
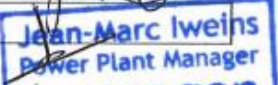


# GENERAL SAFETY, HEALTH & ENVIRONMENT INSTRUCTIONS

**terr**agen



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	GENERAL SAFETY, HEALTH & ENVIRONMENT INSTRUCTIONS	TGEN-INS-SHE-001
		REVISION10
		Issued on 26/09/2013

## 1 PURPOSE AND SCOPE

Terragen Ltd recognises the importance of safety in a workplace and thus expects that safety, health & environment (SHE) instructions are complied with on its premises. The personnel of Terragen Ltd and contracting companies working for Terragen Ltd are requested to commit themselves to comply with the safety instructions on site. The present document 'General SHE instructions' applies to all activities on the premises of Terragen Ltd.

Moreover, the responsible party of each contracting company should read and understand this document and communicate the instructions to his personnel who work for Terragen Ltd.

In addition to the SHE instructions, everyone (Terragen's personnel and contractors) is expected to abide by the applicable local legislation including Occupational Safety and Health Act 2005 and Environment Protection Act 2002.

## 2 DOCUMENT CONTROL

AMENDMENT RECORD		
Page No.	Date of amendment	Revision history
8, 10, 19	07/10/2013	Pg 8: 'Open or close circuit breakers...' was deleted and inserted on Pg 19 under 'electrical requirement'. Pg 10: '(by Chef de quart)' inserted under Hot work Pg 19: new title inserted 'Electrical requirement'
4,5	11/11/2014	Terragen's QSE Policy has been replaced and new pictograms added to general instructions
4	03/05/2016	Terragen's QSE Policy has been updated with the 2016 version
10	03/05/2016	Work at height regulations 2013 has been added. Occupational Safety and Health (Scaffold) Regulations changed from 2011 to 2013
11	03/05/2016	TGEN-INS-OPE-020 Hot Work Instructions has been added
12	03/05/2016	TGEN-INS-SHE-004 Confine Space Operating and Rescue Procedure has been added. Device measuring toxic gases has been added. Portable local exhaust ventilation has been added. Adequate natural and artificial ventilation has been added.
15	21/12/2016	Radiographic instructions have been reviewed
20	21/12/2016	Safety and Health (Scaffold) regulations 2011 removed
4	16/10/2019	Terragen's QSE Policy has been replaced.
6,7	16/10/2019	Additional instructions concerning use of phones, etc.
9-18	16/10/2019	Phone number on emergency situations updated.
11	02/07/2020	Drilling on metal added in hot work definition.
4	02/07/2020	Terragen's QSE Policy has been updated
7	20/10/2020	Link to waste management plan added→Rev06
4	05/05/2021	Terragen's QSE Policy has been updated
9	05/05/2021	COVID-19 measures have been included
11	05/05/2021	Working in Room equipped with Gas Suppression Systems - e.g. Electrical Rooms added→Rev07
5	22/11/2022	Terragen's QSE Policy has been updated
5	23/11/2022	Flat shoes replaced by safety shoes for visitors accessing the plant
9	22/11/2022	Updated procedure for Covid-19 has been included
12 & 13	22/11/2022	LOTO procedure, TEGN-INS-OPE-001 'Gestion des consignations et Authorisation de travail' has been added
16	23/11/2022	Works involving confined space should be authorised by Chef de Quart and a Permit to work should be obtained prior to start of work.
5	14/07/2023	Terragen's QSE Policy has been updated
9	18/07/2023	Contagious diseases outbreak has been added
5	12/02/2024	Terragen's QSE Policy has been updated

## 3 INTEGRATED MANAGEMENT SYSTEM POLICY - QUALITY, SAFETY & HEALTH, ENVIRONMENT

January the 12<sup>th</sup>, 2024  
Revision 7

### TERRAGEN LTD INTEGRATED MANAGEMENT SYSTEM POLICY

We believe that excellence in delivering quality products and services, in dealing with environmental stewardship and occupational health and safety issues are the backbone of our Integrated Management System (IMS).

At Terragen, we are committed to continually improve our business processes and the consistent generation of steam and electricity by; meeting the needs and expectations of our customers and relevant interested parties, protecting the environment, rendering safe and healthy workplace and complying with legal obligations as well as other applicable requirements.

### Terragen's Integrated Management System strategic objectives

**Health and Safety**

- Reinforce our OH&S culture on the field with particular emphasis on risk management
- Improve reliability of our fire prevention and protection systems

**Environment**

- Develop sources of other biomass with particular emphasis on wood
- Reinforce the control and monitoring of our air emissions
- Maintain high level of control on chemicals consumptions and water treatment costs

**Quality**

- Improve plant availability & performance
- Conduct successfully the preventive maintenance works with efficient control of the expenses
- Maintain high level of bagasse conveyors system reliability and availability
- Increase cane straw energy production as per its expected capacity

The Top Management of Terragen Ltd acknowledges that leadership and commitment is core to attain planned objectives and shall allocate all the necessary resources needed for enhancing the performance of the Integrated Management System. Workers shall be engaged, directed and supported ~~in order to~~ align their interests with the mission, vision and strategic direction of the power plant. Occupational health and safety matters shall be tackled with the consultation and participation of workers' representatives.

Members of the Integrated Management System Committee have been assigned the responsibilities and authorities to ensure; the IMS conforms to requirements of ISO 9001:2015, ISO 14001:2015 and ISO 45001: 2018 International Standards, processes are delivering their intended outputs, the IMS performance and the opportunities for improvement is reported to Top Management, the promotion of customer focus and the preservation of the integrity of the IMS.

