Ausgabedatum / *Issue date*:	**Verfahrensanweisung**	
07.2019	Health, Safety and Environment **Standard HSE Plan**	MITSUBISHI POWER
Ersatz für / *Supersedes*:		
MHPS-EDE Dok.-Nr./ *Doc.-No.*	**QHSES-320-100**	Classification Level: **Public**

Revisionsverzeichnis *(Ältere ausgeführte Revisionen können im Bereich HS abgerufen werden)*

Name/Abteilung Datum				
Name/Abteilung Datum				
Name/Abteilung Datum	M. Panne / QHSE 14.04.2020	T. Göbel / QHSE 16.04.2020	AD	Editorial changes
Name/Abteilung Datum	T. Göbel / QHSE 01.08.2019	J. Scheffler / QHSE 01.08.19.2019	AC	Editorial changes and training for subcontractors added
Name/Abteilung Datum	T. Göbel / QHSE 04.07.2019	I. Bicak / QHSE 04.07.2019	AB	Editorial changes and changes in wording
Name/Abteilung Datum	T. Göbel / QHSE 07.01.2017	J. Scheffler / QHSE 07.01.2017	AA	Editorial changes and changes in descriptions and definitions
Name/Abteilung Datum	W. Osthoff / HSE 20.07.2016	G. Shykles / HSE 20.07.2016	--	First issue
	Ersteller	Prüfer	Rev.	Änderung

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Data protection

This procedure does not necessarily require the processing of personal data. In the event that personal data is processed in the course of this procedure, please read the MHPS-EU Data Protection Directive available on the Intranet for further information on the principles of processing personal data. If you have any questions, please contact the Data Protection Officer or the Head of Compliance, who is also responsible for data protection.

1. Purpose and scope of application

The prevention of accidents and environmental damage are the fundamental aspects of the MHPS-EDE HSE Plan. The goal of this program is to plan and adhere to site safety and define basic principles and procedures in the areas of health, safety and environmental protection and make them available to all involved persons.

Everyone on the site has the right to a safe workplace and to appropriate tools or equipment to do their work without harming their health, risking their lives or harming the environment.

All site managers will plan and implement workflows so that employees can do their jobs with as little stress as possible. In addition, management must create a healthy and safe working environment to ensure efficient operations. "Safe working" must be constantly taken into account by all persons involved. This is just as important as the requirements in terms of quality, cost and schedule. Non-compliance with these requirements is not acceptable. We presume that all parties are aware of our health, safety and environmental requirements as described in their contracts.

This HSE Plan defines the minimum standards which must be adapted to the project-specific conditions. If local laws or regulations deviate from these, the stricter regulations must be implemented.

This HSE plan is part of the contracts with all our contract partners.

This procedure is mandatory and applies to all MHPS-EDE construction sites, locations and operations. In accordance with the project-specific Division of work (DOW), this procedure applies to all MHPS-EDE employees and all employees of contractors of MHPS-EDE. Depending on the project and the consortium regulations reached, the consortium partner may have its own HSE plan for itself and its contractors.

According to the terms of our contract, the specifications of the HSE plan must be applied by all contractors on site. The HSE Plan is based on existing systems such as SCC or ISO 45001. The HSE Plan refers to the planning, construction and commissioning phase of the construction site

2. Responsibility

MHPS-EDE and the respective contractual partners must ensure that the proper execution of the work during the term of the contract is supervised by a sufficient number of experienced, qualified foremen on site.

Responsible party / person	**Explanation**
Client /Customer /	Client of MHPS-EDE
SSE	Senior Site Engineer
PM	Project manager MHPS-EDE
Safety and Health Coordinator	Safety and health protection coordinator according to EU Directive 92/57/EEC (usually provided by the client, but can also be provided by the general contractor)
Head of QHSE	Head of the department QHSE in Duisburg (Headquarter)
SV	Supervisor

Contractor / Supplier	A person or a company acting or commissioned on behalf of MHPS-EDE
MHPS-EDE	Mitsubishi Hitachi Power Systems Europe GmbH; In connection with this document, the abbreviation is used for all legal entities or companies under the control of MHPS-EDE
Responsible manager	MHPS-EDE Manager with responsibility for all activities associated with the tasks of MHPS-EDE, e.g. the Site Manager, the Area Manager or the Program Manager, where no Field Service Manager is appointed.

The MHPS-EDE site manager and the responsible managers have the authority to give binding instructions regarding the health, safety and well-being of the employees on site. Contractors are responsible for their own employees and their contractors.

During the design phase, the following MHPS-EDE departments are involved:

PR	Procurement	Conformity in purchasing process
PY	Scheduling	Scheduling
PE 1	License and approval planning	HAZOP and SIL-Studies
		Fire protection
		ATEX
PE 4	Contract planning	Plan agreements
DR	Design-Reviews and Engineering service	PFD
CS 1	Construction planning and estimation	Site infrastructure
		Site arrangement
HSE	Health Safety and Environment	Development of HSE Plan
		HSE Actions list
		Compiling HSE files
		Risk assessment during design
		Safety

Designated persons from these departments hold interdisciplinary review meetings. The results of these meetings will have an impact on the planning of designs and activities

3. Terms and definitions

Formulations in this document are used as follows:
“Shall”: A mandatory requirement; very directive in tone and the primary term to use when stating a required action;
“Will”: Also a mandatory requirement, but sounds a bit less dictatorial and can imply future the tense; can be useful when describing a series of actions to enhance the readability of a procedure;
“Should”: Conveys a high level of expectation, but no formal violation if not followed, use this term where some flexibility is needed;
“May”: Optional, no expectation for compliance, offered as an idea or good practice that may be applied based on the task or situation.

Abbreviation / Term	Explanation
BG	employers' liability insurance association
BGI	Information of employers' liability insurance association
BGV	Regulation of employers' liability insurance association

BGR	Rule of employers' liability insurance association
DGUV	German statutory accident insurance
Construction phase	construction assembly and commissioning phase
HAZIP	Hazard Identification Process
HAZOP	Hazardous Operation
HSE	Health Safety and Environment
LMRA	Ast-minute-risk-analysis
LOTO	Lock Out Tag Out
LPG	Liquified Petroleum Gas
OSHAS	Occupational Health and Safety Assessment Series
PPE	Personal protective equipment
PPEaF	Personal protective equipment against falling
SCC	Safety Certificate Caontractors
SeSaM	Service Safety Management
SiGe-Plan	Safety and health plan (not to be mixed with the HSE plan))
VerpackV	packaging ordinance
WMS	Work Method Statement
Incident	An incident is an undesirable work-related event that results in a near-miss, environmental damage, property damage or fire.
Accident	An accident is an undesirable work-related event that leads to injury or illness.
Near miss	A near miss is an unwanted work-related event that did not result in an accident but had the potential for injury, illness or other incidents. A near miss may contain statutory notifiable occurrences
Reportable event	An event with one of the following consequences:
	* fatality
	* Lost time incident
	* Medical treatment (any medical treatment that goes beyond first aid. Exceptions are visits to the doctor for observation or advice.)
	* First aid cases
Lost time incident	An incident in which one or more persons are absent from work for one or more days (excluding the day of the incident).
Event with work re-striction	An event in which a person is able to work but is unable to perform his or her usual duties.

4. Procedure / Process / Activities

The following sections outline a typical HS & E plan. When developing a project-specific plan, these sections can be changed as needed. If it is necessary for the company to use a project-specific template, it should be created as a project-specific document.

4.1 Project Information

Project name: [type project name here]
Project location: [copy a map of location here]

MHPS-EDE:
Mitsubishi Hitachi Power Systems Europe GmbH
Schifferstrasse 80
47059 Duisburg
Tel.: +49 (0)203 8038 0
Info: www.eu.mhps.com

4.2 Location of Site

[add the postal address of the construction site here]

4.3 Scope of delivery

The scope of delivery of the project is [insert detailed description].

4.4 HSE Strategy

MHPS-EDE HSE strategy is described in the integrated quality, HSE and energy guideline, in which MHPS-EDE describes, among other things, the health, safety and environmental protection system. The management system forms the framework for the HSE strategy.

MHPS-EDE will ensure that all employees and contractors involved in the project are familiar with the HSE strategy. The HSE company policy must be approved and signed on site.

