



**NET4GAS, s.r.o**

## **COMPRESSOR STATION JIRKOV 73 BAR AND HSK**

### **Requirements on HSE Management for General Contractor**

**16.01.2018**

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**REVISION HISTORY**

000	16.01.18	Issue for Review	Team	Foltin	Schorling
B01	25.07.17	Issue for Review	Team	Schlor	Schorling
Rev.	Date	Issue, Purpose	Prepared	Checked	Approved

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## 1 GENERAL

### 1.1 Scope of the Document

This document provides supplementary requirements for the concerned work activities and shall under no circumstances be construed to limit or compromise any of Contractor's responsibilities under the Contract, as an attachment to the scope of work of the Contract.

The requirements identified in the scope of work and the supplementary requirements in this document shall be regarded as the minimum standards of occupational health and safety and environmental performance required to be satisfied by Contractor under the Contract.

### 1.2 Definitions

Term	Explanation
Project	Compressor Station Jirkov 73 bar and/or Capacity Extension of BTS Hora Sv. Kateřiny (HSK)
Employer	NET4GAS
Consultant	ILF Consulting Engineers

### 1.3 Abbreviations

Term	Explanation
ALARP	As Low As Reasonably Practical
HAZID	Hazard Identification Study
HAZOP	Hazard & Operability Study
H&S	Health & Safety
HSE	Health, Safety and Environment
MEDIVAC	Medical Evacuation

PHSER	Project Health, Safety & Environmental Review
PPE	Personal Protective Equipment
PTW	Permit to Work
QRA	Quantitative Risk Assessment
SIL	Safety Integrity Level
SIMOPS	Simultaneous Operations

#### 1.4 References

No.	Number	Title
1	C4G-JI73-ILF-KS007-GEN-SEZ-840	List of Regulation and Standards
2	C4G-JI73-ILF-GENER-PMA-MAN-910	Requirements on Quality Management for General Contractor
3	C4G-JI73-ILF-GENER-BOZ-MAN-901	Requirements on HSE Management for General Contractor

#### 1.5 Codes and Standards

No.	Number	Title
1	CSN EN OHSAS 18001	Occupational health and safety systems – Requirements
2	CSN EN ISO 14001	Environmental management systems – Requirements with guidance for use
3	CSN EN ISO 9001	Quality management systems – Requirements

## 2 THE HEALTH, SAFETY AND ENVIRONMENTAL PROGRAM

Contractor shall implement a HSE Management Program as part of his contract execution plan.

Contractor's HSE Management Program shall be subject to approval by the Employer and shall incorporate or display the following main elements:

1. HSE Framework

The HSE framework recognises Employer's and Contractor's Corporate HSE Policies, the applicable laws and regulation of Czech Republic and international best industry practices for HSE and formulates a compliant HSE Policy for the Project, all strongly considering natural gas aspects.

2. HSE Management

The HSE Management includes an organisation of all HSE responsables, a HSE Manual and HSE Plan and all other HSE documents, such as specific procedures, codes of practices and policies.

3. HSE Reporting and HSE Key Performance Indicators

HSE key performance indicators shall be established for all elements recognised in Contractor's Health, Safety and Environmental Program. Regular reporting and specific HSE bulletins shall provide feedback of the actual HSE performance into the HSE Management System and provide for the information of all Contractors' personnel, Subcontractors and the Employer on HSE matters.

4. HSE Audits and Inspections

Health, Safety and Environmental Audits and Inspections shall be performed by the Contractor and may be performed by the Authorities and the Employer.

5. HSE Project and Design Reviews

HSE Project and Design Reviews may include HAZOP, HAZID, SIL, PHSER, SIMOPS and other studies and assessments.

6. Preventive HSE Measures

Preventive HSE measures include assessments, programs, trainings, drills and other preventive approaches.