This policy is applicable to Terragen Ltd operating in Belle Vue Mauricia, Mapou, producing electricity and steam.

Jean Marc Ivoins  
Power Plant Manager

## 4 GENERAL INSTRUCTIONS

- Wearing of the following personal protective equipment by personnel and contractors on site is mandatory:



**Safety Shoes is Mandatory on Site**



**Hearing protection is mandatory in hearing protection zones.**



**Please always use Pedestrian Walkways**



**FFP3 mask is mandatory in designated zones.**



**Hard hat is mandatory in designated zones**



**Please use handrails when taking staircase**



**Eye protection is mandatory in designated zones**



**Visitors only:** They should wear appropriate clothing that covers the body and Safety shoes to access plant premises. Hard hats and disposable ear plugs will be provided by Terragen during their visit.

- **Entry to Terragen Ltd premises**

Any person visiting or having an appointment at Terragen Ltd must stop and register at the security post on his arrival and give the name of Terragen's contact person with whom he has an appointment. A 'visitor's badge' will be given by the security officer, that he will have to display during his movement on our premises. The security officer will show him the way to his contact person or to the reception in case the contact person is not reachable. The security officer will give visitors a 'General information' leaflet that outlines SHE instructions. The visitors must return the 'visitor's badge' to the security officer on their departure.

- **Vehicles circulation on premises of Terragen Ltd**

- ✓ No vehicle is allowed to park inside the premises of Terragen Ltd excluding its personnel. Contractors and visitors must park their vehicles outside the premises, next to the security office. Other vehicles that are allowed to enter the premises for a short time are:
  - for loading and unloading of materials;
  - Vehicles that are hired by Terragen to perform work on site.
- ✓ No Parking is allowed:
  - In front of Store except for loading and unloading.
  - In front of Main Building Office [Reception] except for loading and unloading
  - In front of the cooling tower 2 limited to the first two CRF pumps
- ✓ Every vehicle circulating on site must comply with the speed limit displayed on various locations on premises (as shown below). Should there be any non-compliance with the speed limit on site, disciplinary action will be taken.



**ALL VEHICLES**  
E.g.: Passenger car, motorcycles, light trucks,  
heavy vehicles, ...

- ✓ Wheel loader, forklift and other vehicles must only be driven by persons who have received training and instruction or possess a valid appropriate driving licence.
- ✓ Other permits such as the valid report of examination of a crane/lifting machine may requested for lifting vehicles.
- **Smoking** is prohibited on the premises of Terragen Ltd except in the designated smoking zone located near the New Messroom and contractor's mess.
- **Drinking of Alcohol and illicit products** are prohibited on the premises of Terragen Ltd. Any violations maybe subject to legal prosecution and immediate ban from Terragen Ltd
- It is prohibited to manipulate any equipment at Terragen Ltd unless it has been authorised.
- **Use of Mobile phones**  
The use of mobile phones can be a source of distraction and loss of vigilance during activities and interventions. It is strictly recommended to use mobile phones only on emergency situations and for work purpose only. Special attention should be brought during the use of mobile phone such that no danger prevails on you or other workers on site.  
The Following Rules apply for use on Mobile Phones at Terragen Ltd:
  - Do not talk or text with a mobile phone when moving or walking inside Terragen premises.
  - If you have to talk or text with a mobile phone, move out of the way of others and to the side of the pathways. Also, check if there isn't any risk or danger that may be caused by process operations or works in progress nearby you.
  - Mobile phone usage when driving a vehicle, work engine, or operating machinery such as cranes, machine involving displacement, rotation of parts and moving parts are strictly forbidden.
- **Environmental protection & waste management**  
Housekeeping is a good practice. Personnel of Terragen and contractors must always tidy up the area where work has been carried out. Any waste generated must be disposed of in an appropriate way as outlined in the 'Waste management plan TGEN-INS-WMA-001'. No chemicals including oil, paint, or hazardous substance must be discharged in drain or on land. Severe actions will be taken against any person who is carrying out such an act.

No hazardous wastes should be dumped in drains, appropriate retention or disposal method should be used and followed. Contact your work supervisor at Terragen to guide you.

All wastes should be segregated and disposed in designated bins. Plastic wastes, paper wastes, cardboards, electronic wastes, domestic wastes, industrial wastes and hazardous wastes should be disposed according to designated waste disposal methods. (Refer to Waste Management Plan - TGEN-INS-WMA-001)

The Waste Management Plan is available for consultation from hyperlinks on Purchase orders and website of [www.terra.co.mu](http://www.terra.co.mu) >> Power >> Downloads >> Waste Management Plan.

Housekeeping Rituals are undertaken on every Fridays at 15:30 where all contractors and employees are called to stop works and conduct housekeeping of their workstations.

Housekeeping Rituals are undertaken on Saturday at 15:30 during annual shutdowns.

Date and Time of Housekeeping may vary and shall be communicated accordingly.

Water and Electricity should be used consciously and all wastage should be prevented.

Any type of environmental pollution is strictly forbidden.

- Any **floor opening or removal of grating** must be notified to the ‘Chef de quart’ and the ‘Chargé des travaux’ who will undertake appropriate measures such as placing of barriers and warning sign to prevent persons and materials from falling.

### Contagious diseases

In the event of an outbreak of a contagious disease, specifically COVID-19, Terragen will adhere to the established sanitary measures outlined in the TGEN-INS-EMG-007 Protocol for Covid 19 Rev 10. These measures will be implemented at Terragen to effectively respond to and mitigate the spread of the disease.