The MHPS-EDE HSE strategy is supported by defined HSE standards, which stipulates compliance with and implementation of the specific requirements and activities.
.
HSE Strategy:

- Compliance with all HSE rules and regulations.
- Health and safety of employees during work have priority.
- All contractors must adhere to the HSE plan while working on site.
- The use of resources must be optimised.
- Materials and the environment must be protected.
- Continuous improvement of the HSE plan is necessary.
- All personnel must understand the HSE strategy and be aware of their responsibility.
- All normal hygiene regulations at work must be observed, such as not eating, drinking or smoking (only in certain areas) at the workplaces.

In the role of an EPC contractor, MHPS-EDE has developed the following strategic objectives and a 10-point programme:

10-point programme for effective implementation of the HSE strategy:

1. Ensure safe working and compliance with rules and regulations by selecting competent managers and employees. A training programme has been introduced for all employees.
2. This standard serves as the basis for a project-specific HSE plan.
3. The instruction of personnel on site includes the work-specific and site-specific risks. For this purpose, a training plan is drawn up which includes training sections for hazardous work. In the event that an employee, entrepreneur, MHPS-EDE or employer considers an activity to be unsafe, he has the right to stop the work.
4. A continuous assessment of working conditions outside the construction phase shall be carried out on site through a main risk assessment, through job-related design and work instructions and through regular inspections, inspections and safety discussions. Furthermore, LMRA will carry out a continuous assessment of working conditions.
5. The introduction of a work permit procedure (PTW), for example for: Excavation, demolition and hot work, openings and work in confined spaces.
6. Regular inspection of the construction site including all machinery, equipment, vehicles, tools, lifting equipment, personal protective equipment and other equipment to ensure safe conditions on site.
7. Ensure effective communication between the site manager and the HSE specialist.
8. Personnel are examined by occupational health.
9. Consistent environmental protection on the construction site.
10. The reporting and investigation of incidents and accidents, cause analysis and a statistical evaluation as a basis for improvement measures..

The MHPS-EDE HSE strategy aims to achieve the following objectives:

- Health no illness and the resulting absenteeism

- Safety no accidents or incidents
- Environment: no harm to the environment

4.5 Certification

All MHPS-EDE employees at the sites must have a valid SCC safety certificate as per document 17 or 18 or equivalent.

The contractors must have a certified health and safety management system for the entire period of work and will demonstrate this on request. A copy of this evidence must be sent to the MHPS-EDE HSE department before work commences. This also applies to a renewal of the certificate. In general, the following certifications are accepted, for example SCC, OHSAS, SeSaM. In some cases an assessment can be made in accordance with SCC Dokument 10 in consultation with MHPS-EDE. For this the contractor bears all costs.

A minimum of 90% of the operative MHPS-EDE employees must have a valid safety certificate according to IOSH, VCA or SCC according to document 17 or 18 or comparable.
MHPS-EDE is entitled to check the validity of the information on the contractor's premises at any time after prior notification. MHPS-EDE will inform the contractor immediately about the results of the evaluation of the checklist.

It is the responsibility of the contractual partners to ensure that their contractual partners also have a valid certification according to SCC. Corresponding lists are to be sent to the HSE department of MHPS-EDE on the construction site.

4.6 Cooperation with our customers

At all times, the customer's personnel have the right to supervise the proper execution of the project, the health, safety and environment, to enter the entire construction site as well as the pre-assembly areas. If personnel wish to enter restricted areas (e.g. crane work, transmission work), they must apply for permission from MHPS-EDE.

In order to develop a common understanding of HSE on the construction site, selected employees of MHPS-EDE will participate in all instructions given by the customer. They will also participate in all relevant HSE coordination meetings.
Specific local regulations given by the customer to MHPS-EDE mandatory for MHPS-EDE. This will be ensured by briefing the MHPS-EDE personnel on these regulations.

4.7 Applicable laws and regulations

A person responsible for the project will be appointed to ensure that legal health, safety and environmental requirements are met. In accordance with the terms of the contract, all local contractors will be informed of country-specific laws and standards

MHPS-EDE-EDE has a legal register which automatically informs about changes in the current legal situation. For foreign construction sites, a local HSE manager is assigned to the construction site if possible. This manager is responsible for tracking the legal register and ensuring that the relevant country-specific legal regulations are up to date. Any changes to the legal basis that may arise during the implementation of the project must be communicated accordingly and taken into account by all contracting parties.

The territorial principle applies in principle to German legal regulations, i.e. they only apply on the territory of the Federal Republic of Germany (e.g. the Occupational Health and Safety Act, the Ordinance on Hazardous Substances and the Construction Site Ordinance). The scope of application of the Occupational Health and Safety Act includes the exclusive economic zone (EEZ). However, some legal provisions, such as the ArbSchG, GefStoffV or the Arbeitsstättenverordnung, are mainly based on the implementation of EU directives, so that comparable provisions can be expected in all EU countries. However, in individual cases the EU states may also go beyond the minimum protection measures provided for in these EU directives,

e.g. when setting national limit values. This means that an employer is obliged to always familiarise itself with the legal requirements of the respective country.

The accident prevention regulations (UVV) to be observed within the Federal Republic of Germany also apply to a temporary assignment abroad (posting in the sense of § 4 Social Law Book IV). German accident prevention regulations must be followed in the host country, provided that the legal regulations of this country do not contradict this. This detour in turn means that the German legal provisions, e.g. from the ArbSchG, also apply to employees of German companies working abroad. For employees of German companies, at least the German safety standard and German legislation apply worldwide.

In the case of deviating regulations, the regulation with the higher protection objective is to be applied..

4.8 Safety in the planning phase

4.8.1 HSE Plan

4.8.1.1 General

Before starting work on the construction site, MHPS-EDE will establish a health, safety and environmental protection plan (HSE Plan) and coordinate this with the customer.

Risks and dangers are associated with every construction or commissioning activity. Based on guidance and basic principles and procedures, the HSE Plan describes the process used to eliminate the foreseeable risks and hazards.

4.8.1.2 Requirements for the HSE Plan

The HSE plan is prepared in cooperation with the site rules.

In return, the contracting parties will compile all changes to this HSE plan as part of their services. The MHPS-EDE HSE Plan and the changes made by the Contractor shall each be considered as self-sufficient documents. All documents and records created in this context within the construction period will be summarized as HSE documents after completion of the construction site. The cooperation with the contracting parties is described in section 6 of this HSE Plan

4.8.1.3 Management of change

Changes to the HSE Plan or the MHPS-EDE HSE Standards caused by changes in organization, personnel, systems, processes, equipment, products (substances or materials) or laws and regulations are reviewed by the QHSE Department. If necessary, this process is carried out in cooperation with the customer.

The MHPS-EDE tool MARSH (Management Reporting System HSE) offers the possibility to register, monitor and evaluate changes.

The changes are recorded in the change history and the current version is distributed to the locations. The project-specific adaptation of the documents is achieved at the respective locations

4.8.2 HSE Plan in design phase

Early implementation of health, safety and environmental principles is essential to the success of engineering, procurement and construction (EPC) projects and can avoid negative consequences such as poor HSE metrics and quality issues such as rework, deadline delays and increased costs. This section describes the MHPS-EDE methodology of early integration of HSE in engineering to facilitate a seamless transition to subsequent project phases. The main HSE activities include:

- Performing an HSE Analysis
- Identification and assessment of health, safety and environmental impacts through chang-

es in organisational structure, personnel, equipment, processes or procedures.
- Creating a project design base that contains HSE elements
- Perform process hazard analysis and safety level assessments to reduce risk to tolerable levels (ALARP)
- Develop the design taking ergonomic aspects into account
- Develop a concept for fire protection systems
- Security Technical Systems (SIS)
- Integration of HSE in plant layout and facility design decisions
- Creation of an environmental aspect and impact register (EAI register).
- Identify the resources required
- Create a time scale and develop milestones for implementation
- developing emergency plans for emergencies and in cases where plans or objectives are not fully met

Management must take the lead by integrating HSE activities into the project plan, by creating forums in which the entire team can participate, and by seeking open participation.

