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נתיבי הגז הטבעי לישראל בע"מ
ISRAEL NATURAL GAS LINES LTD (INGL)

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Tomer Agai		
Management Representative		

Company Procedures

Document Title:
Gas System Maintenance
Health, Safety and Environmental Requirement (HSE) for the Natural Gas System

Procedure no.	Document number:	Edition
---	MAS-MAS-COI-0001-3	6

Table of Contents

1. General

All capitalized terms not expressly defined herein shall have the meaning attributed to them in the General Conditions.

A. Israel Natural Gas Lines Company Ltd. is interested in ensuring the highest standards of work safety, environmental quality and public safety in Works that are carried out by the Contractor.

B. The Contractor shall be obligated to perform the Works with complete and strict implementation of the provisions of any Law. The Contractor's safety management system shall fully comply with and implement all the provisions of the Law and of this Exhibit.

C. In this framework, Israel Natural Gas Lines Company Ltd. determines that every contractor or contracting company shall implement a safety management system at all places where works are performed.

D. Israel Natural Gas Lines Company Ltd. reserves the right to perform checks and inspections at any time to evaluate the extent to which the Contractor complies with the provisions of this Exhibit and the applicable Laws relevant to the nature of the work and the field of operations. Furthermore, Israel Natural Gas Lines Ltd shall be entitled to amend the terms and provisions of this Exhibit, including, without limitation, by way of addition of further requirements.

E. Nothing in this Exhibit shall in any way derogate, or release the Contractor from its obligations to ensure safety and security as set forth in the General Conditions, any other document of the Contract, the Law, or which arise from the Contractor's overriding obligation to execute the Works according to best international industry practice.

2. Objective

To provide instructions for components of the safety management system implemented in the Sites and projects that take place in accordance with an order from Israel Natural Gas Lines Company Ltd.

3. Scope and content

This Exhibit sets out the following:

A. Description of the required Safety management system
B. Description of the safety management system components
C. Safety instructions for the different works
D. **Appendixes**

Appendix A: Minimum requirements for contractor's safety plan
Appendix B: Minimum requirements for safety equipment and facilities
Appendix C: Minimum requirements for personal protection equipment
Appendix D: Safety permit forms
Appendix E: Review of risks for the different works
Appendix F: Contractor's statement of safety management competence
Appendix G: Monthly safety management report

4. Contractor's safety management system - General

The contractor shall establish and manage a safety management system that shall operate for the duration of the Contractor's work on the Project. The safety management system shall include at least the following components:

A. A plan according to which safety in the Project shall be managed (Safety Plan)
B. An organizational structure that enables implementation and operation of the safety management system
C. Worker training and apprenticeship
D. Safety equipment, safety facilities and personal protection equipment
E. Preparation of Safety permits
F. Checks and inspections
G. Procedures for investigation of safety events and "nearly injured" incidents
H. The information, reporting and recording system

5. Components of contractor's safety management system

The safety management system operated by the contractor in the Project is described below:

A. Safety plan

1. The Contractor shall develop and implement a regulation that sets out the development process and implementation of the Project's safety plan.
2. The objective of the safety plan is to ensure maximal safety for persons and equipment during Project establishment.
3. The safety plan shall relate to at least the subjects set out in Appendix A of the regulation.

B. Organizational structure for safety assurance

1. The organizational structure of the safety management system is designed to ensure effective implementation of the safety plan.
2. The Contractor shall develop and implement regulations that describes the Project's organizational structure and the authorities and responsibilities of the workers, managers and office holders involved therein.
3. The organizational structure shall describe the fields of authority and responsibility for ensuring the safety of at least the following office holders:
   - Project manager acting on behalf of the Contractor
   - Foreman of the Contractor – the Foreman shall be registered in the Regional Department of Labor Inspection and shall be responsible for full implementation of all the laws, regulations, standards, manufacturer's instructions and other instructions relating to safety
   - Safety commissioner of the Contractor (on the company level)
   - All the workers
4. The clause relating to fields of authority and responsibility of all the workers shall include specific authorization to refrain from starting any work that the worker believes may be hazardous to his safety or the safety of others (hazardous work – in accordance with the requirement of the safety order at work) and shall stop said hazardous work, if he has actually started to perform it, provided, however, that nothing in the above shall in any way derogate from the obligation of the Contractor to perform the Works as contemplated in the Contract.

C. Worker training and apprenticeship

1. The Contractor shall develop and implement a regulation that sets out the different aspects related to transfer of information and safety training for workers participating in the Project.
2. The regulation and practical arrangements for its implementation shall ensure, at least, full implementation of the provisions in these laws:
   - Labor Inspection Regulations (Transfer of Knowledge and Worker Training) 5751-1991
   - Work Safety Regulations (Safety, Classification, Packaging, Labeling and Marking of Packages) 5741-1981
   - Work Safety Regulations (Personal Protective Equipment) 5757-1997
   - Any statute and any other provision of the law that relates to safety, worker training and transfer of information
3. The regulation shall set out rules for implementation of the following requirements:
   - Initial safety training for all the workers on the Site, without differentiation of position or level of seniority, under the responsibility of the Contractor
   - Distribution of a written summary of the information at the end of the initial training
   - Written summary of the information distributed to all of the Contractor's workers and to any workers employed on behalf of the Contractor
   - Confirmation signed by the workers that they understood the training and that they have read and understood the written summary of the information
   - Regulations for documentation and retrieval of information regulations
4. The basic safety training shall include at least the following issues:
   - Introduction to the general safety requirements
   - Introduction to the general hazards in engineering construction works
   - Work safety at heights accompanied by practical training
   - Personal protective equipment accompanied by practical training
   - Basic safety in electricity
   - Electrical work tools and power motors

- Prevention of back injury
- Prevention of hearing injury

5. Specific safety training shall include issues related to performance of the different works, for example:
   - Excavation
   - Work in confined areas
   - Locking and tagging energy sources
   - Work with dangerous substances (storage, use, transportation and disposal)
6. Training of managers and office holders (team heads, planning staff and more) shall include at least the following issues:
   - Safety permits
   - Investigation of safety incidents
   - Safety inspections
7. In addition, the regulation shall include reference to performance of refresher training and apprenticeship.

D. <u>Safety equipment, safety facilities and personal protective equipment</u>

1. The Contractor shall develop and implement a regulation that relates to items of protective equipment and safety facilities that shall be used in the Works.
2. The regulation and practical arrangements for its implementation shall ensure full implementation of at least the following provisions of the law:
   - Work Safety Regulations (Personal Protective Equipment) 5757-1997
   - Labor Inspection Regulations (Safety Commissioners) 5756-1996
   - Labor Inspection Regulations (Transfer of Knowledge and Worker Training) 5751-1991
   - Labor Inspection Regulations (First Aid at Work) 5748-1988
   - Work Safety Regulations (Safety, Classification, Packaging, Tagging and Marking of Packages) 5741-1981
   - Any statute and any other provision of the law that relates to safety, worker training and transfer of information

3. As a minimum requirement, the regulation shall include details of the safety equipment and facilities specified in Appendix B.
4. As a minimum requirement, the regulation shall include details of the personal protective equipment specified in Appendix C.

E. Safety permits for various works

1. The Contractor shall develop and implement a regulation that relates to implementation of a safety permit system for particularly sensitive works, including, without limitation:
   - Details of types of dangerous NON ROUTINE works that written safety permission required (checklist) and approved by INGL inspector and checking by the Contractor Safety Officer:
     - ☒ working at height
     - ☒ Lifting work (crane)
     - ☒ Hot work (open flame, spark generating work, high-heat generating work)
     - ☒ Working in a Confined Space / area
     - ☒ Excavation, trenching and drilling works
     - ☒ Work with chemical substances
     - ☒ Electrical work (Disconnection, tagging and locking - LOTO)
     - ☒ Where Israel Natural Gas Lines Company Ltd., is of the opinion that other works should be added to this list, it may do so at its sole discretion.
2. The regulation shall specify at least the following:
   - List of works that require safety permits for their implementation
   - Details of the authorization process that defines the office holders certified to grant authorization
   - The authorization process
   - Inspection
3. Examples of permit forms – See Appendix D

F. Checks and inspections

1. The Contractor shall develop and implement a regulation that relates to performance of safety inspections and safety management inspections.
2. **The safety inspections** shall cover all the subjects that are required by law as well as by the minimum requirements included in this clause, as follows:
   - **Derrick or crane inspection**

- A daily inspection performed by the operator prior to commencement of work and noted in the general register managed by the Foreman
- An inspection after stormy weather that is performed as soon as work with the derrick is renewed. The inspection shall also include earth stability
- Performance of the inspections and their results shall be recorded in the general register managed by the Foreman

- **Excavation inspection** shall be performed by the Foreman as follows:
  - Every day before the start of work
  - After a seven-day work break and before restarting work
  - After a work break due to rain or flooding and before restarting work
  - Performance of the inspections and their results shall be recorded in the general register managed by the Foreman.
- **Scaffolding inspection** shall be performed by the Foreman as follows:
  - In accordance with the Work Safety Regulations (Construction Regulations)
  - With installation of the scaffolding and before it is used, and then –
  - At least once every seven days
  - After every work break of three days or more
  - After every work break of one day or more due to rain or wind.
- **Inspection of portable power tools**
  As required by Work Safety Regulations (Electricity Works)
  - Daily visual inspection to locate breakages, defects in insulation, damage to shields or their intactness (surrounding parts) and other damages. The inspection shall be performed by the team heads or by the employees, as determined by the Foreman.
  - Quarterly inspection that shall include, as well as the daily inspection, an inspection that shall be performed by a certified electrician
  - Performance of the quarterly inspections shall be recorded in the general register managed by the Foreman.

- Tests of air quality in confined areas performed in accordance with the process of authorization for entry into confined places as specified in Clause 6 G.

3. **The safety regulation inspections** shall be performed by one or more of the following office holders:
   - Foreman
   - Project manager acting on behalf of the Contractor
   - Safety commissioner of the Contractor
   - Other office holder as determined by the Contractor
   - Following a request by Israel Natural Gas Lines Company Ltd., also by a safety management company acting on its behalf
4. Safety management inspections shall be performed at least as follows:
   - During the first three days of the Project
   - Once every two weeks
   - After a safety incident, as determined by the Foreman or manager acting on behalf of the Contractor
5. Safety management inspections shall be recorded at the Site by the Foreman or under the responsibility of another office holder in the Contractor and in accordance with its specifications.
6. Safety management inspections shall be performed using check lists that include reference to at least the following issues:
   - Personal protective equipment
   - Excavations
   - Derricks and cranes
   - Welding works
   - Work at height
   - Ladders
   - Electricity and lighting
   - Delineation of work areas
   - Fencing and railings
   - Storage of materials and hazardous substances
   - Pressure tanks

- Surfaces and terraces
- Castings and moldings
- Scaffolding
- Transportation, loading and unloading
- Lifting platforms
- Confined areas

7. Appendix E may be used to prepare a checklist.
8. Results of the safety inspections and their performance shall be recorded at the Site.
9. The Engineer, directly or through a safety consultant acting on behalf of Israel Natural Gas Lines Company Ltd., reserves the right to request, at any time, a report that details the results of the safety inspections that were performed and the corrective activities that were taken following these inspections.

G. Investigation of safety events and "nearly injured" incidents

1. The Contractor shall develop and implement a regulation that sets out the process according to which safety events, hazardous cases and "nearly injured" incidents shall be investigated.
2. The regulation shall include practical aspects related to at least the following regulations of the law:
   - Occupational Accidents and Diseases Ordinance (Announcement) 1945
   - Occupational Accidents and Diseases Regulations (Announcement of Hazardous Events at Work) 5711-1951
   - The Labor Inspection (Organization) Law, 5714-1954
3. The regulation shall set out instructions for the following subjects:
   - The person responsible for reporting a safety incident and the person to whom he shall report
   - The reporting process
   - Incidents that need to be reported to the Division of Labor Supervision in the Ministry of Labor and the reporting method therefore
   - The time period required for performance of the initial on-Site investigation and the time period required until the summarizing investigation

- The person responsible for leading the investigation and the participants in the investigation (initial and the summarizing investigation)
- The report and investigation format
- The time period until the investigation report reaches the Contractor management, and on request, the management of Israel Natural Gas Lines Company Ltd.
- Monitoring implementation of corrective actions
- Documentation for the process of reporting, investigation and monitoring implementation of corrective actions

4. The regulation shall include a clause clarifying that Israel Natural Gas Lines Company Ltd. reserves the right to participate in investigations, to demand reports, and to receive progress reports for implementation of the corrective actions.