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## 5 PREPARATION AND ORGANISATION OF WORK ON SITE

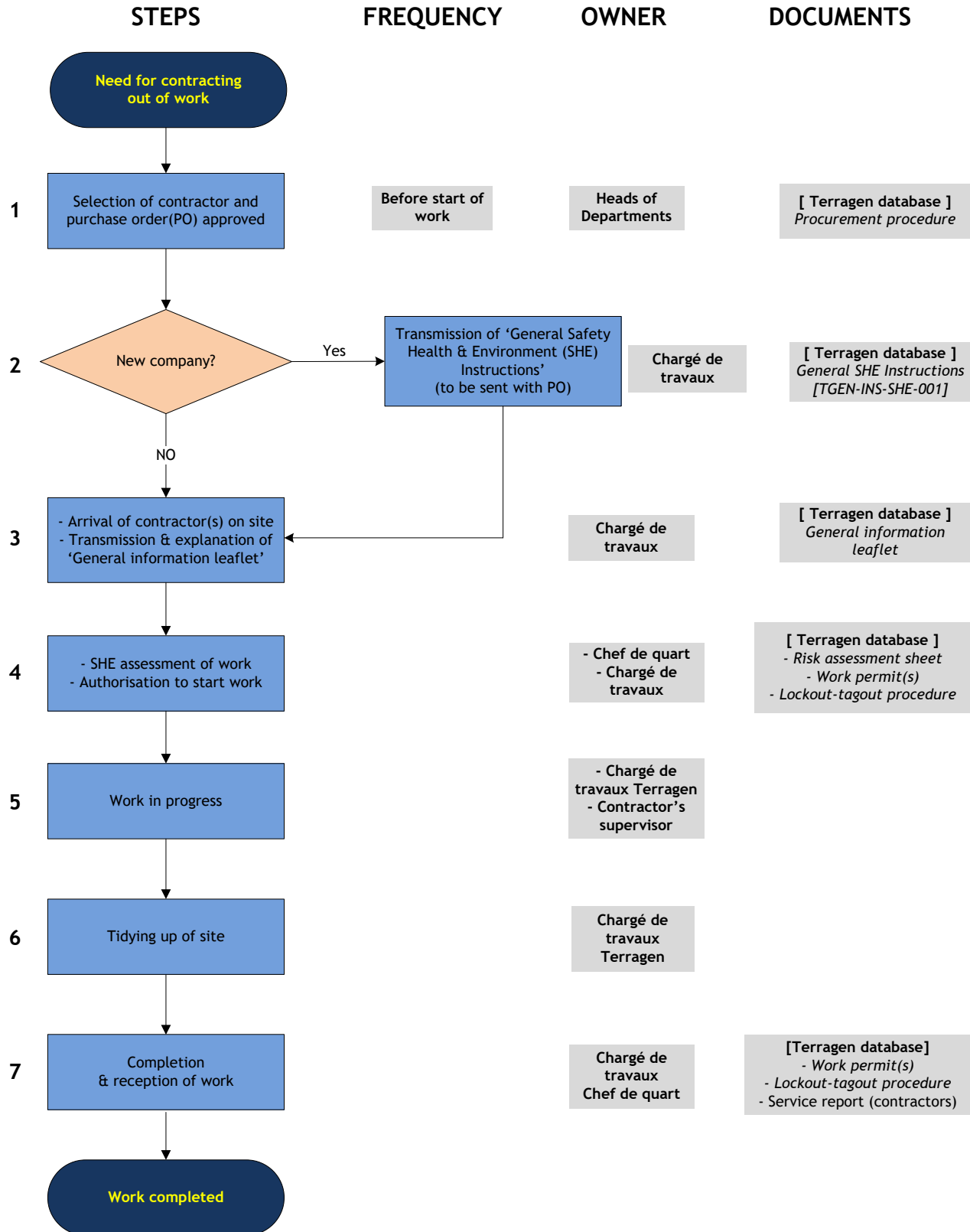
The personnel of Terragen Ltd and contracting companies are required to have the necessary work permit and documents before starting any work on site to ensure a safe work environment, prevent accidents and damage to the company's property. They are expected to comply with applicable instructions and procedures at Terragen Ltd.

The flowchart below describes the steps for work preparation until its completion.

**Note:** No work must be started on site until it has been authorised by the 'Chef de quart' who initiates the permit-to-work procedure and issues a work permit. The 'Chargé de travaux' of Terragen Ltd keeps the pink sheet of the work permit during the duration of the work and ultimately hand it over to the 'Chef de quart' after the work is over. The 'Chef de quart' will then proceed with the removal of the lockout devices and will verify that it is safe to start the equipment.




Before starting to work the 'Chargé de travaux' & 'Chef de quart' of Terragen Ltd must conduct a risk assessment on the work to be carried out and all precautionary measures will be listed in the 'Risk assessment sheet'. The 'Chargé de travaux' of Terragen will provide the above information to the supervisor of the contracting company who will ultimately communicate the same to his team members and ensure that they are implemented.

Refer to the permit-to-work procedure for more information.