Early HSE analysis allows MHPS-EDE to identify project-specific HSE challenges in planning, design, construction, commissioning and commissioning of the plant and to select the appropriate risk identifications and control methods. The following is a list of typical topics covered by the HSE analysis. Many factors can have a positive impact on health, safety and environmental performance. Focus on what is obviously special about the project, such as new technology, local climate, or proximity to infrastructure.

An early HSE analysis assesses HSE risks in these key areas:
- health
- Safety and security
- Environment
- Influence of the owner (e.g. project financing)
- Project implementation strategy (e.g. schedule, award basis)
- Location-specific factors (for example, layout effects, location selection)
- Legal requirements

The participation of experienced HSE professionals in these activities can reduce location issues later on.

Besides conducting the HSE analysis, it is important to integrate HSE principles into the project design. The development of the project conception basis is a clear definition of the design criteria applied to the project and thus enables continuous engineering practices over the entire project cycle.

A key activity is to perform a preliminary hazard analysis to identify hazards and eliminate or control them at an early stage.

Regular review and follow-up of the progress of the HSE objectives are carried out.

4.8.3 Preconditions for health and safety (HSE data)

The focus of the HSE coordination is the interface between the various contract partners on site. Therefore, MHPS-EDE will create and continuously update an HSE file during the planning, construction and commissioning phases.
All relevant documents required to create the HSE file must be submitted to MHPS-EDE..

4.8.4 Safety during assembly and commissioning Phase

Legislation requires each contractor to identify hazardous work processes and describe them in a risk assessment. These risk assessments are audited by MHPS-EDE HSE. The risk assessment is divided into 7 stages for the construction site.

4.8.5 Pre-qualification

Contractors must undergo a pre-qualification process before work can begin. This includes:

- Information about contractors,
- Work to be carried out, including supervision,
- The names of the employees including their qualifications (z SCC certificate, first aid training etc.)
- SCC certificate of the company (or comparable)
- 9001 QM Certificate,
- list of references

Access to the construction site can only be granted after the pre-qualification documents have been checked.

4.8.6 General risk assessment

The general risk assessment provides a good view of the whole project. General hazards are described and appropriate measures are mentioned to avoid or reduce them. The general risk assessment is prepared and updated by MHPS-EDE-QHSE. It is adapted and extended to the project by the personnel on site (senior site engineers, site managers, super-visors, etc.). The HSE personnel on site is not responsible for carrying out the risk assessment, but is available to provide assistance.

4.8.7 Technical assembly specification (TAS)

The TAS contains a description of the assembly processes of the individual units and is also used as a basis for the preparation of contractor documents.

4.8.8 Work method statement with risk assessment

On the basis of the general risk assessment, the assembly instructions with risk analyses are prepared by the responsible contractors. These documents must be sent to MHPS-EDE and checked before work begins.
The document is prepared in two steps:

- First, the risk assessment is filled with the assembly steps known at this time and the resulting risks before and after the corrective actions and submitted to MHPS-EDE for review.
- and at the latest 1 week before the start of work the final risk assessment is submitted. This form will also be checked by MHPS-EDE

Task-related assembly instructions with risk analysis deal with a specific working procedure, such as an individual assembly procedure or working in closed rooms. Here, this method of working is divided into individual work steps. The hazards and risks, including the corresponding protective measures, are then determined step by step. Each contractual partner is obliged to instruct his employees on the principle of the task-related assembly instructions with the risk analysis before starting work and must document this. This includes, for example, the PTW system.

The job-related assembly instructions with risk analyses are usually created by the contractors as a tool for instructions for the safe execution of the work and as part of the PTW system. MHPS-EDE is hereby informed about the different work steps, the risks, the responsible persons, the participants required qualifications and about the required safety precautions.

The MHPS-EDE Construction Site Management reserves the right to determine for all work whether job-related work instructions have to be created before the start.

4.8.9 Changes made by the Contractor to the MHPS-EDE HSE Plan

4 weeks before the start of the work, each contractor must submit his changes to the MHPS-EDE HSE Plan MHPS-EDE for approval. The changes shall correspond to the MHPS-EDE HSE Plan. Essential points are for example:

- internal assembly planning of the respective contractor
- Presentation of the internal HSE organization to nominate the HSE employees

- qualification matrix
- job-related assembly instructions with risk analysis
- Work and operating instructions for tools, equipment and hazardous substances
- regular security inspections; discussion and other events
- Communication and reporting, reporting of incidents and accidents
- List of hazardous substances used on site (including current safety data sheets)
- emergency planning

The contractor shall update its amendments if local regulations or MHPS-EDE regulations or local conditions change.

4.8.10 Regular checks, safety and coordination meetings

Here the interfaces between the different trades and work areas are an essential component. Registered and unannounced regular inspections are carried out by customer representatives, MHPS-EDE and the responsible contractual partners. In addition, MHPS-EDE will carry out regular audits. Thus, the defined HSE standards are guaranteed and constantly improved.

The regular controls, inspections and safety and coordination meetings are to be understood as part of a continuous improvement process of the HSE management system.

4.8.10.1 Initial briefing of all employees on site

In addition to the initial instruction by MHPS-EDE, all MHPS-EDE employees and contractors are instructed in the safety and environmental requirements of the site before the relevant work begins. The relevant contractual partners will support this.

4.8.10.2 Kick off meeting before start of work

A kick-off meeting takes place between MHPS-EDE and the contractual partners before the start of the work on site. The following points will be dealt with during this meeting:

- Presentation of the most important contents of the HSE Plan by MHPS-EDE HSE employees
- Instruction of a responsible contractor representative with regard to the HSE plan by an MHPS-EDE HSE employee.
- Presentation of the HSE documents by a responsible representative and a joint evaluation of the contractor documents.

4.8.10.3 Toolbox Meetings

The MHPS-EDE task also includes defining topics for regular HSE training and toolbox meetings. For further explanation of Toolbox Meetings see chapter 5.3.2 of this HSE plan.

4.8.10.4 Regular coordination meetings

Regular coordination meetings take place at various levels with MHPS-EDE management and the contractors involved. With regard to HSE, important issues and interfaces are the priority at these meetings. Participants:

- Responsible site manager, construction sites HSE Manager

Frequency:

- Regularly once a week or otherwise as needed

4.8.10.5 Health and safety committee meeting

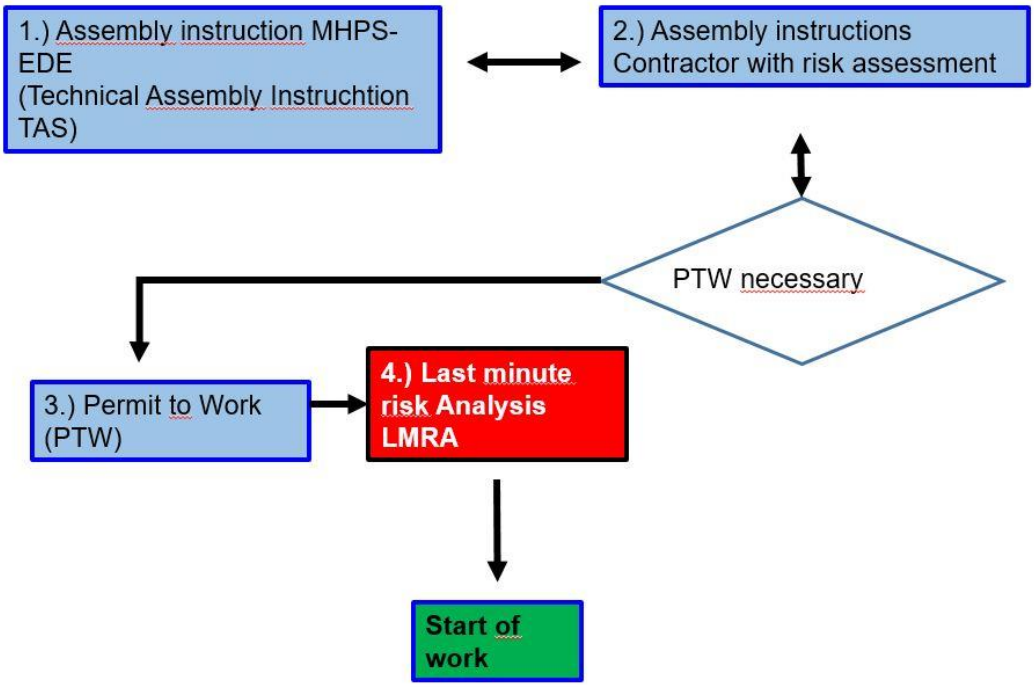
A health and safety committee meeting is held every month. Participants:

Customer's project manager, MHPS-EDE project manager, construction sites, HSE managers and contractors.

