	R	R	R
	Far	R	R	R	R	R	R	R	R
	Colour Blindness							R	
	Night Vision							R	
Systemic Examination									
	CVS		R		R				
	CNS		R		R	R		R	
	Respiratory (Spirometer)	R	R	R	R	R			R
	Ear, Nose and Throat	R	R	R	R	R	R	R	R
	Audiometry								R
	Hearing ability							R	
Clinical Examinations									
Blood	Blood Group ¹	R	R	R	R	R	R	R	R
	FBS ³		R	R	R	R	R		
	PPBS		R	R	R	R	R		
X-Rays	Chest PA view			if directed by Physician					
Other special test									
Serum WIDAL Test						R			
Hepatitis A						R			
Stool - Coli form						R			
Mont ox test						R			
Skin Examination for Dermatitis						R			

Note: All the forms and formats may change time to time and GGL EIC will share the same to bidders. Bidders to follow the same as per instructions from GGL EIC.