## 6 SHE INSTRUCTIONS FOR SPECIFIC WORKING ENVIRONMENT




### 6.1 Working in an electrical environment

DEFINITION	HAZARDS & RISKS
 <p>Condition where an employee is required to work near an electrical installation</p>	<p><b>Hazard:</b> exposed electrical parts, overloaded circuits, damaged insulation, inadequate wiring, damaged tools &amp; equipment, wet conditions.</p> <p><b>Risks:</b> Burn, electrification, electrocution</p>
<b>PROHIBITIONS</b>	
	<ul style="list-style-type: none"> <li>• Entering low &amp; high voltage electrical distribution rooms without permission</li> </ul>
<b>REQUIREMENTS</b>	
<ul style="list-style-type: none"> <li>• Chef de quart of Terragen Ltd is responsible for authorising electrical works</li> <li>• Follow LOTO procedure, TGEN-INS-OPE-001 'Gestion des consignations et Authorisation de travail'</li> <li>• Persons working in an electrical environment must be competent</li> <li>• Other persons must be under the supervision of a competent person of Terragen Ltd</li> <li>• All works on electrical installations must be carried out in accordance with the local regulations in force: Occupational Safety and Health (Electricity at Work) Regulations 2009</li> <li>• Use appropriate protective equipment as and when required</li> <li>• Use tools that are in conformity with applicable standards</li> <li>• All electrical equipment must possess an earthing point to be connected to Terragen's earthing system</li> </ul>	
<b>FIRST AID</b>	
	<ul style="list-style-type: none"> <li>• <b>Protect:</b> Disconnect the power immediately. If you are unable to cut the power supply, use insulating gloves to move away the casualty.</li> <li>• <b>Inform:</b> Control room ☎ <b>2661248/ 54227727</b> or <b>233</b> (internal)</li> <li>• <b>Rescue:</b> Assist the injured person until arrival of a first aider or medical person</li> </ul>
<b>ADDITIONAL INFORMATION</b>	
<ul style="list-style-type: none"> <li>• Terragen Ltd will supply electricity for works carried out by contractors, 400V 50Hz for 3 phase and 230V 50Hz for single phase.</li> <li>• The following electrical socket outlets are available: blue - 230V, 16A, 3 pins; and red - 400V, 63A, 5 pins.</li> <li>• Terragen Ltd will neither provide the corresponding plugs nor perform any connection or repair on contractors' electrical equipment.</li> <li>• All electrical outlets at Terragen Ltd are protected by RCDs rated 30mA. In case repeated tripping of the RCDs by faulty equipment &amp; tools belonging to contractors, Terragen will prohibit their further use.</li> </ul>	




## 6.2 Working in Room equipped with Gas Suppression Systems - e.g. Electrical Rooms

DEFINITION	HAZARDS & RISKS
 <p>Condition where an employee is required to work in a room equipped with a gas suppression system</p>	<p><b>Hazard:</b> oxygen deficiency</p> <p><b>Risks:</b> breathing difficulty, asphyxiation,</p>
<b>PROHIBITIONS</b>	
	<ul style="list-style-type: none"> <li>• Entering low &amp; high voltage electrical distribution rooms without permission</li> </ul>
<b>REQUIREMENTS</b>	
<ul style="list-style-type: none"> <li>• Chef de quart of Terragen Ltd is responsible for authorising access to rooms equipped with Gas suppression Systems.</li> <li>• Follow LOTO procedure, TGEN-INS-OPE-001 'Gestion des consignations et Authorisation de travail'</li> <li>• Persons working in an electrical environment must be competent</li> <li>• Other persons must be under the supervision of a competent person of Terragen Ltd</li> <li>• Use appropriate protective equipment as and when required</li> <li>• When Fire Alarms sound, Room Should be evacuated immediately</li> </ul>	
<b>FIRST AID</b>	
	<ul style="list-style-type: none"> <li>• <b>Protect:</b> Evacuate and Help casualty to evacuate room immediately. Secure affected site.</li> <li>• <b>Inform:</b> Control room ☎ 2661248/ 54227727 or 233 (internal)</li> <li>• <b>Rescue:</b> Assist the injured person until arrival of a first aider or medical person</li> </ul>
<b>ADDITIONAL INFORMATION</b>	
<ul style="list-style-type: none"> <li>• Caution should be taken where works involve emanation of dust. This can trigger the gas suppression system</li> <li>• Other Measures may apply under such conditions</li> </ul>	

### 6.3 Work at height




DEFINITION	HAZARDS & RISKS
 <p>The performance of work, at a place of work above, at or below ground level, from which an employee may fall from a height exceeding 2 metres.</p>	<p><b>Hazard:</b> Wind, absence of guardrails, falling objects, access, overreaching, slipping, tripping, obstruction, wet conditions.</p> <p><b>Risks:</b> Fall, injury</p>
PROHIBITIONS	
 <p>Using ladder, stepladder, and stool as a workstation is prohibited. They are considered as work equipment to access provisional height only and not for working at height.</p>	
REQUIREMENTS	
<ul style="list-style-type: none"> <li>• Wearing of hard hat with chin strap is mandatory</li> <li>• Demarcate the area under which work at height is being done</li> <li>• Collective protection must be provided as required: guardrails, scaffolding, telescopic boom lift, rolling ladder platform, work in group, prevent unauthorised access</li> <li>• Respect the Occupational Safety and Health (Work at height) Regulations 2013</li> <li>• Wear personal protective equipment: harness with fall protection (personnel who will be using the harness must be trained)</li> <li>• Identify anchor points prior to start of work</li> <li>• Providing a secure means (foothold, handhold, ...) where any person is liable to fall at a distance of more than 2 metres (OSHA 2005 &amp; Work at height regulations 2013)</li> <li>• Caterpillar working platform - refer to safety practices in manual</li> <li>• Ladders <ul style="list-style-type: none"> <li>✓ use ladder that is in good condition and securely fixed at the base to prevent it from slipping/falling</li> <li>✓ it extends at least one metre above the place of landing in the absence of adequate handhold</li> <li>✓ it must be placed in safe areas (not near overhead power lines, door, ...)</li> </ul> </li> <li>• Scaffolding <ul style="list-style-type: none"> <li>✓ Every employer who uses a scaffold must ensure to always be in compliance with Occupational Safety and Health (Scaffold) Regulations 2013</li> <li>✓ Scaffolding must be inspected before each use by a competent person</li> <li>✓ Employees involved in scaffold works must be provided with adequate and appropriate information, instruction and training.</li> </ul> </li> </ul>	
FIRST AID	
 <ul style="list-style-type: none"> <li>• <b>Protect:</b> Secure the work place. Put in place any safety measure as required.</li> <li>• <b>Inform:</b> Control room ☎ 2661248/ 54227727 or 233 (internal)</li> <li>• <b>Rescue:</b> Assist the injured person until arrival of a first aider or medical person</li> </ul>	