4.8.11 LMRA (Last Minute Risk Analysis)

The LMRA is carried out daily before work begins on site at the workplace. This deals specifically with the current work, the corresponding procedures and, for example, the current risks from other industries. This means that a new LMRA has to be created when the workplace conditions change. The LMRA must be carried out in writing.

4.8.12 Main document Sequence before commencement of work



4.8.13 Assembly services

See assembly procedure (assembly instructions with risk assessments) in section 11.2.

4.8.14 Transfer from assembly to commissioning

Before systems are released for commissioning, the site manager, the commissioning manager and the HSE Site Manager carry out a check after completion of the installation. Commissioning work on this part of the system may only be started after this check has been carried out. This version will be documented with an internal form.

4.9 Violations of HSE regulations

Compliance with the HSE plan is monitored by MHPS-EDE through constant checks and inspections. Disciplinary measures are taken by MHPS-EDE Construction Site Management.
Violations of the HSE regulations are usually punished in three stages (warning, yellow card, red card).

MHPS-EDE will try to improve the HSE performance of people, not only its own employees, but also those of MHPS-EDE contractors. Therefore, MHPS-EDE implements a reward program to reward employers and employees (MHPS-EDE and contractors). Hereby MHPS-EDE wants to promote a better health and safety performance on site. This can be achieved by:

- Encourage people to follow health and safety measures,

- Reward those who achieve excellent safety and health work,
- Reward those who actively support a good HSE culture locally,
- Promote participation in security initiatives such as surveys,
- Encouragement, reward and reinforcement of specific safe conduct

In order to reward employees and companies, MHPS-EDE evaluates three different categories:

- Category 1: Safe working
- Category 2: Proactive Safety
- Category 3: Main features Security

These categories are described in detail in our internal incentive program manual.
The results of the reward system of the bonus program are presented on the construction site scoreboard.

Should dangerous situations arise on the construction site, every employee is obliged to scream in, to interrupt or stop the work and to transfer it to a safe condition.

5. Organisation and responsibilities

5.1 Business language on the construction site

The business language on the XXXXXX construction site is XXXXXX. All reports, protocols, business correspondence must be written in this language.

5.2 Working time

Mo. - Fri.: from xxx until xxx

Sat.:

Sun:

5.3 Training of subcontractors

5.3.1 HSE instructions

General

Training and instruction is an important part of the MHPS-EDE safety system. Work can only be carried out correctly and safely if the employees involved know how the work is carried out, i.e. are familiar with the contents of the work process. They must also be familiar with the hazards that arise during execution and must be able to control and apply the hazard prevention measures safely.

Toolbox meetings, instructions and training sessions are designed to provide employees with detailed knowledge of the work process. The dangers and measures for danger prevention must be explained in the training courses and instructions in such a way that the employees are able to carry out the work safely and error-free.

In the course of this standard, the different ways of imparting knowledge are dealt with.

A Toolbox meetings
B Instructions
C Topic related trainings
D Workshops

Language

The language of the participants must be observed in all knowledge transfer measures. Lectures must ensure that the participants can understand the content of the course. This can be ensured on the one hand by the fact that the lecture is held in the language of the participants or by the involvement of a translator. If the preparation of written material is necessary to understand the teaching content, it must be provided in a language familiar to the participants at the beginning of the lecture.

5.3.2 Toolbox meetings

General

Toolbox meetings are regular meetings between foremen and their working groups. Toolbox meetings must be held in accordance with the SCC rules and regulations. Within the toolbox meetings, changing focal points of occupational safety, accident occurrence, innovations on the construction site and findings from events are to be discussed and communicated. Toolbox meetings are usually held in the morning before work starts, but can also be scheduled at other times of the day. As a rule, these meetings do not last longer than 5 to 15 minutes. Toolbox meetings can also be held together with an LMRA (Last Minute Risk Assessment) and must then be documented as part of the LMRA..

Frequency and documentation

Toolbox meetings are held weekly or on special instruction. Toolbox meetings are also held in accordance with the HSE plan. Documentation of the actual implementation and the contents should be provided, but the documentation of the individual participants is not mandatory.

Training material

Toolbox meetings can be organized and designed using simple training materials. This can be done, for example, with the note cards issued by the BGHM (Berufsgenossenschaft Holz und Metall) or the "building blocks" of the Bau-Berufsgenossenschaften.
The use of the above-mentioned media is optional but recommended. Likewise also other media can be used, these can be also provided by the speaker.

5.3.3 Training

General

Instructions for employees are information meetings or training sessions to be held on a regular basis with the aim of imparting knowledge. The execution is incumbent on the superiors. Instruction is required in many legal sources. The most important of these are the Occupational Health and Safety Act and BGV A1. The form of instruction is not prescribed. The instruction can be carried out both in the form of workstation instruction and as instruction in the classroom.

Within the instruction clearly defined topics are discussed and taught. Instructions are usually scheduled. As a rule, instructions last longer than toolbox meetings and should be carried out as an independent event.

Sources of law

See Labour protection law, § 12 Instruction:
"(1) The employer must instruct the employees sufficiently and appropriately on safety and health at work during their working hours. The instruction includes instructions and explanations which are specifically geared to the workplace or the area of responsibility of the employees. The instruction must take place before the start of the activities of the employees when hiring, in the case of changes in the area of responsibility, the introduction of new work equipment or a new technology. The instruction must be adapted to the hazard development and, if necessary, be repeated regularly.

(2) In the case of the provision of temporary workers, the hirer shall be obliged to undergo training in accordance with paragraph 1. The hirer shall carry out the training taking into account the qualifications and

experience of the persons assigned to him for the performance of the work. The lender's other occupational health and safety obligations shall remain unaffected“

Frequency and documentation

Instructions are carried out as scheduled or unscheduled on special instructions. The execution of instructions is also required according to the HSE plan. A documentation of the actual execution and the contents has to take place, the documentation of the individual participants is also prescribed. The documentation must be in written form. In addition to the list of participants, proof of the teaching content taught must also be included in the documentation. The form VO-306-005-01 is to be used as proof of instruction; the names of the participants and the teaching contents taught are to be recorded on the form.

All participants in instructions must be entered in the participant's safety passport, but this does not replace the documentation of the instructions by the subcontractor.
With reference to Labour protection law §12(1) and BGV A1 §4, due to the frequent change of personnel, the frequent new working conditions and the high risk potential on construction sites, the requirement to repeat the instructions at the intervals described below is determined.

The list does not claim to be exhaustive, it merely represents a selection of the most frequently carried out instructions.

Frequency Topic	1st work commencement	Before each work commencement	monthly	quartely	Half-yearly	annual	By special arrangement
General Safety Instruction	X					X	X
Construction site regulations incl. instructions for safety alarms	X					X	X
industrial trucks	X			X			X
aerial work platforms	X			X			X
Dealing with PPEaF	X			X			X
hot work	X				X		X
Traveling in narrow spaces	X	X		X			X
Working at height	X			X			X
Working under increased electrical hazards	X	X		X			X
housekeeping	X				X		X
Dangerous substances	X				X		X
Hydrofluoric acid (HF)	X	X		X			X
After unwanted events	X				X		X
In case of defects in the inspection report							X

Table 1: Frequency of the most important instructions on construction sites

Instructions can be carried out as individual or group instructions.
Please note that employees who have not yet received their initial training are not allowed to start work. It is not permitted to group an employee who has not yet received initial instruction into a recurring group instruction.

If during inspections or audits by MHPS-EDE-HSE or other occasions employees are encountered for whom the proper execution of the instructions cannot be proven, the complete cessation of the work of the respective subcontractor can be ordered until all proof of instruction is available. The instructions shall also be entered in the qualification matrix of the respective subcontractor. The updates are to be passed on to

MHPS-EDE by the subcontractor unsolicited and in the manner agreed with the MHPS-EDE-HSE Site Manager.