H. Information, reporting and documentation system

1. The Contractor shall develop and implement a regulation setting out the information system that shall be managed at the Site, the types of reports that are required and the reporting system.
2. The information system managed at the Site shall include at least the following:
   - Regulations file for implementation of the safety management system at the construction Sites and in engineering construction
   - Slides and lesson plans for training held and to be held as part of the Project
   - Written summary of the information ("Read and sign")
   - Training register as set out in the Labor Inspection (Organization) Regulations (Transfer of Information and Worker Training) 5759-1999
   - Signs and posters containing safety information
   - Work safety laws and work safety regulations and at least the following laws and regulations:
     - Occupational Accidents and Diseases Ordinance (Announcement on Hazardous Events at Work) 5711-1951
     - Labor Inspection (Organization) Law, 5714-1954
     - Labor Inspection Regulations (Safety Commissioners) 5756-1996

- Labor Inspection Regulations (Transfer of Knowledge and Worker Training) 5759-1999
- Labor Inspection Regulations (Construction Works) 5748-1988
- Work Safety Ordinance (Engineering Construction Works) 5721-1961
- Work Safety Regulations (Derrick Towers) 5756-1996
- Work Safety Regulations (Derricks, Operators of Other Hoisting Apparatus and Signalmen) 5752-1992
- Labor Inspection Regulations (First Aid at Work) 5748-1988
- Work Safety Regulations (Personal Protective Equipment) 5757-1997

3. The report system managed at the Site shall include at least the following reports:
   - Notification of accidents and occupational diseases
   - Notification of a hazardous incident
   - Summary report for safety management inspection
   - Weekly safety report
4. The documentation system managed at the Site shall include at least the following components:
   - Safety plan of the Project
   - Safety plan of the subcontractors (if such plans are used by the contractor)
   - Project risk assessment document (risk assessment shall be performed before actual start of the works and it constitutes a part of the safety plan)
   - Memorandum of Principles *(Pinkas K'lalim)* as set out in the Construction Works Safety Regulations - 1988
   - Training Memorandum *(Pinkas Hadracha)* register as set out in the Labor Inspection (Organization) Regulations (Transfer of Information and Worker Training) 5759-1999
   - Copies of inspection registers for hoisting equipment by a certified inspector
   - Copies of inspection registers for hoisting accessories by a certified inspector

- Copies of inspection registers for air vents by a certified inspector
- Quarterly inspection registers for portable electrical equipment
- Copies of safety permits for performing hot work
- Copies of safety permits for performing excavation and trenching works
- Copies of safety permits for entry into a confined area
- Copies of safety permits for performing critical loading
- Documentation of installation scaffolding by a professional scaffolding constructor
- Documentation of daily derrick inspections (general register)
- Documentation of scaffolding inspection (daily, weekly, weather-based) (general register)
- Documentation of daily excavation inspection (general register)
- Copies of accidents and hazardous incidents reports
- Copies of safety events investigation reports
- Copies of safety management inspection reports
- Copies of letters and applications on safety issues

I. Warning and penalty points

Over and above the training, instruction and inspection activities, and in order to encourage the contracting companies to operate effectively to ensure safety, Israel Natural Gas Lines Company Ltd. shall implement the warning and penalty points system based on the following principles:

1. Points for safety faults
    a. First fault: 5 points
    b. Repeat fault: 5 more points
    c. Second repeat fault: 5 points
    d. Serious fault: 25 points
2. The Engineer, Safety Commissioner or any other duly authorized representative acting on behalf of Israel Natural Gas Lines Company Ltd. is authorized to point out faults related to safety and their classification.
3. Penalty limit
    a. 5 points: the contractor shall receive a written warning without a penalty

b. 10 points: the contractor shall receive a severe written warning without a penalty

c. 15 points: the contractor shall receive written notification of a penalty of NIS 1,000

d. 25 points: the contractor shall receive written notification of a penalty of NIS 3,000

4. Imposing the penalty shall reset the accumulation of points and thereby provide the contractor with the opportunity to demonstrate constant improvement and to ensure a high level of safety performance.

5. The penalties are imposed by the office of the Engineer acting on behalf of Israel Natural Gas Lines Company Ltd. by deduction of the penalty from the next payment.

J. Regulation for treating casualties

The Contractor shall develop and implement a regulation for administering medical treatment and first-aid at all the Sites and places where the company performs works in the Project framework. The regulation shall specify the provisions of the law and the standards that relate to this issue. Without derogating from the generality, the company shall implement the following regulations:

1. Definitions

- "first-aid box" – any of these: facility for independent treatment, first-aid kit and portable kit
- "trained first aider" – a person appointed by the Contractor to administer first-aid at the workplace
- "equipment commissioner" – a person appointed by the Contractor as responsible for the presence of first-aid items at the work place
- "workplace" – the place where the worker is present due to his work
- "facility for independent treatment" – a box that is installed permanently at the workplace and that is accessible to most of the workers, which contains the items required for independent treatment
- "first-aid" – initial treatment only that may be given at the workplace
- "CPR kit" – a kit that contains a pocket mask and air tube
- "rescue and escape kit" – equipment that provides a person with reasonable fire-protection, of the type approved by the chief fire officer of the Ministry of the Interior

- "portable kit" – a first-aid kit designed for mobile teams and for all workers in an open area
- "first-aid bag" – a kit for administering first aid by a trained first-aider

2. Keeping a first-aid box

   Every workplace must have a first-aid box at all times, including a facility for independent treatment, first-aid bag and portable kit with contents that are compatible with the number of workers as noted in the appendixes of this regulation.

3. CPR kit

   Every workplace must have CPR kit that is accessible to most of the workers – one kit for every group of up to 25 workers.

4. Rescue and escape kit

   a. Every workplace with 50 or more workers must have a rescue and escape kit that is accessible to most of the workers, and at least one kit for every group of 50 workers or part thereof.

   b. A work place with less than 50 workers must have at least one rescue and escape kit, if the risk in the equipment or work process necessitates this.

5. Marking

   The independent treatment facility, first-aid bag, portable kit and CPR kit shall be marked clearly with a Red Star of David and shall note their purpose.

6. The person in charge of the equipment shall ensure that:

   a. The items in the first-aid box are accessible and there are the quantities required as set out in the specifications in the appendix of this regulation

   b. The pocket mask and air tube are in the CPR kit at all times

7. Conditions for using the first-aid bag

   The items in the first-aid bag shall only be used by a trained first-aider.

8. Preparation for emergency medicine

   a. Over and above the preparations for administering first-aid, the Contractor shall keep at least one vehicle at the work places, which is

allocated for the purpose of administrative transfer of a worker to the clinic.

b. As appropriate and if necessary, the Contractor shall call emergency medical services. Payment for these services shall be covered by the Contractor.

c. Labor Inspection (Organization) Law, 5714-1954

6. Safety instructions for the different works

The Contractor shall develop and implement regulations and instructions for implementing safe work. The regulations and instructions shall be based on the laws, regulations, standards and provisions in effect in the State of Israel. Without derogating from the generality of the foregoing, the instructions and regulations developed by the Contractor shall include at least the following safety instructions:

A. Excavation and earth works

1. The Contractor performing the earth works is responsible for the discontinuation of any excavation that may diminish the stability of a permanent or temporary structure, facility or part thereof, unless suitable steps are taken to prevent injury to persons, before the start of as well as during excavation.
2. Excavating or filling sides
   a. Excavation or filling sides, with the exception of excavation or filling in accordance with the ground's natural slope where there is no risk of collapse, with a depth or height exceeding 1.20 meters, shall be secured against collapse by a suitable lining made of wood, metal or any other material with appropriate strength, either by a frame system, poles or an appropriate protective compartment.
   b. Vehicles, trenchers, bulldozers, tractors or any other such engineering equipment which may undermine the stability of the excavation edges or the lining shall not approach the excavation edge, unless measures to prevent collapse are taken.
   c. Material or earth, as the case may be, removed during excavation, shall be kept at a distance that is secure from collapse; the distance shall not be less than 50 centimeters from the excavation wall or edge.
   d. An excavation lining that is over 4 meters deep shall be installed according to a plan; said lining plan shall be kept at the Site in

proximity to the general register throughout performance of excavation works.

e. Should there be a risk to any worker due to a collapse during installation, a protective compartment shall be lowered into the pit, excavation or trench to provide the worker therein with the required degree of safety until the work is completed.

3. Mechanized excavation

a. The obligation to install a lining or the obligation to take other measures to prevent collapse of the walls does not apply to excavation performed by a machine that does not require the presence of a person when excavating.

4. Special cautionary measures

a. Before starting excavation or quarrying works, the contractor shall check for any possible presence of power cables, water, sewage, telephone, gas or other lines, and shall not start said excavation or quarrying unless special cautionary measures are taken to prevent injury to workers or installations.

b. The Foreman shall take special cautionary measures to prevent injury to a person in an excavation or pit caused by electricity current, harmful vapors, gases or water bursts.

c. Suitable lighting shall be installed at the work place and nearby paths for performing works in the dark or in a dark place. Red lamps shall be installed next to any excavation or pit where there is danger of someone falling in.

5. Fencing of pit, excavation or slope

a. A pit, excavation, quarried wall or slope into which or along the flanks of which a person may fall from a vertical height exceeding 2 meters shall be fenced off as close as possible to the edge, with a suitable handrail and midrail, as specified in the clause relating to prevention of falls.

A pit, excavation, quarried wall or slope less than 2 meters deep shall be marked with red warning tape or shall be fenced off as detailed above.

b. A handrail or midrail installed as specified above shall be in proper order for as long as there is the excavation, pit, slope or quarried wall, however they may be removed temporarily if necessary to allow passage of materials, and for the period of time required for this

activity only, while taking the necessary steps to prevent a person or material from falling in and at least by marking off the area with tape and placing a supervisor. If it is not practical, under the circumstances, to install a handrail and midrail, other appropriate steps shall be taken to prevent a person from falling into or along the flanks of an excavation, pit, quarried wall or escarpment.

6. Work safety in drilling for posts
   a. A person shall not enter and shall not work in the post bore.
   b. After completion of drilling works and before starting casting for the posts, the bore shall be covered with a stable covering, made of strong and high-quality material, to prevent a person from falling into the bore.
7. Climbing in and out
   a. Climbing in and out of a pit or excavation that exceeds a depth of 1.20 meters, shall be through a path with a slope that does not exceed a ratio of 1 vertical to 1.5 horizontal or by suitable steps or ladder.
   b. The distance between the worker's place in the trench or excavation and the exit from them shall not exceed 20 meters.
8. Width of trenches
   a. A trench that requires a lining shall be sufficiently wide to allow installation of a suitable lining and performance of the work for which the trench was excavated, in an appropriate and safe manner.
9. Trenches in sandy soil
   a. The trench walls in sandy soil (sandy trench) shall be installed when they are upright and close to each other and shall cover the entire depth surface of the sandy trench sides. The lining shall be inserted to a sufficient depth underground and shall protrude at least 15 centimeters above the adjacent earth.
   b. The walls of both sides of a sandy trench shall be supported by horizontal supports along its entire length, at suitable depths and at a suitable distance from each other, as required.
   c. The supports shall be installed opposite each other on both sides of the sandy trench and shall be reinforced with reinforcements at a suitable distance from each other, as required.
   d. The reinforcements shall be secured against unintentional shifting or movement from their place, and shall be secured as follows:

1. Wooden reinforcements – with beams that shall be attached to the reinforcements and supports, also if wedges are used to reinforce them
2. Metal threaded reinforcements – with a suitable setup to prevent them from falling

e. It is forbidden to lean on or place against the reinforcements anything that may endanger its stability or cause it to shift.

10. Passages above the trench

a. A sufficient number of safe passages shall be installed above any trench that is wider than 60 centimeters according to the work requirements.

b. The passages shall be installed in accordance with the safety requirements set out in the clause relating to work surfaces and passages.

11. Loose or projecting material

a. Walls shall be quarried in a way that prevents creation of loose or projecting material that may endanger the workers engaged in quarrying the wall, or workers who are close to it or pass by it.

b. Should projecting or loose material be created, as said, it shall be removed without delay, and in a safe manner.