## 6.4 Hot work




DEFINITION	HAZARDS & RISKS
<p>Any activity with potential to generate flame, heat or spark such as welding, burning, brazing, grinding, drilling on metal, soldering or torch flame cutting.</p> 	<p><b>Hazard:</b> open flames, flying sparks, toxic fumes/ gases, slags</p> <p><b>Risks:</b> fire, explosion, inhalation of fumes, injury</p>
<b>PROHIBITIONS</b>	
<div style="display: flex; align-items: center;">  <ul style="list-style-type: none"> <li>• Carrying out an activity without authorisation</li> <li>• Performing hot work in any equipment or container that have previously contained materials that could develop explosive atmospheres until they have been sufficiently purged and cleaned</li> <li>• To use Terragen's earthing network as a grounding point during arc welding</li> <li>• Welding electrode to touch gas cylinders</li> </ul> </div>	
<b>REQUIREMENTS</b>	
<p><b><u>For all hot works</u></b></p> <ul style="list-style-type: none"> <li>• Authorisation by the 'Chef de quart' is mandatory</li> <li>• Follow Hot Work Instructions of Terragen, TGEN-INS-OPE-020</li> <li>• Demarcate area where hot work is being carried out (Chargé de travaux/contractor )</li> <li>• Protect area underneath if hot work is being carried out at height</li> <li>• The Chef de quart and Chargé de travaux must ensure that the area or equipment is properly prepared for hot work and the operation is conducted safely. The area must be re-inspected by the Chef de quart for any risk of fire after the work is over.</li> <li>• Ensure an appropriate firefighting equipment is present during the work (Chef de quart &amp; Chargé de travaux)</li> <li>• Remove any flammable material from that area</li> <li>• Person(s) carrying out the hot work must wear 100% cotton clothing and suitable PPE: welding helmet, face shield, goggles, leather apron &amp; long-sleeved leather gloves, leather spats</li> </ul> <p><b><u>For all welding/cutting works</u></b></p> <ul style="list-style-type: none"> <li>• Welding should be carried out by a competent person</li> <li>• For welding/cutting in confined space, ensure adequate ventilation is provided and welding fumes are extracted out.</li> <li>• Warn and protect other persons working in the welding area against arcs, fumes, sparks</li> <li>• Place oxygen and acetylene cylinders vertically and secure them on trolley. Store cylinders away from sources of high temperature.</li> <li>• Ensure the cylinders are in good condition before every use and check for gas leaks at each connection with a suitable leak detection product</li> <li>• Fit non-return valves on the torch to prevent back-feeding of gas into the hoses</li> <li>• Ensure flashback arresters are fitted onto pressure regulators on cylinders</li> <li>• When returning empty cylinders, close the valves and screw on protecting caps</li> </ul>	
<b>FIRST AID</b>	
<div style="display: flex; align-items: center;">  <ul style="list-style-type: none"> <li>• <b><u>Protect:</u></b> Cut power supply to the equipment/ isolate gas cylinders and remove the casualty away from the area</li> <li>• <b><u>Inform:</u></b> Control room ☎ 2661248 / 54227727 or 233 (internal)</li> <li>• <b><u>Rescue:</u></b> Assist the injured person until arrival of a first aider or medical person</li> </ul> </div>	






## 6.5 Work in confined space

DEFINITION	HAZARDS & RISKS
<p>A confined space can be any space of an enclosed nature where there is a risk of death or serious injury from hazardous substances or dangerous conditions (e.g. lack of oxygen).</p>  <p>Some places may become confined spaces when work is carried out, or during their construction, fabrication or subsequent modification.</p>	<p><b>Hazard:</b> oxygen deficiency, toxic atmosphere, oxygen enrichment, excessive heat, flammable atmosphere, flowing liquid, ergonomic hazards</p> <p><b>Risks:</b> breathing difficulty, burns, asphyxiation, trip/fall, skin irritation, death, fire/explosion</p>
<b>PROHIBITIONS</b>	
 <ul style="list-style-type: none"> <li>• Enter or remain in a confined space without authorisation (OSHA 2005)</li> <li>• Work in a confined space if there is presence of flammable or toxic gases.</li> </ul>	
<b>REQUIREMENTS</b>	
<p>The following are mandatory for all confined spaces identified by Terragen Ltd:</p> <ul style="list-style-type: none"> <li>• Authorisation by the 'Chef de quart' is mandatory. Permit to Work should be obtained prior to starting any works.</li> <li>• Abide by OSHA 2005 regulation Part VI section 70 regarding working in confined spaces in which dangerous fumes are liable to be present.</li> <li>• Follow applicable Confine Space Operating and Rescue Procedure</li> <li>• Extract hazardous substances if necessary using Terragen's portable LEV</li> <li>• Measure the level of oxygen or toxic gases before entering and keep the gas measuring device inside the space during the undertaking</li> <li>• Always work in team and assign one member (attendant) the responsibility to keep watch outside and to monitor the work</li> <li>• Where practicable, a person working in a confined space must wear a belt with a rope attached and the free end is held by the attendant (OSHA 2005).</li> <li>• Provide safe means of access to and egress from the confined space</li> <li>• Sufficient &amp; suitable lighting for entry &amp; work in a confined space</li> <li>• Provide adequate natural or artificial (using portable LEV) ventilation during work in a confined space</li> <li>• Wear suitable PPE as indicated on the risk assessment sheet issued by the 'Chef de quart' &amp; 'Chargé de travaux'</li> <li>• Maintain clear communication between entrants, attendant and supervisor</li> <li>• Use of electrical equipment: the power should be supplied from an isolating transformer.</li> </ul>	
<b>FIRST AID</b>	
 <ul style="list-style-type: none"> <li>• <b>Protect:</b> The person working in the confined space must immediately come out if he experiences uneasiness. In case of incident, remove the casualty outside from the interior using appropriate means. Do not enter the space if you do not know the cause.</li> <li>• <b>Inform:</b> Control room ☎ 2661248 / 54227727 or 233 (internal)</li> <li>• <b>Rescue:</b> assist the injured person until arrival of a first aider or medical person</li> </ul>	