Training material

As a general rule, operating instructions must be drawn up for tools, processes and materials in accordance with the relevant regulations. The instructions must be carried out on the basis of these operating instructions. The contents of the operating instructions are to be conveyed within the instructions.

The implementation of instructions can also be organised and designed with other training materials. For this purpose, e.g. the note cards issued by the BGHM (Berufsgenossenschaft Holz und Metall) or the "building blocks" of the Bau-Berufsgenossenschaften can be used.

The use of the above-mentioned media is optional but recommended. Likewise also other media can be used, these can be also provided by the speaker.

5.3.4 Training

General

Employee training courses are events aimed at imparting knowledge. Training courses are usually held in the form of classroom instruction. The form of the training is not prescribed by this standard. Training should only be carried out by suitable teaching staff. For individual trainings special qualifications are required in relation to the teaching activity. Some training courses can also be offered and carried out by external institutes. In the case of such institutes, the teaching qualification must be proven before the beginning of the teaching activity. The relevant BGVR regulations must be observed. The national regulations must also be observed, particularly with regard to teaching qualifications.

Frequency and documentation

The execution and participants of training courses must be documented. After a training course, the participants receive a certificate of participation or a test certificate or a certificate of competence (driving licence), several documents can also be issued as a certificate of participation.

All participation in training courses must be entered in the participant's safety passport, but this does not replace the documentation of the event by the subcontractor. Not all training courses must be repeated regularly. If there is a validity period for individual documents, this is indicated on the document. The national regulations must be observed here.

Requirement of training

Training is required in any case if a certificate of competence (driving licence) is required to carry out an activity in accordance with the relevant regulations. The qualification is generally proven by an examination. The examiner shall issue the certificate of competence after passing the examination.

Training courses that generally end with an examination are:

- Training for crane operators
- Training for industrial truck drivers
- Training for operators of earth-moving machinery
- Training according to SCC
- Training for the operators of aerial work platforms, according to national legislation
- Attachment of loads, depending on national legislation

Training may also be required to perform complex tasks. Such training usually concludes without an exam.

Such topics are among other things:

- Training in First Aid
- Training in fighting incipient fires
- Use of PPE against falls from a height

- Traveling in narrow spaces
- Working under increased electrical hazards
- Handling hydrofluoric acid

National regulations
Germany

A driving licence must be presented for driving a working platform. The necessary instruction (instruction in the equipment) is usually carried out by the rental companies of the working platforms. Correct documentation must be ensured. On the basis of experience, a driving licence in accordance with IPAF should also be sought in Germany.

The Netherlands

Certificates of competence (dcvt) are required for industrial trucks, earth-moving machinery, cranes and lifting platforms and the attachment of loads. The qualification is generally acquired by one-day training. The training concludes with an examination. An IPAF driving licence is often required, so it is desirable to obtain it.

Other countries

The relevant regulations must be determined by the MHPS-EDE-HSE Site Manager and implemented on site.

Written assignments

For the operation of industrial trucks, earth-moving machines, cranes and aerial work platforms, the written commissioning of the machine operators is required in accordance with the regulations of the BGVR. The written order must be issued at the construction site following the workplace-specific instruction. In this instruction, the special features of the construction site, such as special traffic routes, special rules and prohibitions, alarm plans, etc., are to be emphasized

5.3.5 Workshops

General

Workshops are events with the aim of imparting knowledge to the persons employed by the subcontractors as superiors. Workshops are generally held in the form of teaching in the classroom. The form of the workshops is not prescribed by this standard.

Workshops serve to implement important innovations on construction sites. The participants in workshops then act as multipliers within their companies, holding toolbox meetings, instructions or training sessions for employees. Workshops should only be conducted by suitable teaching staff. The participants must ensure that they are persons who are really able to push ahead with the implementation of the innovations at the subcontractors. As a rule, the site managers or foremen of the subcontractors should take part in workshops.

Frequency and documentation

A documentation of the actual execution and the contents has to take place, the documentation of the individual participants is also prescribed. The documentation must be in written form. In addition to the list of participants, proof of the teaching content taught must also be included in the documentation. As proof the form VO-36-005-01 HSE is to be used, on the form the names of the participants and the taught contents are to be noted.

Workshops can be held recurrently. The MHPS-EDE-HSE-Site-Manager or the HSE department decides about the necessity of a workshop HS.

5.3.6 Qualification matrix

The qualification matrix serves to prove the individual employee qualifications to the customer and the authorities. In order to enable automated data processing, the file of the qualification matrix VO-36-001-10 is sent to the subcontractors in electronic form. The qualification matrix must be completed by the subcontractor and transmitted to the MHPS-EDE-HSE site before the registered employees come to the construction site. Employees who do not appear in the qualification matrix are not granted access to the construction site.

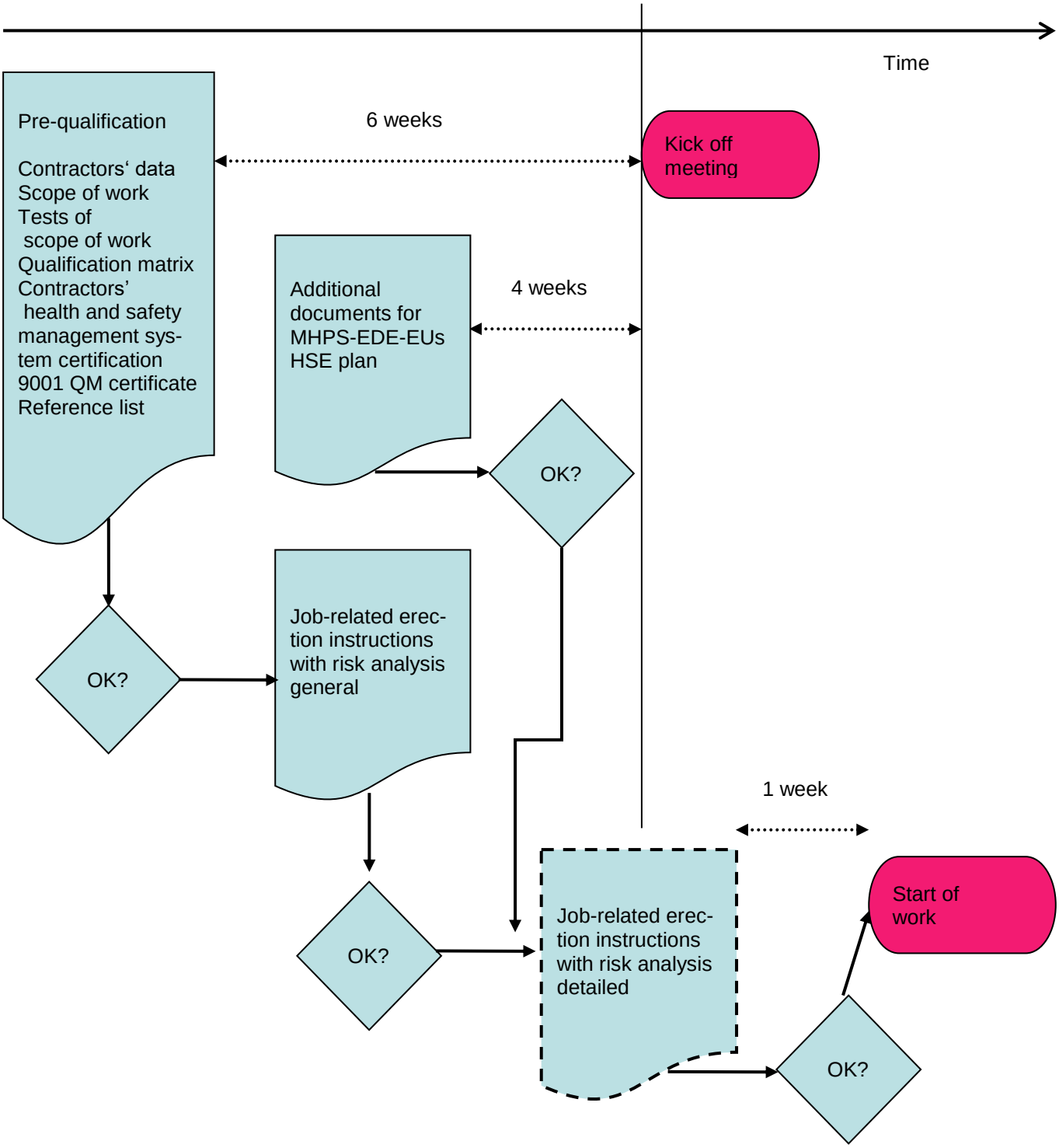
The subcontractor must allow sufficient time for the MHPS-EDE-HSE site to check the entries in the qualification matrix. The completed qualification matrix must be submitted at least 14 days prior to the arrival of the named employees on the construction site.