12. Inspection

a. The Foreman shall perform safety inspections for excavation, filling, quarrying or walling in each of the following:

1. Every day before the start of work
2. After a seven-day work break and before restarting work
3. After a work break due to rain or flooding and before restarting work

b. The Foreman shall record the inspection results in the general register.

13. Work on slopes

a. When work is performed on or near a slope, during which or as a result of which rocks or other materials may roll down, suitable tools and methods shall be used and appropriate measures shall be taken to prevent rocks, stones or materials from injuring persons or property.

b. The Foreman shall record in the general register the work methods, tools and measures that were determined as suitable for prevention of said injury.

14. Stability of the quarried wall

a. The contractor performing the earth works is responsible for ensuring that quarrying of the wall is planned and performed in a manner that ensures its stability, by a stable slope or by taking other suitable measures to achieve this objective.

15. Inspecting the quarried wall and removing loose or protruding material

a. The Foreman shall inspect daily, before the start of work, the stability of the quarried wall; any loose or protruding material shall be removed safely.

16. Prohibiting presence of persons

a. A person shall not be present, pass through or work at a place where he may be injured by loose material or by an unstable wall.

B. Demolition

1. Demolition work shall be performed under the direct management of a Foreman with at least one year of experience in destroying structures.
2. The demolition work shall be performed according to a detailed work plan. The plan shall be kept at the Site throughout the demolition works, close to the general register.
3. The works described below shall only be performed by a professional constructor:
   a. Demolition of a steel, concrete or reinforced concrete construction
   b. Demolition of a roof, dome ceiling, supporting wall, protective wall, supporting wall or stairs
   c. Demolition of a wall or post higher than 1.50 meters
4. All parts of the structure targeted for demolition shall be secured against uncontrolled or chance collapse and it shall be assured that the demolition activity shall be performed in a way that does not endanger the workers performing the demolition, nearby structures or any part of the structure that is not targeted for demolition.
5. All parts of the structure targeted for demolition shall be disconnected from power, gas, water and steam supply systems and appropriate measures

shall be taken to prevent damage to the sewage system near the demolition Site.

6. When part of a structure is targeted for demolition, it is permitted to disconnect this part only from the power, gas, water and steam supply systems and from the sewage system.
7. Special safety measures shall be taken to prevent injury to demolition workers by explosions, gases, dust or fire.
8. When destroying a steel or reinforced concrete structure, appropriate safety measures shall be taken to prevent uncontrolled or sudden collapse, contraction or any other unexpected change.
9. The demolition site shall be fenced off with a suitable fence and shall have visible warning signs. The safe access paths to the demolition site shall be clearly marked.
10. If a fence as set out in sub-Clause A is not installed, under certain circumstances, other appropriate measures shall be taken to prevent access of persons into the danger area.
11. If there is a work break during demolition, appropriate measures shall be taken to prevent collapse of the remaining part of the structure. From the time of the break in the demolition works, the site shall be fenced off and a guard shall prevent access to the Site.

C. Hot bitumen

1. Work with hot bitumen shall be performed under the direct supervision of an experienced worker and the hot bitumen tank shall only be handled by an experienced worker.
2. Bitumen shall only be heated at a distance of at least six meters from any place with flammable substances. If the conditions at the Site do not enable this distance to be kept, a barrier made of inflammable material and with insulating properties shall be installed to separate the flammable substances from the fire. The fire shall be at least two meters from the flammable materials.
3. The bitumen heating tank shall be intact and its structure and strength shall be compatible with the objective for which it is designated.
4. The tank for heating bitumen shall stand on a strong, stable and horizontal metal base and shall not be filled to the top. Sufficient space, of at least 15 centimeters from the tank's upper rim, shall be left to prevent overflow of bitumen

5. Appropriate measures shall be taken to prevent fire from spreading when heating bitumen, as a result of random catching fire or from the wind.
6. A sufficient quantity of sand, shovels, beaters or suitable fire extinguishers shall be kept close to the area where bitumen is heated.
7. Water may not be used to extinguish bitumen fires.
8. The containers for transferring bitumen shall be of high quality, intact and suitable for their purpose.
9. The containers shall be filled to a maximum of three quarters of their capacity.

D. Hoisting

1. A load that exceeds the permitted hoisting load must not be loaded.
2. A suspended load must not be hoisted or passed above the heads of people working at the Site.
3. The hoisting area must be marked and bordered.
4. A hoisted load must not be left suspended in the air.
5. The hoisted load must be attached to at least one directing rope in order to control the position of the load.
6. It must be ensured that there are no live power cables in the hoisting area. The safety distance from the power cables shall be at least three meters.
7. Only a signalman who has completed a signalman's course and is certified to serve as a signalman may attach and direct a hoisted load.
8. The signalman and the hoisting equipment operator shall communicate via a two-way radio and agreed signs.
9. The signalman shall be equipped with a reflective garment (vest), so that he is conspicuous in relation to the other workers in the area.
10. If necessary, there shall be more than one signalman in order to ensure safe hoisting.
11. The hoisting equipment and its accessories shall be examined by an inspector certified by law.
12. The wind force and direction must be taken into account. Hoisting must not be performed in stormy weather.
13. Before hoisting any special equipment or hoisting equipment to manned or confined places or to places with other restrictions, or before hoisting a load that exceeds 90% of the derrick's capacity classification, the Foreman

must prepare a hoisting plan, which shall include at least the following details:

a. Diagrams of the loading area in at least two dimensions, including the area that must be fenced off for hoisting

b. Details of the crane, hoisting accessories (including copies of relevant permits from a certified inspector and derrick operator and signalman license)

c. Description of the hoisting, using diagrams and sketches

The hoisting plan shall be submitted to the safety commissioner at least 24 hours before performing hoisting.

14. A crane shall not hoist a person with a suspended basket without permission from the regional work inspector for performance of this specific work.

E. Cranes/derricks

Over and above the general instructions for hoisting, when operating cranes or derricks, at least the following instructions shall be implemented:

1. Erecting, transferring or dismantling a derrick tower requires a safety meeting at the work Site, before performance of these works. Its location and base require the opinion of a soil consultant and approval from the main contractor's performance engineer.
2. Erecting, transferring, dismantling and operating any derrick tower must be in accordance with a specification and regulations specified by the manufacture.
3. The person erecting the derrick must submit a plan for protection against falling during the erecting, transfer and dismantling process.
4. A derrick erection representative must be present at the Site, in order to monitor the setting up process.
5. A derrick tower erection representative must supervise, inspect and approve in writing that the derrick tower is suitable for safe work conditions, before performing any work.
6. Before operating the derrick, a certified inspector shall inspect its operation and submit written approval for its operation in accordance with the law of the Ministry of Labor.
7. An operating manual shall be kept in the derrick operator compartment.

8. A daily, weekly and monthly work inspection log shall be kept in the derrick operator compartment, ready for inspection.
9. The derrick shall meet the specifications of the load classification.
10. The derrick operator shall hold a derrick operator card or other document that certifies his competence and his certification to operate derricks of the type he operates.
11. Written regulations for safe operation of derricks shall be kept in the derrick operator compartment.
12. A derrick equipped with an automated system or with restriction switches must never be operated when these are not active or have been bypassed.
13. The load weight must be known (not estimated). If the weight of a load is unknown, it must be weighed before hoisting.
14. The alignment legs must be fully spread out and must lean on stable ground and/or another solid base, all as defined by a soil engineer.
15. Lifting with a number of derricks requires submission of a written plan to the Project supervisor.
16. Whenever there are two or more derricks at one Site, the following rules must be followed:
    a. The derrick operators must meet every day, before start of work.
    b. A preliminary plan must be submitted, as part of the Project's safety plan.
    c. Wireless communication between operators is essential.
    d. The operation heights must be clearly defined.

17. Truck crane

    a. The crane shall be operated by a certified crane operator equipped with a valid license relevant to the type of crane and load.

    b. Hoisting performed from the truck to the ground (unloading equipment) does not require a signalman unless the area for unloading the equipment is not within the derrick operator's field of vision. For all other hoisting operations, a certified signalman or derrick operator is the only director of the derrick operator. More than one signalman may be required in certain cases.

F. Locking and tagging energy sources

1. The general instructions in this clause relate to work with systems that contain any type of energy, such as electrical energy, mechanical energy, thermal energy, hydraulic energy, gas energy, pressure energy, energy stored in springs, radiation energy and more.
2. As a rule, works on these systems shall not be performed unless the energy stored in them is neutralized and the energy sources are locked and tagged.
3. The locking and tagging process shall include at least the following stages and components:

    a. Identification of the energy source that requires neutralizing and tagging

    b. Moving the energy source to OFF or release of all the energy stored in it, including residual energies (such as movement by force of inertia, electrical current and more)

    c. Attaching the locking standard to the energy source so that any worker performing the work on the system shall add his lock and tag. The Foreman or team leader locks first.

    d. Locking and tagging the energy source, each worker and his lock and tag

    e. Ensuring that the energy source is neutralized (attempt to operate the system, checking voltage and so on)

    f. Performing the work on the neutralized system

    g. Removal of locks and tags. The Foreman or team leader removes last.

    h. Controlled return of the energy to the system by the Foreman or team leader

4. Locking and tagging approval shall be given by the office holders as appointed by the Contractor.

G. Work in confined places

1. Work in confined places is divided into two risk levels:
   a. Low risk – does not require entry permit but requires risk assessment before entering
   b. High risk – requires a permit for entry into a confined place that shall be granted by the safety engineer or safety commissioner of the Contractor, or by the Foreman, as well as prior and continuous measuring or the oxygen level and concentration of toxic or volatile gases in the confined place.
2. The risks at work in confined places include, but are not restricted to, the following:
   a. Risk of suffocation as a result of lack of oxygen or the presence of toxic gases
   b. Risk of being trapped in the confined space
   c. Difficulty in recognizing a problematic situation and difficulty in escaping
3. Workers are permitted to enter into a confined space only after training for work in a confined place and after the Foreman finds that they are qualified to do so from the aspect of health and professionalism.
4. A supervisor is required throughout the work. The supervisor is a worker whose sole task is to supervise all the workers in the confined place and to identify problematic situations, if any.
5. Should the supervisor identify a problematic situation, he shall call for help immediately. The supervisor may never enter into the confined place to administer help alone, as he may endanger himself and worsen the situation of those that need help.
6. Confined places are usually closed, unventilated places, with entry and exit restrictions, therefore there are cases where work in excavations must be related to as work in a confined place, especially due to the danger of accumulation of toxic gases at the bottom of the excavation. Before performing works inside excavations, it is necessary to consult with the safety engineer or safety commissioner of the consulting company, and to measure the oxygen level and concentration of toxic gases.

H. Work with a pipe system under pressure

This clause relates to dismantling and assembly of pipes and accessories or to a pressure test.

Minimum requirements for work with a pipe system under pressure:

1. Only a competent team, which underwent training, exercise, qualification and first-aid training is permitted to be in the work area.
2. Before starting any work, a test diagram must be prepared.
3. Before starting work, a pretest check must be performed.
4. The pressure test area must be closed off, with a sign "Danger – equipment under pressure". The sign must be at least 450 x 340 mm, with a yellow background and black letters that are at least 50 mm big.
5. The section of the system in operation must be closed and securely disconnected by shut-off valves, and locking and tagging must be performed.
6. Pressure release from the system must be performed.
7. The disconnected section must be cleaned in accordance with the company's regulations
8. It is forbidden to stand close to pipes with caps, plugs, tie rods or blinds that may be released from the system under pressure.
9. Spark-proof equipment shall be used for all works.
10. A fire extinguishing station shall be established.
11. Personal protective equipment: helmet, safety boots, protective goggles, face mask, apron, latex gloves, filter masks (A2B2E2K2P3).
12. LEL (lower explosion limits) air tests shall be performed.
13. Hydrostatic test
    a. Pipes shall be fixed during the pressure test.
    b. A test shall not be performed in water below 50 C.
    c. It is forbidden to come closer than 15 meters to the system under pressure.
14. Pneumatic test
    a. The relief valves or rupture disks shall not be blocked.
    b. Pressure gas – nitrogen or air must be dry and oil-free.

c. The test shall always start from low pressure and gradually reach the planned pressure.

d. It is forbidden to come closer than 15 meters from the system under pressure.

I. Safety regulations for hot work

Hot work is defined as work that creates an open flame, heat and/or sparks.

1. Electric welding

Risk factors in hot welding: chemical (metal vapors, gases, oxidation, minerals and thermal disassembly outcomes), UV and infrared radiation, burns from contact with hot metal or sparks, electrical shock, burning and noise.