7. Operational HSE Measures

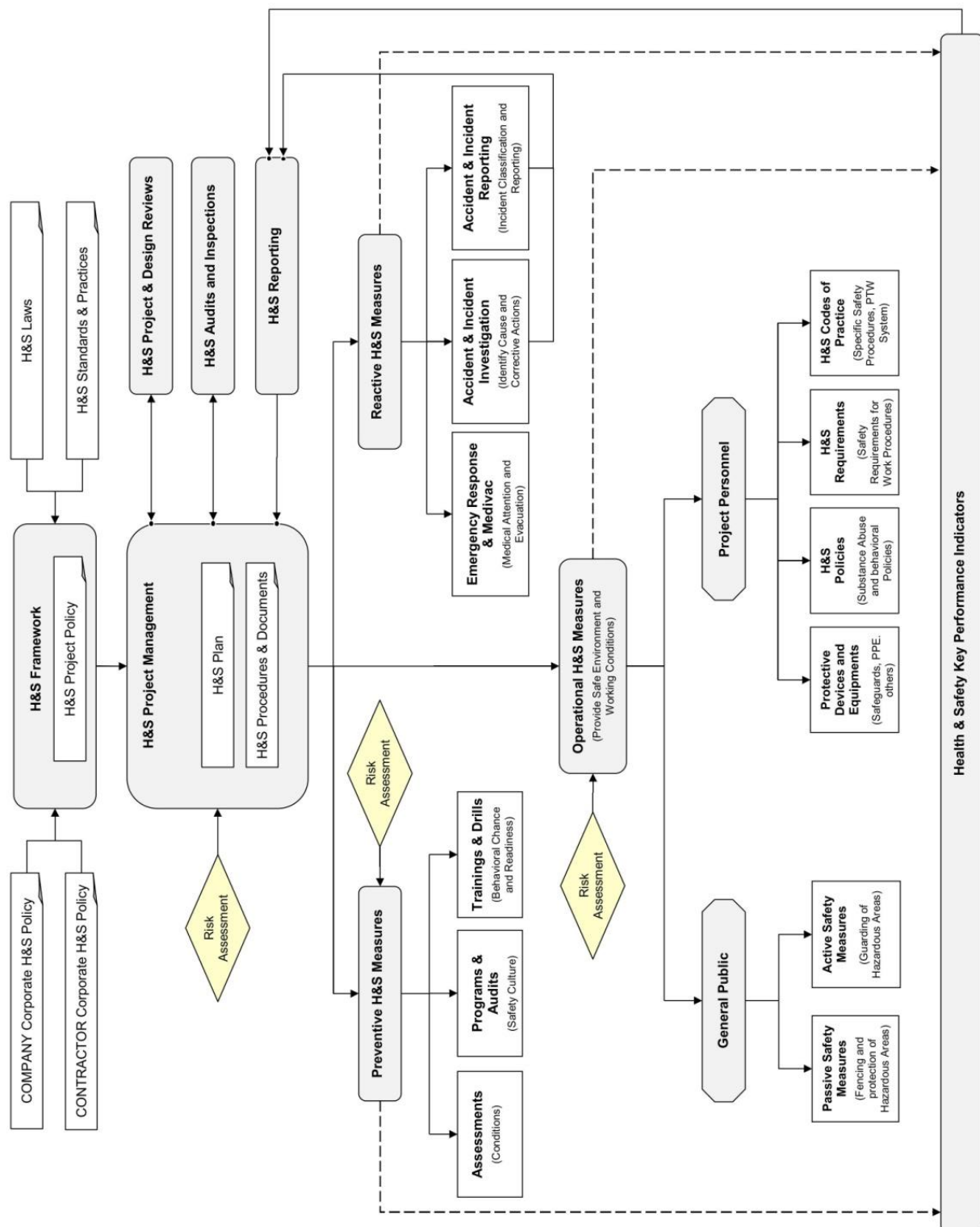
Operational HSE measures are directed towards the general public through the implementation of passive (fencing) or active (guarding) protection measures, or towards the Project personnel through protective measures, HSE policies, HSE requirements and HSE codes of practice.

8. Reactive HSE Measures

Reactive HSE measures come into force after an accident or incident has occurred and involves emergency response planning and accident and incident investigations.



The following diagram provides an overview over the main elements of the H&S program:



### **3 GENERAL HEALTH, SAFETY AND ENVIRONMENTAL REQUIREMENTS AND OBLIGATIONS**

#### **3.1 Employer's Rights**

The Employer has the right to suspend the Works or any part of the Works that are performed in an unsafe manner, or under violation of any Project HSE rule, regulation, policy or safe working practice or that may pose the risk of harm, injury or death to any member of the general public, project personnel or any other project affected person or being.

The Employer may exercise the right for suspension of the Works or any portion according to the Contract.

Contractor shall only proceed or recommence with the performance of the Works or any part thereof after the cause of the suspension has been rectified and the Employer was notified and has agreed with the applied rectification measures.

#### **3.2 Contractor's Obligations**

Contractor, Contractor's supervisory personnel and all other Contractor's personnel has the obligation to stop the Works or any parts thereof Works that appear to be performed:

- in an unsafe manner;
- in violation of Project HSE rules, regulations, policy;
- in violation of safe working practice;

or that may pose the risk of harm, injury or death to any member of the general public, project personnel or any other project affected person or being.

#### **3.3 Health, Safety and Environmental Communication Requirements**

Contractor shall ensure that proper lines of communication are established at Site.

Contractor shall appoint one English speaking supervisor for the Site who must have the ability to communicate with all personnel employed or performing Works. Language barriers shall be overcome by ensuring that multilingual supervisors or interpreters are present so that all work instructions and particularly safety instructions can be effectively communicated to all personnel.

All work procedures and safety instructions have to be translated into all languages required, so that they can be understood by all members of the workforce.

### **3.4 Health, Safety and Environmental Risk Assessments**

The performance of HSE Risk Assessment is an essential tool to understand HSE risks and to create safe environments and working conditions throughout the Project, through the application of appropriate risk response and mitigation measures.

Contractor shall perform specific HSE Risk Assessment covering every aspect of the Works and in particular for and during:

1. the development of the HSE management system including the HSE Manual, HSE Plans and Procedures;
2. the performance of HSE Project and Design Reviews;
3. the definition and performance of preventive HSE measures, like trainings, programs and assessments;
4. the definition and performance of operational safety measures covering the general public and all project personnel;
5. the definition and implementation of reactive HSE measures and here in particular for the preparation of the emergency response planning.

### **3.5 HSE Meetings**

Contractor shall arrange for scheduled, weekly HSE meetings, to be held between the Employer and Contractor's HSE supervisors. Additional HSE meetings as well as the participation of specific supervisory personnel of the Contractor shall be scheduled upon the Employer's request.

All HSE meetings shall be recorded by the Contractor. The final minutes of meeting as well as relevant action items shall be subject to approval by the Employer.

### **3.6 Job Site Safety Briefings**

Every day and prior to the commencement of the work on each jobsite Contractor's responsible foreman or supervisor shall address all personnel in the Job Site Safety Briefing (tool-box talk).

During this "Job Site Safety Briefings" the specific aspects of the work under the given ambient and environmental site conditions, specific risks, inspection requirements and inspection hold points, personnel protection equipment (PPE) as well as general HSE measures shall be identified and communicated to all personnel.

Job Site Safety Briefings shall be repeated if major aspects of the work or ambient conditions change during the performance of the Work.

Contractor shall give particular attention to the performance of Job Site Risk Assessments as part of the Job Site Safety Briefing prior to the performance of any Works at the Site, thereby ensuring that all personnel are aware of the actual site conditions, potential hazards and the requirements for the safe performance of the Works.