## 6.6 Lifting machine

DEFINITION	HAZARDS & RISKS
<p>A lifting machine is any equipment intended for raising &amp; lowering of persons, goods or materials and includes any accessory used in doing so. E.g.: crane, forklift, mobile elevating work platform, winch, pulley block.</p> 	<p><b>Hazard:</b> falling/striking objects, tripping, slipping</p> <p><b>Risks:</b> fall, collision, crushing, injury</p>
<b>PROHIBITIONS</b>	
 <ul style="list-style-type: none"> <li>• Exceed the safe working load of machine and accessories</li> <li>• Use accessories that have defect</li> <li>• Carry people on a crane</li> <li>• Walk or remain below a suspended load</li> <li>• Lift a load if you doubt its weight</li> <li>• Use guardrails, scaffolding or any other equipment as lifting points</li> </ul>	
<b>REQUIREMENTS</b>	
<ul style="list-style-type: none"> <li>• Abide by OSHA 2005 regulation Part V section 51 regarding lifting machines and cranes</li> <li>• Use only a lifting machinery that has been examined by a registered machinery inspector (OSHA 2005 Part V section 51)</li> <li>• Lift Plan [TGEN-BL-SHE-039] should be completed for all critical lifts [Load &gt; 1 T]</li> <li>• Other than critical lifts, the Chef de Quart, Work Supervisor or HOD may advise a lift plan for other lifts that they may deem necessary.</li> <li>• A lifting machine must be operated by a competent person and signals should be given by a competent &amp; authorised person.</li> <li>• All anchoring &amp; fixing appliances of lifting machines must be inspected weekly and before use by a competent person and must be recorded in a register</li> <li>• Demarcate the area where lifting and moving of load is being carried out.</li> <li>• Ensure the load is properly attached to the lifting equipment to avoid slipping or falling</li> <li>• Wearing of seat belt when operating the machine</li> </ul>	
<b>FIRST AID</b>	
 <ul style="list-style-type: none"> <li>• <b>Protect:</b> Avoid any object/material from falling</li> <li>• <b>Inform:</b> Control room ☎ 2661248 / 54227727 or 233 (internal)</li> <li>• <b>Rescue:</b> assist the injured person until arrival of a first aider or medical person</li> </ul>	

## 6.7 Loading and unloading from vehicle

DEFINITION	HAZARDS & RISKS
<p>Loading &amp; unloading activity includes filling in or removing materials, products, waste, equipment or any other type of object from a vehicle.</p> 	<p><b>Hazard:</b> manual handling, posture, dust, fumes/gases, leakage/spill, reactivity/incompatibility, falling/striking objects</p> <p><b>Risks:</b> Collision, accidents, explosion, fire, injury, pain</p>
PROHIBITIONS	
 <ul style="list-style-type: none"> <li>• Road congestion when unloading</li> <li>• Smoking on site</li> <li>• Vehicle driver &amp; helpers to leave the loading/unloading area &amp; wander in the premises of Terragen Ltd.</li> <li>• Cleaning of vehicles after work on site</li> </ul>	
REQUIREMENTS	
<ul style="list-style-type: none"> <li>• All vehicles and people must follow the rules regarding parking &amp; speed limits at Terragen Ltd.</li> <li>• The vehicle must stop at the main gate and must be guided to the point of delivery to avoid any unwanted entries and deliveries.</li> <li>• For any loading/unloading activity, Terragen's personnel must accompany the external party (except for coal, fly ash, bottom ash).</li> <li>• Wearing of appropriate PPE as needed for the work being carried out.</li> <li>• Truck driver must be accompanied by an attendant (Road traffic (employment of attendants) regulations 1963).</li> <li>• Coal, fly ash, bottom ash <ul style="list-style-type: none"> <li>✓ During unloading of coal, the door of the skip must first be opened, secured &amp; then toggled</li> <li>✓ The skips of trucks carrying fly ash, bottom ash &amp; coal must be covered</li> <li>✓ Vehicles transporting coal, fly ash &amp; bottom ash from Terragen Ltd must not exceed its maximum gross weight as per Road Traffic Act Government Notice No.53 of 2010</li> </ul> </li> <li>• Chemicals <ul style="list-style-type: none"> <li>✓ Refer to SHE instructions for delivery of chemicals</li> <li>✓ Terragen's chemist/ an authorised person must be present during delivery</li> <li>✓ Demarcate the area if required</li> </ul> </li> <li>• Diesel <ul style="list-style-type: none"> <li>✓ Refer to SHE instructions for delivery of diesel</li> </ul> </li> </ul>	
FIRST AID	
 <ul style="list-style-type: none"> <li>• <b>Protect:</b> the casualty from material/chemicals exposure</li> <li>• <b>Inform:</b> Control room ☎ 2661248 / 54227727 or 233 (internal)</li> <li>• <b>Rescue:</b> assist the injured person until arrival of a first aider or medical person</li> </ul>	