There are three stages for handling the risk factors:

Before welding

a. Perform hot work approval.

b. Check with a certified electrician that the power system and the welder are in proper working order.

c. Check that the personal safety equipment is suitable for the welding work that you are about to perform, and that it is in proper working order and intact (welding mask, leather apron, leather gloves and safety boots).

During welding

a. Make sure that you act in accordance with the regulations that apply to the welding system that you are using.

b. Make sure that you act in accordance with the special regulations that apply to performance of work in special places.

c. Make sure that there is no chance of another person being injured as a result of his proximity to the welding point where you are working.

d. Do not allow objects under voltage to come in contact with skin or wet clothing.

e. Insulate the welded object against voltage carrying objects, especially when lying or sitting on them, with insulating pads.

f. Maintain the proper working order of the cables that hold the worker's electrodes and pliers.

g. Do not immerse an electrode holder in water to cool it.

h. When welding on a scaffold, ladder or similar equipment, safety measures against falling shall be provided. It is forbidden to wind cables around the body.

i. Protect the body against sparks with suitable clothing, including a welding mask.

j. Use a mask with dark glass adapted to the welding force.

k. Connect the worker's pliers as close as possible to the welding point to prevent the welding current from flowing through the chains to the lifting cables that may be damaged as a result.

l. Use natural or artificial ventilation as required.

m. Do not weld in an area where there are vapors from a cleaning facility that operates on trichloroethylene or similar materials.

<u>After welding</u>

a. Stop the power supply to the welder.

b. Clean the area.

c. Perform completion activities in accordance with instructions for hot work (Appendix D).

2. **Welding, cutting, grinding and soldering with a gas flame**

Welding with a gas flame is accompanied by risks such as: radiation damage to the eyes and skin, burns, fires, gas leaks and explosions.

Handling the risk factors:

<u>Storage and transportation</u>

a. Ensure that there is a suitable sign forbidding smoking and use of open flames in the area where the gas cylinders are stored.

b. Ensure that cylinders are stored in a stable and secure position so that they shall not fall. Full cylinders are separated from empty ones and covered with a protective cap.

c. Cylinders shall be transported on a suitable wagon only.

<u>Before welding</u>

a. Perform hot work approval.

b. Check that the personal safety equipment is suitable for the welding work that you are about to perform, and that it is in proper working order and intact (welding mask, leather apron, leather gloves and safety boots).

c. Make sure that regulators with pressure meters, and flame retardants are installed in the correct direction at the Site.

d. Make sure that the pipes are intact and connected properly with staples. Check for leaks with soap water only!

e. Ensure that the acetylene cylinders were placed in a stable vertical position at least 12 hours before starting to work.

f. Do not touch the oxygen cylinder, oxygen regulators and oxygen pipes with oil, grease or any other organic material. Contact with these materials may cause an explosion! Make sure that hands and cloths are also free of these materials.

g. Ensure that there is a special lighter to ignite the burner. Do not use matches or other means.

During welding

a. Make sure that you act in accordance with the regulations that apply to the welding system that you are using.

b. Make sure that you act in accordance with the special regulations that apply to performance of work in special places.

c. Ensure pipe routing to protect it from damage (hung up high, protected by metal pipes, etc.)

d. Use natural or artificial ventilation as required.

e. Do not weld in an area where there are vapors from a cleaning facility that operates on trichloroethylene or similar materials.

f. When welding on a scaffold, ladder or similar equipment, safety measures against falling shall be provided.

After welding

a. Ensure that the valves in the cylinders are closed, dismantle the equipment and prepare it for transportation.

b. Make sure that the area is clean.

d. Perform completion activities in accordance with instructions for "Prevention of Fires When Welding".

J. Protection against falling (work at height)

1. General

a. Protection against falling shall be provided wherever the falling height is two or more meters.

b. Protection shall be provided in one or more of the following ways: intact railings including a hand rail, midrail and footboard, safety harnesses, a self-retracting line (yoyo) to protect against falling, different types of intact scaffolds (upright, mobile, suspended and more).

c. The safety harnesses shall be checked, with two tying cables with fall reins. Do not use safety belts.

2. Ladders

a. Before using a ladder, check to ensure that it is intact and in safe working order. If the ladder is not intact, it must be marked as such and removed immediately from the work Site.

b. The ladder serves as a work accessory and standing on it requires maximum equilibrium. Balance between the person and the ladder must be maintained by centering the worker's body on the ladder plane and maintaining three holding points during the entire period that it is used.

c. Use a ladder that is suitable for performing the task.

d. The area where the work is performed shall be marked off with cones and tapes.

e. A supervisor shall be present during the entire period of work on the ladder, to stabilize the ladder and protect the worker from intervention by an external factor.

f. Do not stand on the second last level of the ladder.

g. Only one worker shall stand on the ladder.

h. Do not dismantle an extending ladder to use only one part of it.

i. A ladder that is used for climbing and access from a low place to a high place shall be placed at a height of one meter above the access point.

j. An access ladder used by more than one person must be tied.

k. Do not climb up a ladder with tools and materials that prevent holding onto the ladder with two hands.

3. Work surfaces and pathways

a. Every work surface or pathway shall be installed as required for the objective for which they are designated and in a way that prevents

their collapse, or their full or partial breakage or, falling of a person or object from them.

b. The supports of the work surface and pathways shall be made of suitable defect-free material, and bricks, blocks, barrels or pipes shall be used for this purpose.

c. A work surface or pathway from which a person may fall to a depth exceeding two meters shall be fenced off by:

   1) A suitable handrail and midrail with a strength that is suitable for preventing a person from falling

   2) Footboards of a suitable height

d. A wooden handrail shall have a profile width of at least 30 square centimeters, and shall be fixed on the internal side of the risers at a height of at least 90 centimeters and no more than 1.15 meters above the work surface floor or pathways. A scaffold shall have a handrail with a profile width of at least 50 square centimeters.

e. A metal handrail shall be between 90 centimeters and 1.15 meters above the work surface floor or pathway.

f. The midrail shall be fixed at a height of 45 to 50 centimeters above the work surface or pathway and shall comply with the requirements for the handrail.

g. Footboards shall be fixed on the internal side of the risers and shall be as close as possible to each other and to the floor. The height of their upper edge, above the floor surface or pathway, shall be no less than 15 centimeters.

h. The risers shall be of suitable material and with appropriate strength. Wooden risers shall have a profile width of at least 5 x 10 centimeters and the distances between them shall not exceed three meters.

i. The handrail and midrail shall be connected to the risers in a way that prevents their being accidentally shifted from their place.

j. The handrail, midrail and footboards shall be intact, for as long as the work surface or pathway is needed. If it is necessary to transfer material, they may be removed for the time that is required for this activity only, while taking the required measures to prevent a person or material from falling.

k. Safe access ways shall be installed wherever a person needs to stand, work or pass through.

l. Pathways shall be made of support boards connected to each other in a way that prevents their shifting and shall be at least 60 centimeters wide. The thickness of the floorboards shall be compatible with the maximum load that may carry.

m. The width supports of the pathway shall be straight, shall be installed horizontally and shall be well connected to the rails and risers.

n. The wooden width support shall have a profile surface of at least 50 square centimeters and its narrow points shall be no less than 45 centimeters. The metal width support shall have the same strength as aforementioned.

o. The distance between the width supports shall be adapted to the maximum load that the floor may carry, but shall not exceed two meters.

p. The pathway slope shall not exceed a ratio of 1 vertical to 1.5 horizontal. Should the pathway slope exceed a ratio of 1 vertical and 4 horizontal, stepping stages shall be installed along the pathway at equal spaces of 30 to 35 centimeters and shall be positioned properly, however it is permitted to leave a path of no more than 10 centimeters in the center of the pathway, free of stages, for passage of a wheelbarrow.

q. A work surface, pathway, floor or any other place up to a height of two meters, where a person works or passes through, shall be free of protruding nails, tying needles, electrical extension cords and any other protruding object or obstacle that a person may encounter.

4. Scaffolds

a. All the instructions relating to railings in the work surfaces and pathways clause apply to scaffolds.

b. An upright scaffold that is over six meters high shall only be installed or dismantled under the supervision of a professional scaffold builder.

c. The Contractor shall supply a sufficient quantity of suitable, first grade high quality material for installation of a scaffold and this material must be used.

d. Wood used to install a scaffold shall be free of bark, paint and protruding bent or unbent nails, and nothing shall be done to hide defects.

e. Metal used for a scaffold shall have no peeling rust.

f. Wooden planks used to install a scaffold, which may burst due to the condition of the fibers shall be protected against said bursting.

g. The Foreman shall check the material to be used for installing a scaffold before it is used and shall disqualify any unsuitable material. All disqualified material shall be removed from the construction Site.

h. Material to be used for scaffolds shall be kept separately from any other material.

i. The Foreman shall inspect every scaffold to determine its stability and compatibility with the objective for which it is targeted. The inspection shall be conducted after the scaffold has been erected and before it is used, and then:

   1) At least once every seven days

   2) After every work break of three days or more

   3) After every work break of one day or more due to rain or wind

j. The Foreman shall record every scaffold inspection in the general register.

k. Every scaffold shall be installed as suitable for its purpose and in a way that prevents collapse and prevents a person or object from falling from it.

l. If after inspecting a scaffold the Foreman finds that it is not suitable for its purpose, or that it does not comply with the regulations set out in this clause, the scaffold shall not be used as long as it is not erected properly, in the opinion of the Foreman.

m. A scaffold shall be dismantled gradually from the bottom upwards, for all its parts, so that the remaining part shall remain intact and stable.

n. Only persons directly engaged in dismantling of the scaffold shall be present in the place where the scaffold is dismantled. The place shall be marked off with red tape or a rigid fence and shall have warning signs.

o. The scaffold parts shall be lowered carefully and shall not be thrown from any height.

p. Hoisting apparatus shall not be installed on or next to a scaffold and shall not be used unless:

   1) The scaffold was reinforced and adapted for this purpose

   2) A barrier was installed or suitable measures were taken to prevent lifting equipment or material lifted or lowered by it from damaging the scaffold or injuring a person on the scaffold.

q. Material that may cause overload upset the balance or is not required for the ongoing work shall not be kept on the scaffold.

r. The scaffold floor shall be made of planks that are close to each other and are installed in a way that prevents their shifting from their place when the scaffold is used.

s. The scaffold floor shall not be used to support any other part of another scaffold.

t. The width of the scaffold floor shall be adapted to the purpose for which it is targeted and shall be at least:

   1) 60 centimeters: if the floor is used as a place for people to stand or sit and it does not hold materials

   2) 80 centimeters: if the floor is also used to hold materials

   3) 130 centimeters: if stones are chiseled on the floor or processed in another way

u. The scaffold floor shall be extended beyond the structure corner for at least its width.

v. The planks used for the floor shall be at least 17 centimeters wide, however planks that are at least 10 centimeters wide may be used if they are connected together by fixed connections.

w. The thickness of planks used for the floor shall be adapted to the distance between the width supports and the maximum load, but no less than 2.5 centimeters. If they are made of plywood, they shall be at least 2.2 centimeters thick.

x. A scaffold floorboard shall not protrude beyond the support if it is over four times more than the board thickness (to prevent a momentum that may detach it from its place) and one board shall not overlap another unless it is necessary, and unless suitable arrangements are made to facilitate movement of wheelbarrows and to prevent persons from falling.

y. Every plank shall be placed on at least three supports unless overbending caused by overloading is prevented.

z. The space between the wall and the floor of a scaffold that is not a suspended scaffold shall not exceed 30 centimeters. If work is performed while seated, the space shall be no less than 25 centimeters and no more than 30 centimeters. If, under the circumstances, it is necessary for the space to be greater than the aforementioned dimensions, a handrail, midrail and floorboard shall be also installed on the side of the scaffold that faces the structure wall.

aa. Where a scaffold has more than one storey, access ladders shall be installed from the ground, or there shall be another safe support means for the lower storey and between each storey. The ladders shall be connected properly to the scaffold and shall remain until the storey is dismantled.

bb. The openings in the scaffold floor through which the ladders pass shall overlap and a riser shall be installed on their internal side from one storey to another for safe hand grasp.