### **3.7 Project Change Control**

Within this management of change system Contractor shall assess all changes with regard to potential implications for HSE of the Project, so as to ensure that changes will not have any adverse HSE consequences.

All changes, which may have an impact on HSE of the Project shall be further evaluated by Contractor's HSE department and shall only be implemented after approval by Contractor's HSE department and the Employer.

Approved changes shall then be incorporated into all relevant Project documentation and procedures and communicated to all affected Project personnel, Subcontractors and the Employer in a specific safety bulletin.

## **4 HSE FRAMEWORK**

### **4.1 Inputs to the HSE Framework**

#### **4.1.1 Employer's Health, Safety and Environmental Policy**

Contractor shall acknowledge and endorse the Employer's HSE Policy.

#### **4.1.2 Contractor's Corporate HSE Policy**

Contractor shall nominate his corporate HSE Policy and adopt additional requirements derived from Employer's HSE Policy and the Project HSE Policy (see section 4.2), so as to ensure that Contractor endorses and "owns" all commitments as stipulated in the HSE Policies.

#### **4.1.3 HSE Legal Framework**

Contractor, his personnel and any of his Subcontractors shall comply with and ensure compliance with all applicable Laws, Rules and Regulations regarding health, safety and environment.

#### 4.1.4 Health, Safety and Environmental International Standards and Practices

For the establishment of their HSE management systems, Contractor and his Subcontractors shall recognise and comply with the requirements of OHSAS 18001 “Occupational Health and Safety Management Systems-Requirements”; and ISO 14001 Environmental Management System – Requirements with guidance for use.

## 4.2 Project Health & Safety Commitment and Policy

### 4.2.1 Project HSE Commitment Statement

The Project has the commitment to provide an accident and injury free environment for all project personnel, the public and any other project affected persons or beings.

This commitment is of highest priority for the Employer and shall be shared, maintained and renewed by all individuals and entities involved in the Project.

### 4.2.2 Project Health, Safety and Environmental Policy

The HSE of third parties and project employees shall have absolute priority and shall take precedence over productivity and economic success. Our goals are:

- no accidents;
- no harm to people; and
- no damage to the environment.

It shall be ensured that all applicable HSE regulations and other requirements are observed by the project and our partners.

This policy shall be communicated to all project employees and other interested parties.

It shall be ensured that the installation which we design or supervise comply with valid regulations.

Continuously improving of the HSE performance shall be realized by applying these principles and reviewing the performance.

## 5 HSE MANAGEMENT

### 5.1 Health, Safety and Environmental Policy

Contractor, including his Subcontractor's and personnel shall:

1. ensure the provision of a safe and healthy working environment for all employees, Subcontractors and any other person engaged in the Project;
2. promote a culture in which all employees and Subcontractors share the HSE commitment;
3. empower all employees to take preventive action by immediately reporting unsafe conditions, and stopping unsafe practices;
4. conduct activities in a manner designed to identify and eliminate or minimise HSE risks to a level which is "As Low As Reasonably Practicable" (ALARP);
5. have a systematic approach to HSE Management designed to ensure compliance with the Laws and Regulations, the adopted local and international standards and the Project policies, practices and procedures;
6. set targets and employ management systems aiming for continuous HSE performance improvement.

## **5.2 Health, Safety and Environmental Organisation**

Contractor shall establish a dedicated health, safety and environment entity for the provision of HSE services and the management of all HSE aspects of the Project.

Contractor's HSE Manager shall be reporting directly to Contractor's Project Manager.

All Contractors' HSE personnel shall be properly licensed or accredited for the provision of such services by the Authorities.

Contractor shall submit the Organisation Chart and relevant Job Descriptions for his HSE organisation and commence with the mobilisation of the relevant personnel within thirty (30) days after the Effective Date.

## **5.3 HSE Management Documents**

Contractor shall prepare all required documents for the HSE Management of the Project including, but not limited to:

1. HSE Manual
2. HSE Plan
3. HSE Procedures

The HSE Manual, Plan and Procedures shall reflect the Employer's and Contractor's commitment to provide an accident and incident free environment to all Project personnel all Project affected persons and beings.

Contractor's HSE Management System which shall be laid down in the HSE Manual, Plan and Procedures shall extend to all areas of the HSE Program.

Contractor shall submit his HSE documents not later than 30 days after the Effective Date, for approval by the Employer.

#### 5.3.1 The HSE Manual

Contractor's HSE Manual shall outline the process how Contractor will manage the health, safety and environmental requirements for the project. The HSE Manual shall address HSE Management for all phases of the Works (engineering, construction, commissioning, and start up) and shall define the management implementation, including HSE organization and responsibilities.

#### 5.3.2 The HSE Plan

Contractor's HSE Plan shall be the key document to establish all elements of Contractor's HSE Management System and to demonstrate compliance with all HSE requirements of the Project.

Contractor's HSE Plan shall:

1. be in compliance with all legal requirements and best international industry practice;
2. be specific to each work package of the scope of work and comply with all requirements as established in the contract;
3. identify the HSE deliverables for all project phases work packages and activities;
4. provide a timeline for the production and submission of all HSE documents and deliverables;
5. identify all assessment, training and audit requirements of the HSE Program;
6. identify all HSE reporting requirements for the Project;
7. provide reference to all established HSE key performance indicators for the Project;
8. identify the program for continuous improvement of Contractor's HSE System.

Contractor's HSE Plan shall be considered as a "live" document that shall be updated or amended as the Works proceed and address actual findings, areas of concern, lessons learned and other feedback gained through the HSE Reporting System and action item from HSE assessments and investigations.