## 6.8 Excavating and trenching

DEFINITION	HAZARDS & RISKS
<p>Removal of earth from the earth's surface.</p> <p>E.g.: man-made cut, cavity, trench</p>	 <p><b>Hazard:</b> falls, falling loads, hazardous atmospheres, trench collapse, cave-in</p> <p><b>Risks:</b> Collision, accidents, injury, burial, electrical shock</p>
<b>PROHIBITIONS</b>	
 <p>Excavation or trenching without authorisation from the Chef de quart and 'Chargé de travaux' of Terragen Ltd</p>	
<b>REQUIREMENTS</b>	
<ul style="list-style-type: none"> <li>• Check for underground pipes and cables with the concerned departments</li> <li>• Demarcate the area</li> <li>• Walkways/bridges (width 1 meter) with guardrails must be provided when employees or equipment are required to cross over excavations.</li> <li>• Placing a shield between the side of the excavation and the work area to prevent cave-in</li> <li>• Pits must be covered appropriately</li> <li>• The excavation/ trenching area must be visible at night through proper lighting</li> </ul>	
<b>FIRST AID</b>	
 <ul style="list-style-type: none"> <li>• <b>Protect:</b> prevent any circulation (vehicles) around area</li> <li>• <b>Inform:</b> Control room ☎ 2661248 / 54227727 or 233 (internal)</li> <li>• <b>Rescue:</b> assist the injured person until arrival of a first aider or medical person</li> </ul>	




## 6.9 Industrial radiography

Radiographic inspection is carried out to verify leakages of pipes. This is generally done outside normal working hours during the annual shutdowns. A notice is communicated to inform all persons present on-site of the radiographic undertaking. No person are allowed to work (except FSO, CdQ, CdB and A.E who will stay at safe distance from the point source) during the radiographic operation.

## 6.10 Chemicals

DEFINITION	HAZARDS & RISKS
Chemicals are used in almost all work activities. There are risks associated with the manufacture, transport, use and disposal of chemicals on human and the environment.	<p><b>Hazard:</b> Dust, fumes, gases, vapours, reactivity/ incompatibility</p> <p><b>Risks:</b> Fire, explosion, severe injuries or permanent illness, pollution</p>
<b>PROHIBITIONS</b>	
 <ul style="list-style-type: none"> <li>Use CMR chemicals (Carcinogenic, mutagenic and reprotoxic chemicals - chemicals having the following risk phrases: R40, R45, R46, R49, R60, R61, R62, R63, R68)</li> <li>Transfer a chemical to a container without any labeling</li> <li>Give chemical containers to unauthorised parties</li> </ul>	
<b>REQUIREMENTS</b>	
<ul style="list-style-type: none"> <li>MSDS of the chemicals must be available for consultation</li> <li>Any work being carried out in the water treatment plant area requires authorisation by Chef de quart and Chemist.</li> <li>Identifying the precautions to take with the 'Chargé de travaux' when using chemicals (refer to MSDS of chemical)</li> <li>Use appropriate PPE: gloves, goggles, overall, dust/fumes mask</li> <li>Follow the contingency plan for any spill or leakage of chemical</li> <li>Watch out for compatibility of products for storage and transportation</li> </ul>	
<b>FIRST AID</b>	
 <ul style="list-style-type: none"> <li><b>Protect:</b> The casualty from material/chemicals exposure</li> <li><b>Inform:</b> Control room ☎ 2661248 / 54227727 or 233 (internal)</li> <li><b>Rescue:</b> Assist the injured person until arrival of a first aider or medical person</li> </ul>	

## 6.11 Legionellosis

DEFINITION	HAZARDS & RISKS
<p><b>Legionellosis</b> is the collective name given to the pneumonia-like illness caused by legionella bacteria which is present in natural water sources and man-made system such as cooling towers &amp; evaporative condensers. People can be infected by inhaling small water droplets/aerosol, suspended in air, containing the bacteria. A temperature of 20-40°C favours the growth of the bacteria.</p>	<p><b>Hazard:</b> Legionella</p> <p><b>Risks:</b> Pontiac fever, legionnaire disease (potentially fatal form of pneumonia)</p>
<b>PROHIBITIONS</b>	
 <p>Wander around the cooling tower (within the demarcated area)</p>	
<b>REQUIREMENTS</b>	
<ul style="list-style-type: none"> <li>Wear a FFP3 mask when working in the demarcated area around cooling tower</li> <li>When cleaning the tower using a high pressure cleaner, wear FFP3 mask</li> </ul>	
<b>FIRST AID</b>	
 <ul style="list-style-type: none"> <li><b>Observe:</b> for any symptom (high fever, dry cough, muscles pains, head ache, pneumonia). Normally the incubation period is 2-10 days.</li> <li><b>Inform:</b> The employer/Head of department &amp; visit a doctor</li> </ul>	
<p><b>Demarcated areas in yellow</b></p> 	



## 7 INSTRUCTIONS FOR EMERGENCY SITUATIONS

The instructions defined below will be followed in case of incident/accident, fire and dangerous environmental pollution. The supervisor of the contracting company is responsible to communicate the instructions to his team before starting any work on site.