5. Lifting platforms

a. Work on a lifting platform requires training and qualification for this work. Training shall be performed by the platform supplier and the safety training shall be conducted by the Project manager.

b. The lifting platform must be inspected and approved for work by a certified inspector.

c. There are instructions for use and safety regulations for every lifting platform, and these must be followed. It is forbidden for people exceeding the weight permitted by the manufacture to be lifted by the platform. The maximum permitted weight shall be noted prominently on the lifting platform.

d. The doors of the lifting platform must have locks.

e. Do not climb on or off the lifting platform when it is lifted.

f. Make sure that there are no obstacles around the lifting platform.

g. Do not place body parts beyond the lifting platform railing.

h. When the lifting platform is working, there must be an observer and supervisor below to direct the movement of the lifting platform, to warn against hazards that may be caused by vertical movement of the lifting platform, and to operate the emergency switches if the lifting platform operator cannot do so or in the event of a malfunction.

i. The supervisor of the lifting platform shall wear a reflective vest to ensure clear visibility.

j. Do not travel and pass from one place to another when the lifting platform is lifted. When moving, the task of the observer is to walk before the lifting platform in the direction of its travel, to ensure that there are no obstacles and to warn the people in the area.

k. The operation compartment of the lifting platform shall be equipped with an operation system that requires the use of two hands (two-hand operation) and a seat.

l. Do not move with the lifting platform when the charging cable is connected.

m. The charging point of the lifting platform shall be coordinated with the Foreman. When choosing the charging point, attention should be paid to proper ventilation as there may be accumulation of hydrogen fumes emitted by the lifting platform batteries.

K. Motorized and manual machinery and tools

This paragraph does not deal with portable power tools. The safety requirements for portable power tools appear in the next paragraph.

1. Before using hand tools make sure that:

   a. The tool is in proper working order and is suitable for the intended task.

   b. The tool is clean of oil and dirt to prevent it slipping during use.

   c. The tool is suitable for the appropriate capacity of the task.

   d. Unusable tools are returned to be exchanged and/or repaired.

2. When using the tools, follow these instructions:
   a. Do not bang on a tool or with a tool that is not intended for this purpose.
   b. Protect sharp tools with their original wrapping or original guards or by any other efficient means.
   c. When working at heights, tools shall be hoisted separately and by suitable means to prevent them from falling.
   d. The proper protective measures shall be taken when performing operations that emit fragments.
   e. The proper measures shall be taken to prevent electrocution when working in the vicinity of electrical facilities (take extra care in areas with high voltage electricity – risk of induction).
   f. Use nonmetallic tools or non-sparking cables when working in explosive atmospheres.
   g. Conduct strict inspections of tools compliant with the relevant instructions in order to avoid using defective tools.
3. Before using a machine ensure that it is in proper working order and that:
   a. The operator has been instructed by the Foreman or the person in charge of the machine and that the operator has understood the instructions.
   b. The machine is suitable for performing the required task.
   c. The cut-off switch on the machine is in the off position and is easily accessible.
   d. The guards are in order and properly assembled in a way that allows access to moving / hazardous parts.
   e. The processing or cutting tools are in good repair, honed, and properly assembled (height, centered, etc) and firmly fixed.
   f. Rods, pipes and any other parts protruding from the machine are protected and supported by suitable means (supports to prevent bending; rails and balustrades to prevent the passage of workers; warning signs and more).
   g. Hand tools and/or various attachments are kept away from moving parts of the machine.
   h. The natural and/or artificial lighting is suitable and is not blinding.

i. There are suitable means for collecting and removing waste.

j. There is an easily accessible emergency cut-off switch close to the machine in addition to a main emergency cut-off switch and that the workers know where these are. Access to the switch shall be cleared and it shall be appropriately signposted.

k. Proper and suitable hoisting apparatus shall be used by workers who have undergone the appropriate training.

l. Workers wear appropriate work clothes and boots (to prevent parts of clothing or hair from getting caught in moving equipment).

m. Personal protective equipment shall be used in accordance with the risks created by the hand tools or machine.

n. All gloves and jewelry shall be removed.

o. The supply and drainage systems for cooling liquids operate properly.

p. The continuous earth leakage shall be examined regularly and renewed every three years by a certified electrician.

q. The area where the operator stands shall be clean and dry.

4. When operating the machine, action shall be taken to:

   a. Prevent dispersal of splinters, fragments and sparks, and oil and cooling liquid.

   b. Remove splinters by using a hook with a hand-guard.

   c. Prevent the formation of long splinters.

   d. Prevent any contact between the machine belts and the produced/assembled items.

   e. Ensure that there is an operator next to the machine at all times while it is in operation.

5. At the end of machine operation, ensure that:

   a. It has stopped operating and come to a complete standstill.

   b. The main switch has been disconnected.

   c. The cooling liquid supply has been stopped.

   d. The splinters have been cleaned away by using the appropriate measures (do not clean away splinters with compressed air).

6. When servicing/repairing the machine make sure that:
   a. Every service/repair of the machine is only performed by a certified specialist.
   b. The electricity is disconnected and a sign is attached to the machine indicating that it shall not be operated.
   c. The guards are replaced at the end of the service/repair.

L. Portable power tools

Example of power tools: drills, saws, hammer-drill, power screwdrivers, and vacuum cleaners.

1. All portable power tools must be in proper working condition and have inspection verification attesting to this.
2. Portable power tools shall be inspected once every quarter by a certified electrician. The inspections shall be documented.
3. The tool operator shall inspect the tool visually before using it.
4. Do not use faulty tools. Faulty tools shall be marked and immediately removed from the Site. Caution: Do not store portable tools at the Site as there is a risk that another worker may use them.
5. Appropriate protective equipment shall be used when operating these tools.
6. All portable power tools shall have double insulation.
7. Portable power tools shall be powered via a 30 milliamp circuit-breaker.
8. Electric cables shall be double insulated. It is forbidden to join two or more cables.
9. Electric cables shall be no longer than 50 meters. The extension cable shall be inspected by a certified electrician as do all the other electric equipment.

M. Temporary lighting installations

1. The installations devices shall meet the requirements of the safety regulations, safety procedures and electricity rules.
2. The temporary lighting shall be suitable for the work requirements. Cables shall be laid in a way that they shall not be tripped over.

3. The temporary lighting shall be powered through a 30 milliamp circuit breaker and shall be equipped with guards to prevent contact with the lamps.

N. Hazardous substances

Hazardous substances are defined as poisons or toxic chemicals (Hazardous Substances Law 5753-1993).

1. Introduction of chemicals to the Site
   a. Any contractor wishing to bring hazardous substances into the Site must prepare a list of the materials and attach the MSDS (Material Safety Data Sheet) to the list and present it to the Foreman for confirmation.
   b. After consulting with the safety commissioner, the Foreman shall instruct the contractor regarding the quantities, usage limitations, storage, transport and removal of these substances as hazardous waste.
   c. Storage of flammable substances, whether in tanks or other means, requires the use of a receptacle (water storage pond) that conforms to the standards, as well as positioning signposts and a fire extinguishing station.
2. Storage of hazardous substances
   a. The substances shall be stored in accordance with the requirements of the MSDS.
   b. The quantity of substances stored on the Site shall not exceed the quantity required for a maximum of three working days. As a rule, the aim is to store the minimum quantity of substances on the Site.
   c. Without derogating from the generality, the following regulations must be followed when storing hazardous substances:
      1) Materials shall be stored in a locked and well ventilated place.
      2) Materials shall be stored in a way that, in the event of leakage, the substance shall collect in a storage pond and shall not permeate to the ground water. The capacity of the storage pond shall not be less than 110% of the maximum quantity of hazardous substance actually stored or anticipated be stored.
      3) The storage area will be signposted with appropriate warning signs.

4) A fire extinguishing station and facilities for rinsing eyes shall be positioned adjacent to the storage area. If necessary and in accordance with the decision of the safety engineer, emergency showers shall also be erected adjoining the storage area.

5) The rules for separately storing substances that could react together shall be obeyed.

6) Flammable substances shall not be stored in the vicinity of heat-producing substances or devices.

7) Substances shall be stored in their original packaging or in local containers bearing labels describing the substance and its properties.

3. Use of hazardous substances

   a. Hazardous substances shall be used in accordance with the MSDS.

   b. Pyrophoric, corrosive and toxic substances shall only be used by workers who have been specially trained to use these substances. Parts of equipment such as valves and pipes, that have come into contact with these substances shall be neutralized with inert gases and rinsed into a purifying pit before treatment or removal from the Site.

4. Removal of chemical waste

   a. The removal of chemical waste shall be in accordance with the MSDS requirements.

   b. The chemical waste shall be transported to the Ramat Hovav Industrial Waste Site. The Foreman shall document the removal to Ramat Hovav and shall register this in the Site's general diary.

O. <u>Storage of materials and equipment</u>

1. Materials and equipment shall not be stored in bulk and shall not become traps (objects falling on people and people tripping over them).

2. Materials and equipment shall not be placed in high areas (on roofs) from which they could fall or flap in the wind.

3. Materials and equipment shall not be stored in a way that they will block emergency exits and escape ways.

P. <u>Compressed gas cylinders and pressure tanks</u>

1. Cylinders of flammable gases and oxygenated gases shall be stored apart from each other in the cylinder storage area.
2. The storage area for compressed gas cylinders shall not be near the storage area for hazardous substances.
3. Full gas cylinders shall be stored apart from empty gas cylinders.
4. Gas cylinders shall be kept upright and from falling while in storage, during transport and while working.
5. The tops of gas cylinders shall be protected with caps when they are not in use.
6. Flame blockers shall be installed on all the flammable gas supply pipes from cylinders to welding / cutting apparatus.
7. Non-return valves shall be installed on all gas cylinder and pressure tank supply lines.
8. The areas where gas is used shall be well ventilated.
9. Gas cylinders shall be moved by using special trolleys.
10. Flammable gas cylinders shall be kept at a distance of no less than 3 meters from any heat or ignition source.
11. The color of the cylinder (body and shoulder) shall match the type of gas in the cylinder.
12. A fire extinguishing station shall be positioned adjacent to the gas storage area and arrangements shall be made for cooling the containers with water sprinklers.
13. The date of the last hydrostatic inspection shall be stamped on the shoulder of the cylinders (every 5 years per cylinder except for corrosive gas, which shall be every 3 years).

Q. <u>Sand cleaning system with compressed air</u>

1. The source of the air supply has to be identified prior to connecting tools that operate with compressed air.
2. Ensure that the air content does not contain carbon monoxide or other toxic gases.
3. Do not lay air pipes across paths and roads. Measures shall be taken to avoid stepping on them and damaging them.
4. The connection for pipes to pneumatic instruments shall be inspected prior to use.

5. Do not use compressed air to clean clothes and do not direct the air towards body parts or towards another worker.
6. Before connecting to the compressed air source, ensure that the pipe is properly connected to the equipment.
7. When swapping pneumatic tools, disconnect and stop the compressed air supply.
8. Do not bend the air supply pipe as a way of closing the compressed air supply.

7. Appendixes

Appendix A: Minimum requirements for the contractor's safety plan

Subject	Content
Contractor's declared policy	• Documents including contractor's obligation for strict implementation of safety regulations, based on full and precise fulfillment of legal requirements, and full and proper execution of the safety management system to be implemented for the Project.
Conditions for commencement and cessation of work	• Detailed safety assurance conditions to be fulfilled prior to commencement of any work. • Detailed conditions requiring immediate cessation of work until completion of repair work.
Success indices	• Indices can include injury rates from accidents, use of personal protective equipment, extent of safety measure implementation, average score of safety inspections and others.
Incentive for superior safety performance	Details of incentives for workers who display exceptionally high-level safety implementation.
Correcting inferior safety measures and suspension or cessation of work	Details of responses towards workers or contracting teams who exhibit inferior safety measures.
Organizational structure for contracting teams	Structure tree of a contracting team operating within the Project.
Authority and responsibility for safety assurances	• All the workers • Leaders of contracting team • Contractor's safety commissioner • Contractor's registered Foreman • Others

Safety plan issues (cont.)

Subject	Content
Risk assessments	• Details of findings of risk assessment conducted prior to commencement of work on Project. • Risk assessment shall be conducted by the Foreman on Site. • Risk assessment findings shall be documented and up-dated as necessary.
Training and transfer of information	• Details of the general principles according to which safety training is conducted and information is transferred to workers and managers. • Details of the basic safety training given to all workers as a condition for authorized access to the workplace and for performing any work within the Project framework. • Details of safety training given to specific specialists (such as electrical work, work in chemical risk areas, work in confined spaces, etc) • Details of safety training for managers and team leaders.
Stocks of personal protective equipment and safety equipment	• Stock list and stock levels of personal protective equipment permanently kept at the Site and critical stock levels below which stocks have to be replenished immediately. • Stock list and stock levels of safety equipment (such as safety harnesses for working at heights, various apparatus for preventing falls, red marking tape, yellow marking tape, signposts, fire extinguishers, etc.) permanently kept at the Site and critical stock levels below which stocks have to be replenished immediately.