## **6 HSE REPORTING AND KEY PERFORMANCE INDICATORS**

### **6.1 HSE Reporting**

Contractor shall establish a system for the reporting of all HSE affairs. The reporting shall be performed within the scope of "Project Reporting" and include regular weekly and monthly reports.

The regular reporting of HSE issues shall include changes, highlights or specific activities during the reporting period related, but not limited to:

1. Preventive HSE Measures, such as assessments, programs and audits, and training activities;
2. Operational HSE Measures;
3. Reactive HSE Measures, including Emergency Response and Accident and Incident Investigations;
4. HSE performance evaluation based on the nominated HSE Key performance indicators;
5. Others.

### **6.2 HSE Key Performance Indicators**

Contractor shall establish a reporting system for HSE key performance Indicators. Relevant performance indicators shall be proposed by Contractor and shall be subject to approval by the Employer, with the Employer expressly reserving the right to add additional HSE key performance indicators that shall be considered in Contractor's reporting.

HSE key performance Indicators may include but shall not be limited to:

1. HSE Non-conformances
  - Number of reported HSE non-conformances for the reporting period;
  - Number of resolved HSE non-conformances for the reporting period;
  - Number of total outstanding HSE non-conformances;
  - Average time for the resolution/closeout of HSE non-conformances;
  - Percentage of non-conformances resolved within specified time frames (i.e. 3 days, 1 week);
2. HSE Observations (Observation Cards)



- Number of HSE Observations (HSE observation Cards) for the reporting period;
  - Number of actions in result of a filled HSE observation;
3. HSE Expenditure
- HSE prevention costs/expenditure for the reporting period;
4. Lost Time Accidents and Incidents
- Lost time (in hours) due to accidents per e.g. 100,000 hours worked;
  - Number of reportable accidents per e.g. 100,000 hours worked (including fatalities);
  - Number of reportable non-fatal accidents per e.g. 100,000 hours worked;
  - Number of work related injuries;
  - Number of fatalities.
5. HSE Personnel
- Percentage of HSE representatives positions filled.
6. HSE Trainings
- Number of HSE Training performed during the reporting period;
  - Percentage of staff with first aid qualification;
  - Percentage of staff with other relevant HSE trainings (i.e. HSE Risk assessment);
  - Total man-hours spent for HSE training for the reporting period.
7. HSE Audits
- Number of performed HSE audits.
8. Others

## **7 HSE AUDITS AND INSPECTIONS**

### **7.1 HSE Audits and Inspections by the Employer**

The Employer shall have the right to carry out HSE audits, inspections and reviews at all Sites of the Project, in order to assess Contractor's compliance with all HSE Project requirements.

Contractor shall fully cooperate with the Employer during the performance of HSE audits and inspections and provide all data as requires by the Employer's HSE auditors and inspectors.

## **7.2 HSE Audits and Inspections by the Authorities**

The authorities may perform HSE audits and inspections at their own discretion and within their areas of jurisdiction.

Contractor shall comply with all Authority audit and inspection requirements and shall provide all assistance, documents and others as requested by the Authorities.

Contractor shall be responsible for the immediate implementation of all corrective actions as ordered by the relevant Authorities within his responsibilities under the Contract.

## **7.3 HSE Audits and Inspections by Contractor**

Contractor shall implement a system of periodic audits and inspections to verify all aspects of his HSE program and to verify his compliance with all HSE requirements of the Project.

Through HSE audits and inspections Contractor shall reinforce his commitment to provide an accident- and injury free environment for all project personnel, the public and any other project affected persons or beings.

The performance and frequency of Contractor's HSE audits shall be included in Contractor's HSE Plan, subject to approval by the Employer.

The Employer shall have the right to attend all of Contractor's HSE audits and inspections.

Contractor shall provide the Employer with a 5 days advance notification to enable the Employer to attend Contractor's HSE audits and 1 day advance notification for the inspections.

For each individual HSE audit or inspection Contractor shall establish an HSE audit and inspection checklist and report, identifying at least but not limited to:

1. Audit Time;
2. Audit Place / Work location
3. Nominated Audit team with Lead Auditor and qualifications;
4. Purpose and Scope of the Audit;
5. Details of audited activities and relevant Project requirements;

6. Supervisor in charge for the audited activities;
7. Findings;
8. Work-Stop Notice (if any);
9. Corrective Actions, with short, medium and long term actions;
10. Distribution.

Contractor shall submit all his HSE audit and inspection report to the Employer and provide regular reports on the status of implementation of corrective actions.

#### **7.4 Joint HSE Inspections by Senior Management Personnel**

Contractor's and Employer's or Employer's representative Senior Management Personnel shall perform weekly, joint HSE inspections of the Site, thereby reinforcing the HSE Commitment of the Project.

### **8 HSE AND PROJECT REVIEWS**

The Contractor shall participate in and action the findings or results of all HSE aspects of technical- and project reviews, including, but not limited to:

1. HAZID (Hazard Identification)
2. HAZOP (Hazard and Operability)
3. SIMOPS (Simultaneous Operations)
4. SIL (Safety Integrity Level / Electronic Systems)
5. Fire Safety Review
6. Others Technical Integrity Reviews and Design Assessments

### **9 PREVENTIVE HSE MEASURES**

Contractor's preventive HSE measures shall include, but not be limited to:

1. HSE Assessments
2. HSE Programs
3. HSE Trainings & Drills

## 9.1 HSE Assessments

Assessments are aimed at the capturing of current conditions with an influence on the performance of the works, establishing thresholds for work performance as well as requirements of HSE Programs and HSE Trainings and Drills.

### 9.1.1 Assessment of Medical Fitness

Contractor shall ensure that all his personnel and all Subcontractors' personnel are assessed for medical fitness in relation for the performed job and in particular with regard to the working conditions, i.e. climatic condition, altitude and others.