INSTRUCTIONS FOR EMERGENCY SITUATIONS	
<b>Accident</b>	<p>Duties of first person witnessing the event:</p> <ol style="list-style-type: none"> <li>1) Protect the injured person by taking appropriate measures;</li> <li>2) Inform: Control room ☎ 2661248/ 54227727 or 233 (internal)</li> <li>3) Specify: place, source, severity of accident &amp; persons involved;</li> <li>4) Assist the injured person until the arrival of a first aider or medical person.</li> </ol>
<b>Fire</b>	<p>Duties of first person witnessing the event:</p> <ol style="list-style-type: none"> <li>1) If there is onset of fire, put out fire using appropriate means without taking any personal risk;</li> <li>2) Inform: Control room ☎ 2661248/ 54227727 or 233 (internal)</li> </ol> <p>Specify: place, source, severity of incident &amp; persons trapped.</p>
<b>Spillage of chemicals</b>	<p>Duties of first person witnessing the event:</p> <ol style="list-style-type: none"> <li>1) Contain the spill/leakage using spill kit available (for small spills only). Refer to contingency plan for spillage;</li> <li>2) Inform: Control room ☎ 2661248/ 54227727 or 233 (internal)</li> <li>3) Specify: place, source, severity of incident &amp; persons involved;</li> <li>4) Call the Chemist and QSE department.</li> </ol>
<b>Cyclone or flood</b>	<p>All persons on premises of Terragen Ltd must:</p> <ol style="list-style-type: none"> <li>1) Follow the instructions of Power Plant Director &amp; Heads of departments</li> <li>2) The supervisor of the contracting company must be in close communication with the 'Chargé de travaux' of Terragen.</li> </ol>
EVACUATION	
<ol style="list-style-type: none"> <li>1) Chef de bloc gives information about the fire and announces evacuation</li> <li>2) Fire alarm is activated</li> <li>3) Everyone on the premises of Terragen Ltd must immediately leave his place of work and gather at the assembly point</li> </ol>	
<p>During evacuation, please ensure the following:</p> <ul style="list-style-type: none"> <li>✓ Keep calm</li> <li>✓ Close windows and door when leaving your place of work</li> <li>✓ Walk towards the assembly point. Avoid running.</li> <li>✓ Do not use lift</li> <li>✓ Do not obstruct passageways &amp; exits</li> </ul>	

## 8 SPECIFIC INSTRUCTIONS FOR CONTRACTING COMPANIES

- **Entry to Terragen Ltd premises**

Employees of the contracting companies must stop at the security post on their arrival and give their name, company's name, purpose of their visit and the name of Terragen's contact person whom they have an appointment. A 'visitor's badge' will be given to them by the security officer, that they will have to display during their movement on our premises. The security officer will show him the way to their contact person or to the reception in case the contact person is not reachable. On their first visit, the 'chargés de travaux' of Terragen Ltd will give them a 'General information' leaflet that outlines the safety instructions.

The employees of contracting companies must return the 'visitor's badge' to the security officer on their departure.

- **Personal protective equipment (PPE)**

The contracting companies must provide their employees with appropriate PPE as the management will not authorise any work on the premises without the required PPE. Terragen Ltd will **not** provide any PPE except disposal mask FFP2, FFP3. Terragen Ltd will send back all those persons who are not wearing all the PPE required for the work.

- **Emergency stop**

An emergency stop (button or cable) is used only for preventing injury to personnel or material loss.

- **Compressed air**

Terragen Ltd will not provide compressed air to contractors. In case the use of compressed air is authorised, the connection must be done with certified hoses and fittings that are in good conditions and appropriate for use. Valves, whip checks or stop devices must be present on the equipment.

- **Compliance with legal & other requirements**

The contracting companies are expected to comply with applicable local legal requirements including Occupational Safety and Health Act 2005 and Environment Protection Act 2008, in addition to the present 'General SHE instructions' document

and instructions given by the 'Chargé de travaux' of Terragen Ltd and notices present on site.

The supervisor of the contracting company is responsible for enforcing compliance with instructions to prevent the occurrence of accident or material/equipment damage or injury to persons present on site including Terragen's personnel and other contracting companies. The supervisor must nominate an assistant/representative who will be responsible for the work on site in the absence of the former.

Refer to OSHA 2005 Part II section 13 regarding 'Persons working in host employers' or self-employed persons' undertaking'.

Compliance with the present document does not relieve the contracting company from liability in case of any incident, as determined by a court of law.

- **Electrical requirement**

The following electrical socket outlets are available: blue - 230V, 16A, 3 pins; and red - 400V, 63A, 5 pins. Terragen Ltd will neither provide the corresponding plugs nor perform any connection or repair on contractors' electrical equipment.

It is worth noting that all electrical outlets at Terragen Ltd are protected by RCDs rated 30mA. In case repeated tripping of the RCDs by faulty equipment & tools belonging to contractors, Terragen will prohibit their further use.

Employees of contracting companies are prohibited to open or close circuit breakers & isolating switches of Terragen Ltd.

- **Breaches of works and SHE instructions**

Regular audits will be conducted on site to assess the good functioning of the work as well as compliance with procedures and instructions.

Serious breaches of the works and SHE instructions entitle the Management team of Terragen Ltd to forbid the continued presence of the contracting persons on its premises. Terragen Ltd has the right to terminate the underlying agreement in serious cases.