Safety plan issues (cont.)

Subject	Content
Safety permits	Safety permits are required at least for the following works: • Hot work (open fire, tasks producing gases and high heat) • Work in confined spaces • Work with chemical materials • Excavations and trenching • Hazardous hoisting (above people or infrastructure, or hoisting a load equal to or above 90% of the maximum permitted workload. Never deviate from the maximum permitted workload) The procedures shall specify at least the following: • List of tasks requiring safety permits • Details of permit procedures • Permit forms
Inspections and investigations	• Details of the daily inspections conducted at the Site • Details of the weekly inspections conducted at the Site • Details of safety measure investigations conducted at the Site and their frequency.
Investigations of safety incidents	• Details of the procedures according to which safety investigations are conducted • Details of procedures according to which implementation of corrective actions, following a safety incident, are monitored.
Information, report and documentation	• Details of safety information sources that are to be found at the Site on a permanent basis (laws, provisions, regulations, tagging list, check lists, posters, signs and others) • Detailed reporting procedures regarding safety incidents and "near" incidents, dangerous situations, corrective actions, preventative actions • Detailed documentation procedures of essential documents and a list of items requiring documentation
Applicable safety procedures	• Detailed "golden rules" for the contractors, which are meant to ensure the safety of the tasks and assignments executed by their workers • Details of the safety procedures referring to the anticipated risks during implementation of the Project, as a result of analysis of the risks.

Appendix B: Minimum requirements for safety equipment and facilities

Type of equipment	Suitability and requirements
Fire extinguishers	• 6 kg extinguisher with dry powder type A,B,C • The entire extinguisher shall be examined by a competent authority to ensure it is in proper working order at least once a year
Cones / posts	• Orange cones, height: 75cm, circumference of base: 0.5m • Posts shall be at least 80-100 cm high
Platforms, steps, ladders, scaffolding, work platforms, balustrades and lifting platforms	• In accordance with Work Safety Requirements 54-57 • In accordance with Work Safety Regulations (Construction Work) 5748-1988 • Ladders – made of fiberglass or wood • Scaffolds shall be built by professional scaffold builders with supervision of the contractor's registered Foreman. • Portable scaffolding shall be made of aluminum only • Lifelines and self-retracting lifelines
Tape for marking off areas	• Red – danger; yellow – caution; orange – emergency
Signposts for restricted work areas	• Every restricted work area shall be signposted with the following details: Contractor's name, telephone, entity requesting the work, type of work, commencement date, scheduled completion date.
Bags for storage of chemical waste	• Bags shall be made of durable materials to be marked with the type of chemical waste
Ventilation to dilute and remove odors	One or both of the following are to be used: • Fans for general ventilation • Apparatus for injecting fresh air, for extracting polluted air and for removal to designated areas via sleeves • The ventilators shall be shatterproof (because of possible contact with flammable vapors)
Noise and/or light measurement equipment	To be provided by the primary contractor if necessary

Requirements for safety equipment and facilities (cont.)

Type of equipment	Suitability and requirements
First Aid Cabinet	• In accordance with requirements Work Safety Requirements 146-148 • The content of the cabinet shall be in accordance with the requirements of Work Safety Regulations (First Aid at the Workplace) 5748-1988
Instruments for measuring oxygen and toxic gases in confined spaces	• To be provided by the contractor • Maintenance and calibration are the contractor's responsibility
Designated marking equipment for road safety	• Arrow wagons • Traffic signs • Cones • New-Jersey barriers • Additional equipment according to the risk assessment or requirements of the Israel Police

Appendix C: Minimum requirements for personal protective equipment

Body part requiring protection	Tasks, hazardous procedures and risk group	Type of personal protection equipment	Standard
Head	• Protection from falling or flying objects, from falling fragments, and from knocks and bumps • Tasks at risk from falling objects • Construction and engineering works, works in tunnels, excavations, trenches and pits. • Task under or in the vicinity of hoisted loads. • Tasks under or in the vicinity of areas where other people are working above and where there is no partition between the two levels, such as scaffolding. • Tasks in areas where there is the risk of bumping into pipes, beams, protrusions etc • Working with tools for embedding pins and portable tools for upward embedding of staples or nails • In warehouses and places where the materials are stored at least 3 meters high • Electrical work	Standard protective helmet	American ANSI Z89 With Israeli Standards stamp of approval
Scalp	• Work procedures which bear the risk of hair getting caught. Workers with long hair are at risk when working near moving parts of machinery • Jobs exposed to ultra violet rays	Scalp protection (hat, head scarf, hair net, with or without peak)	With Israeli Standards stamp of approval

Minimum requirements for personal protective equipment (cont.)

Body part requiring protection	Tasks, hazardous procedures and risk group	Type of personal protection equipment	Standard
Hearing	• Working with harmful noise that is above 85 dBA as appears in the Work Safety Regulations (Workers' Hygiene and Health, Working with Noise), 5744-1984 • Protection of the inner-ear from harmful and bothersome noise • Work in noisy engine rooms including generators, compressors and air conditioning • Work in rooms or spaces with noise caused by operation of machines and tools	Cylindrical earplugs with connecting string – for protecting the ear passage. Earphones – outer ear protection covering the outer ear and preventing the penetration of loud noises. Note: Where earphones and helmets are required, earphones attached to the helmet shall be used.	NRR (Noise Reduction Rating) minimum 27 dBA
Eyes	• Surface preparation work – grinding, milling, polishing, cutting, with polishing and cutting disks, saws or mechanically driven mills • Carving and drilling • Beating with metal tools • Spraying • Electric or autogenous cutting and welding and all other cutting and welding with heat • Protection against penetration of foreign objects, dust, fragments, slivers, splinters, spray droplets, sparks • Concrete work • Work with wood processing machinery • Other hazardous work that could damage the face and eyes from sprayed materials and objects • Any other work that is not specified and could be harmful to the face and eyes • Protection from knocks and bumps	Safety goggles. Attention shall be paid to use goggles suitable for the task. For example, safety goggles for dust and sand are not suitable for protection against chemicals. Protective glasses	ANSI Z87 ANSI Z87

Minimum requirements for personal protective equipment (cont.)

Body part requiring protection	Tasks, hazardous procedures and risk group	Type of personal protection equipment	Standard
Face	• All types of radiation • Electrical work • Handling of chemical materials	Face protective masks that fit under the chin. Masks are combined with protective goggles and do not replace them	Bearing an Israeli Standards stamp of approval
Hands	• Handling sharp, rough objects, except for processes where there is a risk of the glove wrapping around a rotating or moving machine part or part thereof • Cutting and sawing with sharp tools – knives, saws • Welding • Protection against mechanical damage that may result in cuts, stabs, crushes, scratches and catching • Gloves for light work and wear resistant gloves for general carpentry and metal works		KEVLAR knits for work with sharp materials against cuts. Standard 1284 Part 3 – 1996
	• Handling very hot or very cold materials (cryogens) • Work in extreme cold conditions • For protection against high or low temperatures	Cryogen gloves	Israeli standard 1284 Part 2 – 1996
	• Work in a live facility as defined in the electricity regulations (Work in Live Power Facilities) 5727-1967 • Protection against electrocution • Handling chemicals	Anti-static insulated rubber gloves for electricians made of natural or synthetic rubber for low voltage electricity works up to V 1000	Israeli standard 1284 Safety gloves general requirements

Minimum requirements for personal protective equipment (cont.)

Body part requiring protection	Tasks, hazardous procedures and risk group	Type of personal protection equipment	Standard
Feet	• Constructing metal structures and related jobs • Construction and engineering work • Working in building material storage Sites • Work connected to steam systems and in power plants • Installing heating and ventilation systems and their maintenance • Work in open mines • Conveying and storage work • Work in extreme hot or cold conditions • Work bearing risk of molten substances dropping on feet • Work at a live installation as signified in the Electricity Regulations (Working in Live Electric Installations) 5727-1967 • Work in kitchens • Work in any place where there is a risk of slipping • Operating tractors, forklifts, conveying wagons and other mechanical engineering equipment For protection from heavy objects falling on the feet, sharp objects penetrating the foot through the soles of the shoe, slipping, tripping and falling, static electric shock, electrocution, heat or cold injury, chemical injury, injury from sprays, athletes foot	Safety boots	EN standard the European Union standard 345 ANSI Z41 Israeli standard 1112 Steel toe cap Steel inner soles
Knees	Jobs performed while kneeling, such as flooring, polishing and etc.	Protective knee pads	

Minimum requirements for personal protective equipment (cont.)

Body part requiring protection	Tasks, hazardous procedures and risk group	Type of personal protection equipment	Standard
Skin	• Work in extreme hot or cold conditions • Cleaning surfaces with solutions that are sprayed with high air-pressure • Work with direct exposure to the sun, ultra-violet (UV) and infra-red (IR) rays • Welding and any other work with heat • Working with a knife or a saw requiring cutting movements towards the body. • Work with chemicals	Clothing and aprons for protection against mechanical and physical injury, heat and cold and non-ionized radiation. Protective overalls Fire-resistant clothing Clothing for protection against weather injury According to MSDS specifications	EN standards European Union standards Israeli standard 1258 General requirements for protective clothing 1994
Entire body – working at heights	Working in places from which the worker could fall to depths of over 2 meters and where there is no practical possibility of erecting protective balustrades	Intact safety harness + safety grapnel + fall arrest equipment and all the accessories required by the standard Equipment for curbing kinetic energy resulting from a fall from heights as required by the standard Sufficiently strong and stable anchor point that shall be above or at the level of the work station Work basket for working at heights	Israeli standard 954 January 1981 Specification from Israeli standard 318 of May 1989 Equipment for protection for falling from heights safety harnesses

Minimum requirements for personal protective equipment (cont.)

Body part requiring protection	Tasks, hazardous procedures and risk group	Type of personal protection equipment	Standard
Entire body – working in closed or confined spaces	• Entrapment while working in closed or confined spaces or in alcoves. • Entrapment while working in medium or large pipelines or tunnels. • It is important to understand the differences between two types of danger: - low-oxygen air - air containing toxic materials • The choice of equipment and its use is of decisive significance. • Equipment for cleansing the air of toxic chemicals is not efficient for low-oxygen air and in this case could even end in disaster.	Respiratory protection equipment for protection against low-oxygen air, or for air containing toxic materials	Israeli standard 4013 Open self-respiratory system Escape kit
Respiratory system	Any work during which a person could inhale particles or toxic gases or dangerous vapors.	Respiratory masks with filters Open respiratory system	According to MSD material specifications
Protection from harm caused by a transport vehicle	• Work requiring a clear view of the workers at the work Site from afar, such as: - Work on roads, sidewalks and shoulders - Garbage collection and removal - Directing traffic on roads - Traveling in motor vehicles, trucks, forklifts, mobile derricks, mechanical engineering equipment	Light-reflective clothing or parts of clothing that reflect light Equipment & accessories for warning lights Special caution and direction traffic signs Wearing safety belts when traveling in front and back accompanying vehicles in all seats	In-process permit Acceptance of contractor at work

Appendix D: Examples of Safety Permit forms

Safety Form – 01 Hot Work Permit

Hot Work Permit

BEFORE PERFORMING HOT WORK, CHECK WHETHER THIS TASK CAN BE AVOIDED. IS THERE A SAFER WAY OF PERFORMING THIS TASK?

This Hot Work Permit is required for any irregular work (that is not performed at a designated workplace) involving the use of open flame and/or the production of gases. These works include, but are not limited to, the following: cutting with a flame, welding, grinding, soldering, use of hot air.

Part One

1. Perform the safety measures listed on the right (or avoid continuation of work).

b. Fill in and keep Part 1 of this form

c. Give Part 2 of this form to the person actually performing the hot work.