The assessment of medical fitness shall be repeated in defined intervals and conform to all requirements of applicable laws and as well as good international practice and industry requirements.

Contractor shall also recognise his obligations to maintain acceptable standards for the hygienic conditions at the Site and to prevent the potential for transmittal of infectious and contagious diseases to other workers or local communities.

### 9.1.2 Assessments of Personnel Competence

Contractor shall develop a program for the competence assessment of his and his Subcontractor's personnel.

Contractor shall ensure that his and his Subcontractor's personnel performing HSE critical activities and tasks are competent on the basis of:

- Personal abilities (current level of skill) and capabilities (potential level of skill);
- Demonstrated experience, knowledge and skills;
- Additional trainings.

Competence assessment shall be performed for critical and HSE relevant tasks and may be extended to any other aspects of work performance.

Contractor shall perform obligatory competence assessments for:

1. First aid responders;
2. Fire wardens;
3. Sanitary workers;
4. Drivers (including competency for off-road driving);
5. Security personnel (including handling of firearms handling of ordinance)

6. Work supervisors (including the performance of job site safety briefings and risk assessments);
7. Personnel handling hazardous substances;
8. Personnel operating heavy or hazardous equipment and machinery;
9. Others as required in order to safeguard the HSE commitment.

Competence assessments shall be used in order to perform an initial selection of project personnel and to determine the amount and degree of additional training that has to be performed in order to ensure proper education, skill and training of all Contractor's and Subcontractors' personnel.

The required competence for each of Contractor's and Subcontractors' personnel shall be specified in the relevant job descriptions.

#### 9.1.3 Assessment of Local Conditions

Contractor shall assess all local conditions for the performance of the Works, so as to ensure that all work specifications, procedures and method statements are properly updated to reflect the performance of the Works under the actual conditions at site.

Contractor's assessment of the local conditions at the Site shall be updated regularly and be reflected in an update or revision of the relevant work specifications, procedures and method statements.

The assessment of the actual local conditions shall be an integral part of the daily Job Site Safety Briefings and HSE Risk Assessments.

#### 9.1.4 HSE Risk Assessments

The performance of HSE Risk Assessments shall be an integral part of Contractor's HSE Management and facilitate the identification of HSE risks as well as the definition of the appropriate response strategy and mitigation measures. HSE Risk Assessment are further discusses in section 3.4.

### 9.2 Health and Safety Programs

Contractor may develop award programs for the achieving of defined HSE milestones and announce earned awards to increase safety awareness among all staff members.

Contractor may implement a program for the formalised collection of safety observations that allows every staff member, Subcontractor and visitor to the Site to record any observation with regard to HSE in general and in particular with regard to potentially unsafe working conditions.

HSE information may be spread through poster campaigns, videos and regular papers, safety feedback notices and construction safety notices.

Proactive systems may be implemented such as “Behavioral Safety Management Programs”.

### **9.3 Training & Drills**

Contractor’s training activities shall extend to occupational and non-occupational aspects of personnel HSE.

#### **9.3.1 Site Induction Training**

Prior to the attending to the Site, all Contractor’s personnel, his Subcontractor’s personnel as well any visitor to the Site shall receive formalised site induction training.

The site induction training shall be provided by Contractor and shall familiarise all personnel or persons with Health, Safety, Environment, Security, Quality Communication and other essential project requirements and procedures.

Upon completion of the induction training all personnel shall receive a Project ID Card displaying the photograph, a unique identification number and the project qualifications and occupation of the card holder. The ID card shall be carried by all project personnel, at all times.

All visitors to the Site shall receive a temporary ID card confirming participation in the Site induction training and providing authorisation for attended visiting of the Site.

#### **9.3.2 Non-occupational Health and Safety Trainings**

Contractor shall conduct non-occupational H&S Trainings targeting the overall education of his and his Subcontractor’s personnel with regard to maintaining an overall status of health and wellbeing. Non occupational H&S Trainings shall include, but not be limited to:

- Personal Fitness;
- Nutrition;
- Disease prevention (STDs, Infectious- and non-infectious diseases);
- First Aid;
- Substance Abuse (alcohol, drugs, smoking).

Contractor shall be aware of his specific responsibilities to prevent the migration or exchange of infectious diseases between his and his Subcontractor’s personnel and members of the general public.

### 9.3.3 Occupational Health and Safety Trainings

Contractor shall perform occupational H&S Trainings for all H&S critical activities and skills.

Contractor's trainings shall target the reinforcement of skills with regard to risk awareness and knowledge of associated control and recovery measures.

Contractor shall establish an overall training matrix identifying all the training requirements in line with the job descriptions of his and his Subcontractor's personnel.

Contractor's occupational H&S Trainings shall include, but not be limited to:

1. Performance of Job Site Safety Briefings and Job Site Risk Assessments for all supervisory personnel;
2. Permit to Work System;
3. Driving and Vehicle Safety (On-road and off-road driving);
4. Transportation & Logistics Safety (lifting gear, cranes, forklifts, containers, road transport, personnel lifting);
5. General Operation Safety (stepping-handling-lifting, personal protective equipment, working at height);
6. Mechanical Operation Safety (welding, cutting, sand blasting, painting)
7. Pressure Safety (compressed air, high-pressure circuits, pressure vessels, pressurised operations);
8. Electrical Safety (grounding & earthing, induced currents, lightning strikes, static electricity, lock-out tag-out, hazardous area classification)
9. Hazardous Materials Safety (fuels, acetylene, oxygen, hydrogen, radioactive materials)
10. Emergency Response and First Aid (behaviour at the accident site, fire fighting first aid);
11. Medical Evacuation (transportation and assistance during medivac);
12. Escape and Survival Techniques (fire fighting, etc.);
13. Simultaneous operations (SIMOPS) awareness;

### 9.3.4 Safety Drills

Contractor shall conduct regular drills to verify the effectiveness of the emergency response plan and emergency response procedures and to provide "hands on training" for his emergency response personnel.