All entries in the matrix must be documented. Voluntary photocopies (black and white) or the original documents can be submitted for this purpose. The documents must be handed over to the MHPS-EDE-HSE site together with the data of the qualification matrix.

5.4 Performance of contract

5.4.1 Document flow before starting work

The following diagram applies to the flow of documents before starting work:



Start of work

At least 1 week before the start of the work, the contractor must send the risk assessment to the HSE Si-te manager of the construction site. An LMRA must be carried out before the start of the work.

5.5 Execution of work

All HSE-related documents, guidelines, laws, standards etc. must be complied with during work.

5.6 Finishing of work

When the job is finished, all HSE-related documents must be passed to MHPS-EDE.

5.7 Monthly HSE reports

The MHPS-EDE HSE site manager must enter the necessary data in MARSH for the monthly HSE report by the third working day of the following month. The points listed below are part of the HSE monthly report

Description	**Abbreviation**
Amount of Near Misses	NM
Amount of First Aid Cases	FAI
Amount of medical treatments	MTC
Amount of Lost Tie Incidents (>1d)	LTI
Amount of recordable Incidents	TRC
Recordable Incident frequency	TRCF
Amount of restricted work cases	RWC
Amount of commuting accidents	TA
Number of hours lost due to LTI	LD
Number of working hours of the month	MM
Number of employees on the construction site per	EM
Number of inspections	WA
Number of ratings	ASS
Number of tours of the authorities	AWA
Number of official directives	OA
Number of priority actions	MFO
Number of safety trainings	ST
Number of Toolbox Talk Meetings	STM
fires	FI
Fire damage (€)	
Number of environmental damage	ED
Environmental damage amount (€)	
Number of material damages	MD
Value of material damage (€)	
Number of warnings	W
Number of yellow cards	Y
Number of red cards	R

Furthermore, the following documents must be kept available:

- Waste management certificates for hazardous waste
- Quantity of waste broken down by month and total and by waste code

An evaluation and trend analysis of accidents and incidents is carried out by MHPS-EDE.
The summary of the following elements will also be part of the Monthly Report:

- Monthly health and safety committee meeting,
- Findings from the HSE inspections,
- weekly toolbox meetings,
- Inspection of safety harnesses, tools and equipment,
- HR topics (incl. new construction site personnel, their training, lessons learned)

The monthly report is part of the final HSE documentation and is handed over to the customer when the work is completed.

6. Obligations of the contractors

Operations necessary for the implementation of this standard.

Each subcontractor is fully responsible for the health, safety and welfare of his employees within his area of work. In the case of further subcontracting, the respective subcontractor is again responsible for the independent coordination of the work of his contractors. The further subcontracting of work to subcontractors must be approved by the main contractor. The same qualification criteria as for the main contractor must be applied. The HSE personnel of all participating companies will jointly advise on questions of safety, health and environmental protection.

All HSE-specific data such as social security numbers and work and residence permits should be passed on to the client in digital format. For emergency management, copies of identity cards or passports must also be sent to MHPS-EDE. This also serves to obtain access authorisations to the corresponding premises.

6.1 Responsibilities

If employees from several trades work at one workplace, the contractual partners are obligated to work together to implement the health and safety regulations. Depending on the work, the contracting parties are obliged to inform each other in particular about the risks and measures for health and safety at work, if this is necessary for the health and safety at work of the employees. Depending on the nature of the work, the Contractor shall ensure that the employees of the other trades involved in this area receive appropriate instructions on the dangers to their health and safety.

If subcontractors are used, the MHPS-EDE site manager on site is responsible for coordinating the various trades. HSE personnel will advise the site manager on health, safety and environmental issues. This requirement is taken into account between the MHPS-EDE managers and the contractors through the preparation of PTWs and in the various internal coordination meetings.

Each contractor is fully responsible for the health, safety and well-being of its employees in its area of work. The above paragraph applies to all contractors.
MHPS-EDE will try to separate the work of the various trades on the site. In order to minimise the risks of the different trades working at the same place at the same time, the work permit procedure will be introduced on the construction site.

The coordination of health and safety at work on site is usually carried out by MHPS-EDE.

6.2 Contractor responsible person / language skills

All work must be carried out under the direction and supervision of a responsible person on site who is authorised to represent the contractor (e.g. site manager). At the latest 10 working days before the start of the work, the contractor must give the name of the responsible person and his deputy on the construction site to the contact person responsible for implementing the order.

The responsible person and his deputy must have the necessary reliability, technical and physical qualifications as well as sufficient language skills to understand instructions given by the responsible MHPS-EDE person in the business language and to pass them on to the employees of the company so that they understand them.

If necessary for the performance of his work, the responsible person must entrust other supervisors (SV) with the administration and supervision of the work on site and pass on the names to the responsible contact person in writing before the start of work. The SV must be instructed by the person responsible as instructed by MHPS-EDE and in the same way they must be able to carry out and supervise the work (including language skills). This means that they must have the necessary technical knowledge and knowledge of safety at work.

If the responsible person uses one or more SVs, he remains responsible for their supervision, clear selection of their tasks and controlled cooperation. If an SV is prevented from performing his duties and no other SV can be used, the person responsible or his deputy must take over the tasks themselves.

The contractor must ensure by appropriate regulations that the responsible person and the delegated SVs can take over the tasks and responsibilities. In particular, they must have the necessary authority with regard to the instructions of the employees and those of the contractors. While the work is being carried out, either the responsible person, his deputy or an authorised SV must be permanently on site and within reach.

All employees of the contractors must be able to understand emergency instructions and read warnings and other notices. In addition, the contractor and his employees must be familiar with the meaning of the local safety instructions.

6.3 HSE employees of the contracting parties

6.3.1 Number of safety specialists

The number of HSE employees provided by the contractors depends on the nature of the work and the associated assessment of working conditions. The following table shows the recommended number of employees:

Employees	HSE Manager	HSE Officer
<10		0,4 [1)]
10-50		1
51-100	1	0
101-200	1	1
201-300	1	2
301-400	1	3
For each additional 100 persons over 300 or part thereof, an additional full-time HSE person will be provided.		

Employees must work full-time (except [1)]).

Depending on the results of the risk analyses and the HSE performance of the contractors, the amount of HSE employees on site may be higher or lower. The MHPS-EDE HSE site manager carries out the assessment.

MHPS-EDE has the right to demand the replacement of any HSE personnel without further costs or time extension if MHPS-EDE is not satisfied with the performance.

6.3.2 Qualification of HSE Specialists

See chapter 6.1.

6.3.3 Cooperation between Construction Site Management and HSE Specialists

See chapter 6.1.

6.4 Documents and records to be made available

6.4.1 Pre-qualification documents

Must be submitted 6 weeks before the kick-off meeting.

6.4.2 Job-related assembly instructions with the risk analysis (general)

Job-related assembly instructions with risk analysis must be submitted to MHPS-EDE 4 weeks before the start of work. The work can only begin after the documents have been checked and approved.

6.4.3 Supplementary Documents for the MHPS-EDE HSE Plan

Must be broadcast 4 weeks before the kick-off meeting.

6.4.4 Job-related assembly instructions with risk analysis (detailed)

Must be submitted 1 week before the start of work.

6.5 Reports

6.5.1 Monthly reports

The data for the monthly report (normal number of hours, events, amount of personnel, etc.) must be sent to MHPS-EDE on the first working day of the following month.

6.5.2 Reports and investigations on accidents and incidents

Information on accidents, property damage (> 1,000€) and fires must be sent immediately to MHPS-EDE as an immediate report. Reports must be generated as soon as possible (no later than 1 day) and forwarded to MHPS-EDE.