The hot work is executed by: [] Contractor [] Other		
Date:	Work No:	
Location/ Building, Floor/ Coordinates:		
Type of work:		
Name of worker performing the hot work:		
I hereby confirm that the location specified above has been inspected, the safety precautions specified in the list of precautions (on the left) have been taken in order to prevent fire and permission is hereby given to perform this work.		
Signature (Safety commissioner of INGL):		
Expiration:	Date:	Time:

Caution found on the back of Part Two of this form

Part One – Remains with person issuing permit

Instructions for the person issuing this permit
List of required precaution measures
Safety commissioner:

[] The sprinklers, pipes and available fire extinguishers are in proper working order. a. check.
[] Hot work equipment is in proper working order.
[] The fire alarm system of tagged building is in TEST position.

Requirements for area of 35 ft (11 m) from operation area:

[] Remove all flammable liquids, dust, soaked cloths and oil stains.
[] Remove all explosive materials and explosive air from the area.
[] Wash the floor in the area of the hot work.
[] Wet and cover flammable surfaces with damp sand or inflammable materials.
[] Remove other flammable materials if possible and if not, protect with fire resistant covering or metal protectors.
[] Cover all openings in the walls and the floor.
[] Suspend fire resistant covers under the area of the task.

Work on walls or ceilings:

[] The structure and building materials are of non-flammable materials and have no flammable cladding or insulation.
[] Remove all flammable materials from other side of walls.

Work on accompanying equipment:

[] The accompanying equipment has been cleansed of any flammable material.
[] Containers have been cleaned of any flammable liquid/vapor.
[] Remove, isolate, dismantle and ventilate pressure chambers and pressure systems.

Fire watch / monitoring of the hot work area:

[] A fire watch is present in the area during the hot work and for 30 minutes after it has been completed, including during lunch and coffee breaks, and other rest periods.
[] The fire watch is equipped with suitable fire extinguishers and loaded fire hoses.
[] The fire watch is instructed on the use of this equipment and the sounding of alarms.
[] Additional fire watches may be required in the adjacent areas, above or below.
[] Fire watch monitors hot work area for 4 hours after completion of task.

Additional precautionary measures

[] _____
[] _____

Part Two – Remains with the Foreman.

Caution!
Hot Work – Beware of fire!
Part Two

Implementation instructions

1. **The person performing the hot work must signify the time the work begins and place the permit at the location where the hot work is being performed. After performing the hot work, the time of completion of the hot work must be written down and the permit must remain until the end of the fire watch.**
2. **Fire watch: Before leaving the area, conduct a final inspection, sign in the designated space, leave the permit in place, and inform the safety commissioner regarding leaving the area.**
3. **Supervisor: After 4 hours, conduct a final inspection, sign and return the permit to the safety commissioner**.

[] Intel worker [] Contractor		
Date:	Work No:	
Location/ Building, Floor/ Coordinates:		
Type of work:		
Name of worker performing the hot work:		
I hereby confirm that the location specified above has been inspected, the safety precautions specified in the list of precautions (on the left) have been taken in order to prevent fire and permission is hereby given to perform this work.		
Signature (Safety commissioner of INGL):		
Expiration:	Date:	Time:

Fire watch – Authorization and signature

The hot work area and all adjacent areas, where sparks and heat may have been strewn, were inspected during the watch and have been found to be safe.
Signature: _____

Supervisor – Authorization and signature (final inspection)

The hot work area and its environs were inspected 4 hours after completion of the hot work and have been found to be safe.
Signature: _____

List of required precautions

[] The sprinklers, pipes and available fire extinguishers are in proper working order.
[] Hot work equipment is in proper worker order.
[] The fire alarm system in the tagged building is in TEST position.
Requirements for area 35 ft (11 m) from the operation area:
[] Remove all flammable liquids, dust, soaked cloths and oil stains.
[] Remove all explosive materials from the area and remove explosive air.
[] Wash the floor in the area of the hot work.
[] Wet and cover flammable surfaces with damp sand or inflammable materials.
[] Remove other flammable materials if possible and if not, protect with fire resistant covering or metal protectors.
[] Cover all openings in the walls and the floor.
[] Suspend fire resistant covers under the area of the task.
Work on walls or ceilings:
[] The structure and building materials are of non-flammable materials and have no flammable cladding or insulation.
[] Remove all flammable materials from the other side of the walls.
Work on accompanying equipment:
[] The accompanying equipment has been cleansed of any flammable material.
[] Containers have been cleaned of any flammable liquid/vapor.
[] Remove, isolate, dismantle and ventilate pressure chambers and pressure systems.
Fire watch / monitoring of the hot work area:
[] A fire watch shall be present in the area during the hot work and for 30 minutes after it has been completed, including during lunch and coffee breaks, and other rest periods.
[] The fire watch shall be equipped with suitable fire extinguishers and loaded fire hoses.
[] The fire watch shall be instructed on the use of this equipment and the sounding of alarms.
[] Additional fire watches may be required in the adjacent areas, above or below.
[] The fire watch shall monitor the hot work area for 4 hours after completion of the task.
Additional precautionary measures
[] _____
[] _____

Safety Form – 02
Safety Permit for Excavations and Trenching

General details

Details of applicant:	Position:	Telephone:	Application date:
Commencement date:	Completion date:	Location of excavation:	Network coordinates:
Affected services:			

Description of designated work

Accompanying documents and blueprints, including underground infrastructures

No.	Description	Number or version	Date of revision
1			
2			
3			
4			
5			
6			

Soil test and classification

Shall be conducted by a certified engineer at any location where excavation shall be deeper than 1.20 m, in order to determine the natural gradient or alternatively, in order to determine the protection measures required for the sides.

Measures for protecting excavation workers

No.	Risk	Control of methods
1	Prevention of excavated sides collapsing on the workers	Indicate method of protection (lining, slopes, other)
2	Prevention of situation in which space surrounded by gas source that could spring from the ground or from toxic gases that could penetrate the excavation (motor engines, other sources).	Indicate method of protection (Test for presence of gases, ventilation, removal of vehicles and motors, respiratory protection, other)
3	Prevention of electrocution and injury from underground energy sources (electric cables, gas pipes, etc) that could be damaged while excavating.	Indicate method of protection (trial excavations, engineering plan, other)
4	Injury from mechanical engineering equipment	Indicate method of protection (directing while driving in reverse, sound of siren while driving in reverse, other).
5	People falling into excavation.	Indicate method of protection (fencing and obstruction, signposts, other)
6	Objects falling into excavation.	Indicate method of protection (fencing and obstruction, removal of objects from the sides of the excavation, other)
7	Rescue difficulties	Indicate method of protection (positioning ladders, positioning stairs, distances between ladders, other)
8	Other	
9	Other	

Methods for preventing damage to underground infrastructure

Data of gradients and support and protection systems

(Support plan: This plan shall describe and include all the required documentation for equipment approved for soil conditions and appropriate depths, in accordance with the directives of the legitimate authorities regarding this work. Use the other side of this form or additional attached pages to sketch the supports).

Additional data/comments

Authorized personnel

Person responsible for implementation:	Beeper:	Tel:	Date & signature:
Foreman:	Beeper:	Tel:	Date & signature:
Inspecting engineer (as per Clause 4)	Beeper:	Tel:	Date & signature:
Person issuing permit:	Beeper:	Tel:	Date & signature:

Safety Form – 03
Confined Space Entry Permit

General instructions for Foreman

1. Notify the safety commissioner of the Contractor in advance regarding the intentions to work in a confined space.
2. Check if additional safety permits are required (such as a hot work permit, welding permit, other)
3. Instruct the team of workers regarding each person's role, the risks, the supervisor's role, and emergency situations.
4. Together with the contractor's safety commissioner, test the air in the confined space and implement his recommendations. The Foreman and the safety commissioner issue the confined space entry permit.
5. Remove hazardous waste if any is produced during the work.

Regular signs and symptoms of atmospheric exposure

Possible exposure	Signs (observed)	Symptoms (injured party)
Lack of oxygen (in a space where the O_2 in the air is < 19.5%	According to the extent of exposure, the following symptoms can appear: • Impaired alertness • Blue around the lips and cuticle • Loss of consciousness	• Complaint of headache, dizziness
Solvent vapors and organic gases (such as acetone, alcohol, methane gas)	According to the extent of exposure, the following symptoms may appear: • Confusion • Weakness • Grogginess	• Irritation of eyes, throat and nose, nausea, headache, possible loss of consciousness
Acid / burning gases	• Respiratory difficulties, cough, strenuous or no breathing. • Loss of consciousness	• Complaint of burning sensation in eyes, nose and/or throat, headache
Dust	• Cough, sneezing, strenuous breathing, respiratory difficulties. • Choking if the dust is thick or excessive.	• Complaint of all the aforementioned symptoms • "Starving" for air

Entry into confined spaces
Permit details and risk assessment

Description of proposed work:		
Possible risks:		
Location:		Confined Space No. (if such identification exists):
Date:	Time:	This Permit is valid until (time):
Workers planned to enter confined space		Workers planned to act as monitors:

Pre-entry Requirements

	Yes	No	N/A
Has there been a briefing prior to the work (including explanation of risks and emergency procedures)?	☐		
Is the confined space assessment attached?	☐		
Are other Permits required? (Hot work, working with live electricity, etc)	☐	☐	☐
Do energy sources have to be locked-out / disconnected? If yes, indicate which points: _____	☐	☐	☐
Is it necessary to isolate the area, disconnect lines, and cover openings and trenches?	☐	☐	☐
Is mechanical ventilation required? Specify means: _____	☐	☐	☐
Is the apparatus for fencing and barriers in place?	☐	☐	☐
Are lights and tools that do not emit sparks required?	☐	☐	☐
Are there rescue measures in the area? Specify measures: _____	☐	☐	☐

Entry into confined spaces
Permit details and risk assessment (cont)

	Yes	No	N/A
Has the space been tested for O_2, LEL, CO, H_2S, other___? (If the Oxygen level is lower than 19.5%, air supply via respiratory mask is required)	☐		
Is a respiratory protection system required? Specify equipment: _____	☐	☐	☐

Communication methods with the workers in the confined space: _____

Communication methods with the safety and supervising officers: _____

Results of air tests prior to confined space entry

Apparatus Model	**Serial Number**	**Details of Per performing test**	**Time test was performed**

Test Results					
Type of test	Permitted range	Upper level	Middle level	Lower level	Time
O_2%	19.5-23.5%				
LEL %	< 10%				
CO	< 20 ppm				
H_2S	< 5 ppm				
Other					

Comments:_____
_____
_____

Conditions examined and found appropriate for entry into confined space

Position	Surname	First Name	Date	Signature
Foreman				

Position	Surname	First Name	Date	Signature
Safety commissioner				

Safety Form – 04
Critical Load Lifting Permit

Project: _____ **Date:** _____

Contractor: _____

Location of specialized work: _____

Specialized work process and lift description (including load weight and radius. Specification sketches and load tables shall be attached): _____

_____

_____

_____

Derrick types, capacity and boom length:_____

_____

_____

Description of signaling _____

_____

_____

Signalman in charge of lift:_____

Supervisor in charge of lift:

Name and position: _____ Date: _____

I hereby submit this plan and confirm that the equipment and the workers involved in this lift meet all the required legal regulations.

Name and position: _____ Date: _____

Received by:

Contractor's Safety commissioner: _____

Signature: _____ Date: _____

Safety Form – 05
Hazardous Chemicals Safety Permit

Project: _____

Date: _____

Contractor: _____

Name of Chemical (Copy of Chemical Material Safety Data Sheet attached): _____

Location of work: _____

Atmospheric monitoring method: _____

Worker protection method: _____

Protection method for other workers: _____

Planned work hours: _____

Storage and disposal methods: _____

Confined Space Entry Permit (if required): _____

Responsible Person: _____

Applicant: _____

I hereby submit this plan and confirm that the workers who shall be handling these materials have received the legally required safety instructions.

Name: _____ **Date**: _____

Safety commissioner: _____ **Date**: _____

This permit shall be kept in the work area together with the Chemical Safety Data Sheet.

Appendix E: Review of risks for the different works

This Appendix E is for informative and general purposes only and is not binding or exhaustive. Nothing in this Appendix E shall derogate from the risk allocation provisions set forth in the General Conditions or from the Contractor's sole responsibility to undertake its own risk assessments with regard to the Works and the Project as a whole.