Contractor shall inform the Employer's Project Manager at least twenty-four (24) hours prior to the performance of any Safety Drill thus allowing the Employer to place own observers during the performance of the drill.

Safety Drills shall include but not be limited to:

1. Fire Safety and Fire Alarms;
2. Evacuation of buildings and work sites (including mustering of personnel at defined mustering points)
3. Emergency Response (for all tiers of the emergency response chain);
4. Medical evacuation;
5. Others.

## **10 OPERATIONAL HSE MEASURES**

### **10.1 HSE Measures towards the General Public**

The protection of the general public and any other persons or beings shall be achieved through the implementation of passive and active protection measures. Contractor shall determine the level and appropriate protection measures for the public through the performance of case specific risk assessment.

#### **10.1.1 Passive Safety Measures**

Passive protection measures include the installation of protective devices such as barrier, fences, gates, detours and other which limit or restrict the access to the Site and potentially hazardous areas or deviate traffic away from working areas.

#### **10.1.2 Active Safety Measures**

Active protection measures include the guarding and patrolling of the Site and potentially hazardous areas. The regulation of traffic or other manned operations for the active protection of the public, affected persons and beings.

### **10.2 HSE Measures towards Project Personnel**

The measures for the protection of Project personnel include but shall not be limited to:

1. Protective Devices and Equipment;
2. HSE Policies;



3. HSE Requirements (for all Works and work procedures);
4. HSE Codes of Practice.

#### 10.2.1 Protective Equipment, Devices, and Measures

Protective measures include personnel protective equipment and specific protective devices or measures that shall be installed in order to prevent access to hazardous locations and devices that are installed at equipment and machinery preventing operator accidents or injuries.

##### **10.2.1.1 Personal Protective Equipment (PPE)**

Contractor shall ensure that all his personnel, Subcontractors and visitors to the Site are wearing all required PPE at all times. Whereas the term “required” shall mean required by the applicable Laws, Rules and Regulations and as required by “Best Industry Standards” for the performance of the Works.

Contractor shall provide all required Personal Protective Equipment (PPE) for his personnel and ensure that all Subcontractors' personnel are in possession of the required PPE whilst performing Works for the Project, which extends to all Sites as well as all Vendor's or Subcontractors premises.

##### Basic PPE

Basic PPE shall be worn by all personnel and visitors to the Site at all times and shall consist of:

- Head protection;
- Eye protection;
- Foot protection;
- Hearing protection;
- Highly visible safety vests;
- Appropriate climate protection (i.e. rain gear, rubber boots, special clothing).

##### Additional PPE

Additional PPE is specific to the work activity that is being performed and may include but not be limited to:

- Flame resistant clothing;
- Protective clothing for the handling hazardous chemicals;
- Dust/breathing masks and air filtering devices;
- Hand protection;

- Fall protection;
- Heat and ray protection (during site welding)
- Other protective equipment, e.g., breathing apparatus, toxic escape masks, personal radiation detectors, gloves, harnesses or belts, chemical resistant clothing, and others.

#### **10.2.1.2 Protective Devices and Measures**

Contractor shall be responsible to ensure that all equipment and machinery is in good working condition, properly inspected and fitted with all protective devices and safeguards as recommended by relevant equipment Vendors and mandated by applicable Laws, Rules and Regulations as well as best industry practice, so as to avoid accidents and injury by equipment operator.

Contractor shall install all required fences, barriers, gates and others to prevent accidental access of personnel to hazardous areas.

### **10.2.2 HSE Policies**

#### **10.2.2.1 Access to Site Policy**

Contractor shall ensure that his personnel, his Subcontractors' personnel and all visitors to the Site:

1. are registered,
2. have received a HSE Induction Training,
3. are wearing basic PPE as identified in previous section 10.2.1.1 "Personnel Protective Equipment (PPE)".
4. carry an identification pass.

Contractor shall maintain procedures to ensure access to the Site is restricted and allowed to authorized persons only.

#### **10.2.2.2 Working hours**

Working hours shall be regulated in strict compliance with the relevant Laws and Regulations.

Contractor shall avoid excessive working time and insufficient rest time for his and his Subcontractor's personnel. Contractor shall adapt the working time of his and his Subcontractor's personnel to climate, environmental and living conditions at the actual working site.

#### **10.2.2.3 Non-smoking Policy**

Contractor shall enforce a strict non-smoking policy at all Sites. Smoking shall only be allowed at dedicated smoking areas.

#### **10.2.2.4 Substance Abuse Policy (Alcohol and Drugs)**

Contractor shall enforce a strict no alcohol and drugs policy at all Sites and during the performance of the Works.

Contractor shall strictly prohibit the consumption, and use alcohol or drugs during working hours and the performance of any Works whilst being under the influence of alcohol or drugs, with a zero tolerance limit.

Contractor shall have a program for drug and alcohol abuse prevention and random testing, with a zero tolerance policy in force.

Employer reserves the right to initiate its own program for drug and alcohol abuse prevention and random testing.

Any violation of the substance abuse policy shall cause immediate removal from the Site.

#### **10.2.2.5 Other HSE Policies**

Other HSE policies shall be developed as required to safeguard the implementation of the overall HSE Project Policy as identified in section 4.2.2.

### **10.2.3 HSE Requirements**

#### **10.2.3.1 Occupational Health and Safety Requirements**

Contractor shall establish and incorporate specific H&S requirements for all works that shall be incorporated to the relevant work specifications, work procedures and work method statements.