6.5.3 Notification and analysis of unwanted events

The contractor undertakes to process and analyse incidents in the MHPS-EDE statistics.

6.6 Accidents

Every accident must be recorded immediately by the responsible contractual partner and forwarded to MHPS-EDE. This document is the basis for the MHPS-EDE accident report, which is handed over to the customer and included in the statistics. It must be completed in full and, above all, contain a description of how the accident occurred as well as measures to avoid a similar accident in the future.

The contractor must immediately inform the contact person of the construction site about accidents and property damage so that MHPS-EDE can comply with local regulations and inform the authorities.

- Other incidents

The notification and analysis of other incidents will be logically used.

6.6.1 Checking the HSE records

The HSE records of the contractors (including their contractors) are randomly checked during audits.

6.6.2 Operating instructions

Necessary operating instructions will be prepared by the contractors. MHPS-EDE reserves the right to produce its own operating instructions and to introduce them as binding instructions.

6.7 Duty to instruct

HSE management systems and laws require that all contractors only employ suitably qualified, trained personnel for the work in question. This is to ensure that the work can be carried out locally, safely and without negative impact on the environment.

The contractor will demonstrate to MHPS-EDE that they have conducted the training programme in accordance with their internal health and safety management system.

At least one manager from each contractor shall participate in an HSE instruction by MHPS-EDE prior to commencing work on site.

Each contractual partner is responsible for informing his employees about the general and special construction site regulations as well as about the HSE plan of MHPS-EDE before starting the activities. Contractor's responsibility with regard to health and safety will be in writing from each contract partner to the appropriate responsible persons.

Every employee must have a valid safety passport.

6.7.1 Information and instruction

When informing his employees, the Contractor shall take the necessary precautions to ensure that his employees:

- Obtain sufficient information, especially on the risks posed by the tools, even if they do not use them themselves.
- If necessary, receive operating instructions in a form and language that they can understand. The instruction handbook shall contain at least information on the conditions of use, foreseeable malfunctions and experience relating to the too.

In the case of instructions, the Contractor shall ensure that

- Employees who use tools are adequately instructed in particular on the risks associated with these tools.
- Employees who are entrusted with carrying out repairs, maintenance and conversion work receive sufficient special instructions.

6.7.2 Trainings matrix

Before the start of the work, the contractor will take the planned briefing measures as a matrix.

6.7.3 HSE motivation

The contractor is obliged to motivate his employees with regard to correct HSE behaviour. Bonus programs and other measures are welcomed.

6.8 Restricted work places

Contractors must set up and maintain restricted workplaces for persons who are slightly injured or have limited operational capacity. These do not necessarily have to be on the construction site, it is also possible to set them up in the company office.

Contractors must introduce and operate a reintegration programme to rehabilitate those who have suffered injury or illness and to encourage their return to work. Such a reintegration program must take into account any medical restrictions or restricted working practices.

6.9 Other agreements

Outside regular working hours, at least one person from each contractor can be reached by telephone. This readiness must be announced in a notice. All HSE specific data should be transmitted MHPS-EDE in electronic form.

7. Health protection

7.1 Preventive check-ups

The contractor is responsible for ensuring that only those employees are used who have successfully undergone the currently required occupational medical check-ups. Suitability of the respective persons, as confirmed by the certificates, will be presented upon request.

Employees must be fit to take on their tasks (e.g. driving, working at heights, strenuous activities, etc.).

7.2 Heat work

All workplaces must be designed in such a way that no health hazards are created by heat, work clothing and the combination of stress. There is a risk that the heat from the body cannot be transferred to the ambient air in addition to the heat from outside.

7.3 Weather conditions

The necessary protective measures for the cold season must be determined by the respective contracting parties within the framework of a workplace-related risk assessment.

Workplaces and traffic routes must be safe and must not be slippery. They are kept free of snow and ice and adequately illuminated by the relevant contractors. MHPS-EDE is used to clear snow and illuminate public transport routes.

Stationary workplaces must also be protected from the weather and, if necessary, heated. Corresponding protective clothing will be provided to the employees by the corresponding contractors.

Tools and construction machinery are protected in such a way that they can be operated safely (e.g. ice from windscreen, release operating levers and ensure that there is no danger of slipping when climbing up and down). The motors must be operated in accordance with the operating instructions.

Frozen ground is protected against collapse (if it thaws).

7.4 Social rooms

Offices, break rooms, toilets, washrooms, showers etc. Must be available in sufficient quantities and cleaned and maintained regularly. The usual heated and/or air-conditioned office containers are used for offices. Minimum winter temperature should not fall below +19°C. The maximum temperature in summer should not exceed +26°C. For outside temperatures of more than +26°C, Section 4.4 of ASR A3.5 applies.

A minimum illuminance of 500 lx must be ensured in the offices.

Toilets must be located in the immediate vicinity of the workplaces. The number depends on the number of employees. Local regulations and laws must be observed. As a rule of thumb, 1 toilet is provided per 20 employees. This applies as long as local regulations do not require a higher number. Sufficient toilets must be kept in the boiler house.

The waste water quality will meet the requirements of the drainage system.

The first aid facilities are part of the social facilities.

7.5 Pest control

A pest control plan shall be established as necessary. Contractors will not use any materials or companies without MHPS-EDE approval. Checks are necessary here.

7.6 Smoking and vaporizing

Every employee has a legal right to a workplace free of smoke and pollutants. Smoking and steaming is therefore only permitted in the designated and approved places.

8. Occupational Safety

8.1 General

This section describes the minimum requirements for safe working on site. If local laws or regulations differ, the stricter regulation must be applied.

8.1.1 Collective protective measures

The use of collective protective measures is preferable to the use of personal protective equipment. The following hierarchy is applied when selecting protective measures:

S **S**ubstitution of risk source

T **T**echnical solutions have first priority

O **O**rganisational Measures have second priority

P **P**ersonal protective equipment may only be used if technical and organisational measures cannot be used. PPE is always the last line of defence

In principle, there is an unrestricted obligation to wear PPE at the construction site.

Work areas which represent an obstacle or a danger for third parties must be made safe by the responsible contract partner. These areas are, for example, closed off at a sufficient distance and marked with warning notices. The use of flutter tape as a barrier is not permitted.

In particular, installation work at height must be shut off at a sufficient distance and marked with warning notices. Lifting loads over traffic routes and the working areas of other contracting parties is not permitted. Such areas are closed for a short time and released again immediately after the work has been completed.

For the duration of their work in hazardous working areas, the respective contractors shall provide suitable protective equipment such as side protection, covers or barriers. These protective devices must be checked regularly and repaired if necessary. In addition, this protective device will be made available beyond the period of the respective work so that it can also be used by others. Hazardous areas must be cordoned off, marked and illuminated.

For example, stable barriers must be installed at a sufficient distance before removing covers or side guards. These barriers are only removed after work has been completed. Before removing protective devices, suitable measures must be taken against falls from a height.

Openings ≥ 0.3 m must be covered in such a way that the cover is stable enough and cannot be moved. The other way is to erect a side guard.

8.1.2 Removal pf protective measures are only allowed with approval of MHPS-EDE!!

Under certain circumstances protective equipment is provided by MHPS-EDE. The costs incurred are to be borne by the respective contractor.

8.2 Tidiness on the construction site

Order on the construction site is necessary so that safe work can be achieved. Each contracting party is responsible for order in its work area. If several contractors work in one area, and order is not sufficient in this area, MHPS-EDE can commission a third party to clean up. The costs are divided among the contracting parties.

Work areas, corridors, stairs and all other areas are to be kept free of garbage, equipment and materials. Storage areas become clean and the materials stored there are kept in order and in a stable condition. The bearing capacity of the subsoil must be taken into account.

Screws and other small parts must be stored and transported in plastic or metal containers. Storage in cardboard boxes is prohibited.

Waste containers must be placed in easily accessible locations on the construction site and used for the disposal of scrap and other waste.

Liquids and materials (e.g. paints, solvents, thinners, oils and greases) or containers containing chemicals must be disposed of in accordance with local regulations.