Type of work	Risks	Prevention methods
Excavation, filling, quarrying, revetment: 1. Working with heavy machinery. 2. Working inside deep excavations.	1. Injury to workers. 2. Collapse of ground. 3. Work inside deep excavations.	1. Use reverse warning alarm. 2. Use signalmen when necessary 3. Create appropriate gradients. 4. Remove dirt mounds from the excavation sides. 5. Erect supports where there are no slopes as required by law. 6. Determine escape ways from the excavation Site and positions for escape facilities for when these are required. 7. Station warning alarms outside of the excavation Site. 8. Foreman shall perform daily inspections of the excavation Site to find cracks.
Support piles: 1. Work with drilling apparatus 2. Working with portable derricks 3. Building cages 4. Welding 5. Ironwork 6. Pouring concrete	1. Injury to workers in the vicinity of the work 2. Injury to skin and hands 3. Injury to eyes 4. Burns	1. Check that drilling machinery and derricks are in proper working order before starting work. Inspection is performed by a certified inspector. 2. Warn all workers in the vicinity of the work before lifting the cages and clearing the earth around the drilled hole. 3. Close pit openings with plates, after completing drilling. 4. Place piles into drilled holes. 5. Wear helmets to protect heads. 6. Wear gloves for ironwork. 7. Wear rubber gloves for

		concrete work. 8. Wear welding mask and protective clothing for welding. 9. Use protective caps for reinforcement iron.
Construction: 1. Working at heights 2. Using ladders 3. Concrete work 4. Dusty work 5. Using portable power tools	1. Falls 2. Falling objects 3. Openings in floor 4. Injuries over entire body 5. Respiratory system injuries 6. Protruding metal 7. Electrocution	1. Work on appropriate scaffolding 2. Use harnesses 3. Fix and tie down ladders 4. Close openings in the floor with plates and fix them down 5. Build fencing – balance the top, middle and foothold. 6. Always use protective equipment – helmet, safety boots and protective goggles. 7. Use rubber gloves for pouring concrete. 8. Use steel-capped rubber boots for concrete work. 9. Use respiratory masks for dusty work. 10. Use protective caps to cover ends of protruding steel rods. 11. Use temporary electric boards with earth leakage circuit breakers. 12. Portable power tools and extension cables are regularly inspected by a certified electrici
Derricks and hoists:	1. Equipment falling from heights. 2. Injury to workers and damage to equipment.	1. Employ a certified signalman. 2. Use walkie-talkies for communication between signalman and derrick operator. 3. Use hoists that have been inspected by a certified inspector. 4. Grapnel and hooks shall have safety clasps. 5. Lift loads weighing no more than 90% of permitted load. 6. Inspect derrick/hoist and accompanying apparatus daily.

		7. Operate a warning siren when moving an overhead load above the workers. 8. Stop derrick in stormy weather.
Assembling systems (pipes): 1. Working at heights. 2. Using ladders. 3. Welding. 4. Disk cutting. 5. Hoisting equipment. 6. Using portable power tools.	1. Falling from heights. 2. Burns. 3. Fire. 4. Bodily injuries to hands, eyes, hearing, face and so on. 5. Back injury.	1. Use scaffolding. 2. Use harnesses. 3. Another worker shall hold the ladder. 4. Use a welding mask and protective welding clothing – long sleeves and coat. 5. Use fire extinguishers and conduct a fire watch. 6. Have a hot work permit. 7. Heavy equipment shall be lifted by more than one person. 8. Use winches for lifting equipment. 9. Cover all flammable materials in the vicinity of hot work. 10. Use shields for cutting machines. 11. Portable power tools and extension cords shall be periodically checked by a certified electrician.
Demolition: 1. Working with Kango demolition hammers. 2. Working with hammers.	1. Injury to workers in the vicinity of the work. 2. Respiratory system injuries. 3. Hearing injuries. 4. Damage to the inner-wall systems.	1. Use ear plugs. 2. Use respiratory masks. 3. Close off the work area, including from the sides. 4. Inspect the work area and ensure that there are no systems in the area. 5. Check that the tools are in proper working order.

Painting and gluing: 1. Use paint. 2. Use glue.	1. Respiratory system injuries. 2. Skin injuries. 3. Eye injuries.	1. The introduction of chemicals into the Site requires safety data sheets and receipt of prior permission. 2. Use respiratory masks with filters. 3. Use closed protective goggles. 4. Wear long clothing. 5. Use the appropriate ventilation. 6. Obtain permits for the work. 7. Hot work not permitted in the area.
Working in public areas:	1. Injury to the public. 2. Injury to the workers.	1. Use balustrades and rails. 2. Cover openings. 3. Set up identifying and cautionary signs. 4. Open pits shall be covered with strong covers and signposted (pit). 5. Work and hoist areas shall be defined. 6. Equipment and materials shall not be placed on the edge of levels. 7. There shall be safe and well signposted passages for passers-by. 8. A protective roof shall be erected to protect from falling objects. 9. A fence shall be erected to prevent strangers from entering the work area.

Appendix F: Contractor's statement of safety management competence

Name of Contractor

Date:

To:

- The Office of the Engineer

Copies:

- Israel Natural Gas Lines Company Ltd.
- Safety commissioner acting on behalf of Israel Natural Gas Lines Company Ltd.

Preliminary Report – Notification regarding safety management competence

This notification shall be conveyed to Israel Natural Gas Lines Company Ltd. within seven working days from commencement

Project Name	Contractor	Foreman	Project Manager

Establishment of Safety Management System

1. We hereby announce that the Engineer has developed regulations for the Project's safety management and that these regulations shall be implemented during the execution of the Project.
   The regulations that were developed are as follows:

   ☐ Organizational structure that shall enable the implementation and operation of the safety management system

   ☐ Worker training and field apprenticeship

   ☐ Safety equipment, safety apparatus and personal protective equipment

   ☐ Safety permits for specific works

   ☐ Inspections and examinations

   ☐ Information, reporting and documentation system

   ☐ Applicable safety rules

Project safety management preparedness check

2. We hereby advise that we have inspected the following safety issues:

❑ Protective equipment	❑ Working at height	❑ Storage	❑ Electricity and lighting
❑ Fencing and railing	❑ Concrete & scaffolding	❑ Ladders	❑ Platforms and steps
❑ Welding	❑ Confined spaces	❑ Scaffolding	❑ Pressure chambers
❑ Lifting platforms	❑ Work area boundaries	❑ Excavations	❑ Other
❑ Derricks and hoists	❑ Loading & unloading	❑ Other ____	

Improvement operations

3. We hereby advise that due to the findings of these inspections, we shall perform the following improvement operations over the next two weeks:

No.	Improvement operation	Completion date

4. We hereby advise that the aforementioned improvement operations shall not replace the proper fulfilment of all the instructions.

First aid and evacuation

5. We hereby advise that we are prepared to provide first aid as required by the Work Safety Regulations (First Aid in the workplace) 5748-1988.
6. We hereby advise that if it becomes necessary to evacuate a person injured while working on the Project or due to the implementation of these works, evacuation shall be our responsibility.

Sincerely

Contractor's Project Manager	Date	Signature	Official Seal

Appendix G: Monthly safety management report

Name of Contractor

Date:

To:

- Office of the Engineer

Copies:

- Israel Natural Gas Lines Company Ltd.
- Safety commissioner acting on behalf of Israel Natural Gas Lines Company Ltd.

Safety Management Report

Project _____ **Month** _____

Part A: Data

Legally registered Foreman	Contractor's Project Manager

Location	Description of the work performed

Names of Sub-contractors	
Sub-contractor	**Work performed as part of the project**

Names of Sub-contractors	
Sub-contractor	**Work performed as part of the Project**

Mechanical Engineering and Lifting and Hoisting Equipment			
Equipment	**Date of next inspection**	**Operator**	**Permit expiry date**

Part B: Safety performance

Safety incidents

☐ No safety incidents occurred this month as part of the Project
☐ This month there were_____ light injuries that were treated on the spot.
☐ This month there were _____ injuries that required evacuation to the clinic.
☐ This month there were_____ injuries that required evacuation to the hospital.

Description of the safety / dangerous incidents

1. _____.
2. _____.
3. _____.
4. _____.

Part C: Worker Training

Training Subject	**Number of Participants**				
	Primary Contractor	Sub-contractors			

Part D: Inspections and examinations

The following safety issues were inspected during the month:

- ❑ Protective equipment
- ❑ Fencing and railing
- ❑ Welding
- ❑ Lifting platforms
- ❑ Derricks and hoists
- ❑ Working at height
- ❑ Concrete & scaffolding
- ❑ Confined spaces
- ❑ Work area boundaries
- ❑ Loading & unloading
- ❑ Storage
- ❑ Ladders
- ❑ Gas cylinders
- ❑ Excavations
- ❑ Other ____
- ❑ Electricity and lighting
- ❑ Platforms and steps
- ❑ Scaffolding
- ❑ Other

Part E: Improvement operations

Due to the findings of the inspections and the safety measures taken, we shall perform the following improvement operations during the next month:

No.	Improvement operation	Completion date

We hereby advise that the aforementioned improvement operations shall not replace the proper fulfilment of all the instructions.

Part F: Miscellaneous

_____

_____

_____

Sincerely

Contractor's Project Manager	Date	Signature	Official Seal

Revision Record

Rev. No.	Date	Description	Prepared	Checked	Approved	Date	Approved
			EEN			Company	
1	14.01.05	Discipline Internal Check					
2	01.02.05	Discipline Internal Check					
3	14.02.05	Discipline Internal Check					

Appendix H: Environment

1. Waste

Beyond the stated and required in any other place the waste will be removed in a manner that will not cause any environmental or sanitary hazard.

Do not burn waste.

If dealing with building waste, the vendor will take care to remove it only to an authorized site.

2. Oils and Fuels

Throughout the work the subcontractor will not pour residues of oils, fuels, cleaning products and solvents to the ground or sewage system; however, will collect and transfer to an authorized site or will prepare them for re-usage / recycling in a manner that will not cause environmental pollution.

If there are fuel storage tanks, they will be placed upon a base with room for extra storage in order to prevent ground pollution.

The subcontractor is to take care and clean (according to the instruction of the Ministry of the Environment) every contamination of the materials mentioned above that will be caused as a result of his work, including the clearing and treatment of contaminated ground.

3. Transportation of Building Materials

The transport of building materials will be done as required in the traffic regulations.

The subcontractor will not pour excess cast liquid concrete or cement tanks washing water in the area or roads towards the site or in the sewage lines.

If excess concrete was poured, the vendor will remove them and clean the area of remnants.

4. Radiation Damage

While conducting work in the area or near or on antenna towers or any other communication gear, the subcontractor and his employees must be careful from exposure to electromagnetic radiation, this by coordinating the work with the facility operator.

Likewise, actions that could change the direction of the transmitters in a way that might increase the exposure of the population situated by the electromagnetic radiation area must be avoided.

5. **Welding**

While conducting welding work in a populated area, exposure of bystanders to light flashes must be avoided by using the appropriate partitions (in order to prevent visual damage to bystanders).

6. **Asbestos**

Working with asbestos (Asbestos dismantling, assembling etc.) will be carried out by a certified asbestos contractor or shall be carried out under the supervision of an authorized inspector that received a specific certification for work of this type from the Technical Committee for harmful dust of the Environment Ministry.

The contractor will act in accordance with the Health and Safety regulations, including:

Signage, protection of employees, dismantling and waste collection of asbestos, waste removal and transportation, waste burial sites specific for asbestos waste, environmental tests and examinations and so forth.

7. **Air Pollution**

When maintenance/renovation/building work is done in populated or partly populated existing buildings, there is a risk of exposure to toxic volatile substances. The person conducting work mentioned above is in charge of preventing such exposure.

While cleaning the steel and concrete structures with grinding materials, the workers and the environment must be protected from dust and sand (according to Health and Safety regulations).

While dismantling and assembling "installation mats" that give rise to mineral wool fibers, glass wool fibers, etc. the workers and the surrounding population must be protected from exposure to the fibers.

8. **Cooling and Fire Extinguishing Systems**

During maintenance, dismantling and transporting cooling systems, air conditioning and fire extinguishing systems, the contractor will do all he can to prevent the release of cooling gas and fire extinguishing materials which might harm the ozone layer, as well as try to collect and recycle them.

During installation/maintenance of air conditioning systems it must be made sure that the water condensate piping is located in a way that will not cause any kind of hazarded.

9. Chemicals

Do not pour leftover chemicals or contaminated dish water (such as water leftover from cleaning chemical containers)- they must be collected spritely and transferred to a licensed site or recycled.

The packets and empty containers must be evacuated to a licensed site, according to the Environmental Ministry guidelines.