#### **10.2.3.2 Non occupational Health and Safety Requirements**

Contractor shall ensure that preventive measures are implemented to mitigate H&S risks for his personnel that are not directly related to the Works, such as, but not limited to hygiene and environmental conditions, domestic and security hazards.

### **10.2.4 Codes of Practice**

Contractor shall develop and implement codes of practices with embedded controls for the performance of HSE critical activities, including but not limited to:

#### **10.2.4.1 Storage, Use, and Labelling of Chemicals, Solvents, Paint and Radioactive Substances**

Contractor shall develop and implement procedures and controls in respect of substances hazardous to life and health, including radioactive, toxic, irritant, flammable and materials stored at pressures above atmospheric or those which when mixed with other substances, are susceptible to explosion or spontaneous combustion.

Contractor shall ensure that every substance, product and materials considered as hazardous by applicable Law and Best Industry Practice or international standards of reference is clearly identified, quantified and known by all personnel. A material safety data sheet ("MSDS") shall be available in English and local language(s), including "přísečná pravidla" as per (7) §44a 258/00 Coll. as per Czech legislation and shall be located adjacent to areas where potentially hazardous substances, products or materials are stored or in use.

All chemicals, solvents, paints and radioactive sources shall be stored in accordance with Best Industry Practice and Vendor's' instructions.

#### **10.2.4.2 Overhead Work**

Contractor shall ensure that the areas below the areas where work is being performed are kept clear and are marked or fenced to prevent unauthorised or accidental entering into such areas. Signs reading "Danger – Work Overhead" shall be conspicuously posted.

The passing or working under suspended loads shall be strictly prohibited.

#### **10.2.4.3 Scaffolds and Platforms**

Contractor shall ensure that all scaffolds or platforms used in the works, during installation, maintenance or removal of equipment shall be constructed, maintained, and used in compliance with the applicable occupational H&S regulations. All scaffolds are to be inspected and tagged as required by applicable Laws and as per Best Industry Practice.

#### **10.2.4.4 Safety Harnesses and Lifelines**

Full body safety harnesses and lifelines shall be supplied by Contractor and worn by all workers in accordance with applicable Laws and Regulations where required.

#### **10.2.4.5 Non-destructive Testing**

Contractor shall ensure that radioactive isotopes, x-rays, etc., shall only be used by licensed personnel.

Contractor shall ensure that all other individuals shall stay clear from any danger area when the aforementioned substances are being are being used. Non-Destructive Testing

("NDT") shall be scheduled so that no other works shall be carried out in affected areas during the performance of the testing.

At the time of testing warning signs shall be placed and any other appropriate means shall be applied to prevent unauthorised or accidental access to affected areas.

#### **10.2.4.6** *Void*

#### **10.2.4.7** *Driving and Transportation*

Contractor shall prepare and enforce comprehensive "Safe Driving Practices" for the implementation by all his and Subcontractors' personnel. Safe driving and road safety practices and policies shall be subject to Employer's approval and may be supplemented by additional practices as required to ensure the overall HSE commitment of the Project. Relevant practices shall include, but not be limited to:

- Driver assessment, training and certification;
- Journey management procedures;
- Route Selection and risk assessments;
- Roadside hazards;
- Emergency Response;
- Communications;
- Speed limits;
- Distracted Driver Policies;
- Policy for the Transportation of Personnel and non-Project persons;
- Obligatory resting periods;
- Drive Right Monitoring Devices;
- Mandatory safety equipment and roll-over protection.

#### **10.2.4.8** *Electrical Safety*

Contractor shall ensure that his personnel and his Subcontractor's personnel, working around electrical equipment take precautions to ensure that the equipment is de-energized while work is being conducted on or around such equipment.

Contractor shall ensure that work that is to be conducted near any overhead power line shall be planned such that the required minimum clearance to prevent accidental contact or electrical hazards while working in the proximity of the overhead power line. All overhead power lines over or adjacent to the Site shall be clearly marked.

If work is to be performed within such defined clearance of overhead energized power lines and equipment, the power lines and equipment shall be de-energized prior to starting the work.

Contractor shall ensure that ladders used around electrical equipment are made of wood or other, non-conductive material.

Contractor shall ensure that all construction equipment used is properly grounded.

Contractor shall take adequate precautions to avoid the accidental contact with ungrounded electrical lines and sources.

#### **10.2.4.9 Permit to Work**

The Contractor shall develop a "Permit to Work" system, as a formal written system that shall be used to control works that may be potentially hazardous and/or are performed in a potentially hazardous or specifically regulated environment. Contractor's permit to work system is subject to approval by the Employer.

Essential features of the PTW system are:

- Clear identification who may authorise particular jobs and who is responsible for specifying the necessary precautions
- Training and instruction in the issue, use and closure of permits
- Monitoring and auditing to ensure the system works as intended
- Identification of the types of work considered hazardous
- Clear and standardised identification of the tasks, risk assessment, permitted task duration and supplemental or simultaneous activity and control measures.

The work permit shall:

- Specify the work to be done and the equipment to be used;
- Specify the precautions and safety measures to be taken prior to and when performing the task;
- Specify the supervisory requirements whilst performing the task;
- Advise the Employer, its representative and any other regulating Authority or Entity that the Works are being performed;
- Provide a check to ensure that all safety considerations have been taken into account;
- Provide for notification of all other personnel working in the area that the Works are being performed;

- Provide a check that all required permits or authorisations have been obtained and are valid for the time of the anticipated performance of the Works;
- Provide a mechanism for notification of the Employer, its representative and any other regulatory Authority or Entity that the Works have been completed.

The permit to work system shall be engaged or operated as defined in the scope of work of the Contract.

Works for which the Permit to Work system shall be applied include but shall not be limited to:

- Works in areas exposed to- or frequented by the general public;
- Works at crossing areas regulated by permits issued by relevant Authorities;
- Works regulated by special provisions of the Labour Law, i.e. Works in confined spaces;
- Works to be performed under hazardous conditions;
- Excavation Works
- Works at height (scaffolding)
- Works involving the use of radioactive probes;
- Works in areas with energised equipment (high voltage, medium voltage);
- Works in areas with hydrocarbons (live plants)
- Tie-Ins into commissioned / operating systems;
- Works performed after the completion of the Hydro-test;
- Simultaneous work of different disciplines in restricted areas;
- Any other Works as required and within the sole discretion of the Employer.

## **10.3 Reactive HSE Measures**

### **10.3.1 Emergency Response**

Contractor shall establish systems and procedures for the provision of adequate response to accidents and incidents at all project Sites, which includes, but shall not be limited to:

1. the establishment of an emergency response plan;
2. the establishment of an emergency response centre (24h);
3. the provision of medical treatment equipment and facilities;
4. the provision of medical evacuation (medivac) services;
5. the performance of drills and exercises to demonstrate emergency response readiness.

#### **10.3.1.1 Emergency Response Plan**

Contractor shall develop an Emergency Response Plan and procedures identifying the appropriate emergency response actions at:

- the accident or incident site;
- Contractor's site office(s);
- Contractor's main/central emergency response centre.

Contractor shall provide the necessary resources for the implementation of the measures specified in his approved Emergency Response Plan.

Contractor's Emergency Response Plan is subject to Employer's approval.

Contractor's Emergency response Plan shall be aligned with Employer's emergency response plan and procedures.

Contractor's Emergency Response Plan shall be distributed and communicated to:

- Contractor's employees, Subcontractors employees and all visitors to the Site;
- The Employer;
- Third parties likely to be impacted by the Works including local communities;

The emergency response plan shall address:

1. Organisation, responsibilities, authorities and procedures;
2. Communications and lines of communication within Contractor's organisation, with the Authorities and with the Employer;
3. Systems and procedures for provision of first aid, medical attention and medical evacuation (see following section on medical evacuation);
4. Procedures for the training response teams and for the auditing of emergency response systems and procedures;
5. The following, but not limited to scenarios shall be addressed in Contractor's Emergency Response Plan:



- Site and Worksite injury,
- Outbreaks of diseases and particularly contagious disease, need for medical evacuation
- Motor vehicle, aviation and marine accidents
- Fire and explosion;
- Loss of power;
- Loss of communications;
- Damage to oil and gas treatment facilities or pipelines if relevant
- Spills and unplanned releases of hazardous waste;
- Loss of radioactive material or explosive material;

Contractor shall establish additional scenarios based on Job Site Risk Assessments and overall Project HSE risk assessments.

#### **10.3.1.2 Emergency Response Centre**

Contractor shall establish an Emergency Response Center that is full time (24h/day and 7days/week) throughout the entire duration of the performance of the Works.

Contractor's Emergency Response Centre shall coordinate all emergency response actions of the Contractor, including but not limited to:

- Arrange Emergency Response Team Meeting;
- Notifications to Senior Management and the Employer;
- Notification to relevant Authorities;
- Communication with Emergency Response Team;
- Assisting in arrangement of support services;
- Collection of all available facts
- Dispatch of Accident/Incident Investigation Team;
- Dispatch of Consequence Management Team;
- Prepare and circulate Holding Statement;
- Prepare and Submit Press Release;
- Submit final accident/incident investigation report.

All Contractors' emergency response action shall be closely coordinated with the Employer and official statements shall only be release by the Employer or upon approval by the Employer.

### 10.3.1.3 Medical Evacuation

Contractor shall provide medical services, facilities and evacuation (medivac) for his staff, Subcontractors, the Employer and any visitor to the Site.

Contractor shall establish procedures and allocate means for the provision of medical care to the Site, as well as the medical evacuation (medivac) of personnel.

Contractor's obligations for medical evacuation include the provision or contracting of ambulances for road transport and fixed wing or rotary wing aircraft for air transport.

All personnel and equipment for the provision of medical and transport services shall be properly licensed or accredited in accordance with the legal requirements.

Contractor shall recognise the following lead (maximum) times for the provision of medical attention/evacuation:

Medical attention	Lead Time
First Aid	As soon as possible
Doctor	within 2 hours
Hospital / Treatment Facility	within 4 hours

Table 10-1 Lead times for the provision of medical attention

### 10.3.2 HSE Incident & Accident Reporting

Contractor shall report any accident, incident or unsafe condition to local Government Authorities as required by applicable Laws and Regulations.

Contractor shall promptly notify the Employer about any accident, incident or unsafe condition.

Accidents, incidents or unsafe conditions shall include, but not be limited to:

1. Any incident with a lost time injury and/or fatality (preliminary report to be provided in less than twenty-four (24) hours and a final report within seven (7) days)
2. Any incident that requires medical treatment;
3. Any incident causing a loss of Employer's or Contractor's asset or construction equipment valued at more than five thousand (5,000) Euros;
4. Any incident or near misses with the potential to cause a serious injury with or without disability or fatality;

5. Any incidents or near misses involving the Public, local communities or visitors to the Site.

Contractor shall furnish the Employer with written reports regarding all HSE incidents, accidents and near misses including the categorisation of relevant events in line with international best practice requirements.

#### 10.3.3 HSE Accident & Incident Investigations

Contractor shall perform a systematic and in depth analysis of all HSE incidents and accidents for all accidents and incidents that have caused lost workdays or fatalities.

Contractor shall use a systematic approach for the investigation of relevant root causes and the establishment of corrective action plans.

The Employer reserves the right to participate in all accident and incident investigations conducted by Contractor.

Contractor shall participate in, and offer full cooperation for all investigations that are performed directly by the Authorities, the Employer or any nominated third party.