Transport routes must be kept free of cables and hoses. They must be fastened at a height of about 2 m, so that they are not an obstacle on the ground. S-shaped hooks are preferred.

Social rooms must be kept free of waste, packaging and dangerous substances.

Any remaining material that is no longer used is immediately removed from the work area.

The use of open fire for the disposal of waste or heating is strictly prohibited.

8.3 Storage areas and materials

The storage rooms of the contractor are marked. Each contractual partner is obliged to use only the areas allocated to him, to handle them economically and to keep them clean at all times.

If materials or storage containers of a contractor are not within the allocated area, they will be moved by MHPS-EDE Site Management at the expense of the contractor or removed from the construction site without prior warning. The contractor has to bear all costs for this.

Each storage area of the contractor must be thoroughly fenced. A sign with the name of the respective contractor and the name and telephone number of the responsible site manager must be attached.

Before material may be stored elsewhere than in the allocated areas, permission must be obtained from MHPS-EDE. Only material to cover the daily needs is brought from the warehouses to the building blocks.

Materials are stored cleanly and secured against overturning. Traffic routes and work areas are kept clear. The site management of MHPS-EDE is informed immediately about any impairment.

8.4 Storage of gas cylinders and combustible materials

This section covers all portable gas cylinders, LPG (propane, butane) containers, diesel containers, solvents and other combustible materials. All contractors are responsible for ensuring that their materials comply with the following principles:

- Gas cylinders and other gas-filled containers must be protected against mechanical, chemical and thermal influences.
- Substances which react with each other shall be stored separately (a minimum distance of 2 m shall be maintained for flammable and fire-inducing gases).
- Flammable materials are stored in adequately ventilated metallic containers marked "Flammable materials".
- Gas cylinders are stored upright and in a stable position (secured with a chain). If they use the cylinders underground, they must be fitted with a special sealing cap. It is forbidden to store gas cylinders below ground level.
- Hot work" must not be carried out near flammable materials or fuels.
- A suitable fire extinguisher must be kept near storage areas containing combustible materials or fuel.
- All gas cylinders, temporary installations and containers containing flammable or toxic materials must be marked with the owner's name.

All gas cylinders and other hazardous substances must be stored in defined areas.

8.5 Construction site coordination

As a rule, MHPS-EDE is responsible for the coordination of the entire construction site. In accordance with the site rules, MHPS-EDE will provide an HSE coordinator to create and update the HSE file.

8.6 Permit to Work System (PTW-System)

The work permit system is used to monitor work that is considered potentially hazardous. In addition, close cooperation is guaranteed between the site management and the personnel carrying out the work.

A work permit is only issued if a risk analysis has been carried out before the start of the work. MHPS-EDE will determine what kind of work requires a work permit before the start of the work on site. Normally, work permit certificates are required for the following types of work:

Construction works
excavation
Construction phase

- hot work
- Work in confined spaces, also in boiler supports
- X-ray works
- Working with danger of falling
- crane works
- pressure test
- Openings
- Working with access equipment

Commissioning

The following tasks require a PTW:
Cold commissioning (without equipment)
Hot commissioning (with operating materials and plant components prepared for operation)
Optimization of the plants / test run of the plant components

Test run of the plant
Acceptance test (inspection of guaranteed quantities)
A complete list of the work requiring a permit is provided by the site regulation or by MHPS-EDE.

Work permits are valid for the specific work at a specific location for the specified time for the specified persons carrying out the work. The work permit is held at the place of work and is shown on request. After the work is finished, the work permit is returned to the responsible person of the contractor. Any misuse of the work permit system will result in disciplinary action and may result in a ban from the construction site.

Part of the PTW system is the LOTO procedure.

This procedure is required when construction, commissioning, servicing, maintenance or modifications are performed on or near equipment where the unexpected power supply or commissioning of the equipment or the release of stored energy could result in personal injury.

8.7 Temporary Equipment

Temporary equipment is equipment that is removed during or after the construction phase.

8.7.1 Heating and ventilation

For temporary equipment the same regulations apply as for standard equipment..

8.7.2 Potable water supply

For the potable water supply, the same rules apply as for the standard units.

8.8 PPE standards

8.8.1 Protective equipment

Personal protective equipment must meet the requirements of European Directive 2016/425 on PPE, have a CE mark and be in good condition. Personal protective equipment, basic equipment:

- Safety helmet with chin strap (EN 397) (observe helmet marking obligation!).
- Suitable eye protection (EN 166 F)
- Work gloves (EN 420, EN 388)
- Safety footwear (EN 20345 S3, ankle-high)
- Warning protection clothing (EN 20471 class 2)
- Flame retardant and antistatic protective clothing with long sleeves and long trousers (EN ISO 11612 and EN 1149-5)

In addition, protective clothing in accordance with EN ISO 11611 Class 2 must be provided for welders.
Chemical protection against liquid chemicals must be carried out according to EN 13034.
The PPE catalogue for MHPS-EDE employees is given in Chapter 8.8.1 of this HSE Plan (Preference List of PPE). The necessity to wear other personal protective equipment for a specific job (e.g. noise protection, skin protection, respiratory protection) results from the respective risk assessments and / or work instructions of the contractual partners.

The operative employees of the contractor must wear one-piece or two-piece work clothing.

Suitable full protective masks must be worn for grinding and cutting work.

Hearing protection must be offered from 80 dB(A) and must be worn from 85 dB(A).

The contractor must provide the necessary personal protective equipment for his employees and check that it is used and maintained correctly.

In special cases, MHPS-EDE can provide the necessary personal protective equipment. All costs incurred will be charged to the respective contractor.

Persons working with or next to mobile machines must wear tight-fitting work clothing so that it cannot get caught in the mobile parts of the machine. Clothing splashed with oil, paint, thinner, solvents, etc. should no longer be worn. It must be removed from the skin and then replaced immediately

8.8.2 Harness

As a general rule, the use of the safety harness is only permitted as an exception and for a short period of time. A suitable technical measure has priority. The required attachment points must be determined by the supervisor/foreman. The personnel will be suitable and trained in the use of safety harnesses. During the duration of the work a constant supervision of the working personnel is necessary.

8.8.2.1 Harness with:

- restraint system
- collection system
- rescue system

They must comply with EN 795. The safety harnesses must be inspected regularly by a qualified person. This inspection must be documented (inspection sticker and inspection certificate). Damaged safety belts must be withdrawn from further use.

Only safety harnesses with double safety lines or self-retracting safety lines are permitted on site.

Markings with solvent-containing pins (edding etc.) are not permitted, as these can attack and damage the fabric of the safety harness. The manufacturer's instructions and safety instructions must be followed here.

8.8.2.2 Anchor points

When lanyards are used, only correct anchor points, preferably overhead, may be used to attach the lanyards.

8.9 Working in confined spaces

Possible risk factors include suffocation by toxic gases, vapours or lack of oxygen, sediments, slippery or bulky material, various fixtures, explosion hazards, electrical voltages, radiation, detergents, etc.

The definition of "enclosed space" used in this context is characterised by one or more of the following characteristics:
Access is often only possible with special equipment or
lack of Oxygen or
accumulation of hazardous or explosive gases, or
The temperature is higher or lower than under normal circumstances or
In some cases, accumulations of hazardous substances may be found in confined spaces, or
storage tanks, silos, reaction tanks, pipelines, drain pipes, etc. or
Unventilated rooms, depending on the circumstances of the current work or
boiler stanchions
Isolating transformers or protective low voltage must be used for electrical work in closed rooms.

All enclosed spaces must be clearly marked so that they are not entered by unauthorised persons. Working in enclosed spaces is associated with special risks for every employee.

One week before the start of work, the contractor must submit the risk assessment / work instructions in order to obtain the corresponding work permit.
The work permit for narrow rooms is only valid for the duration of one shift and must be renewed by the shift leader. The permit must be placed next to the entrance to the confined space together with a list of the workers employed there (entry list).

A rescue concept for the specific case must be made available before work begins and rescue equipment must be available.
Before and during work, the atmosphere of the confined space must be checked for oxygen content and for toxic and flammable gases.

If someone gains access to an enclosed space, a guard post shall be stationed at the entrance to the confined space. The contractor shall ensure that communication between persons is possible at all times. The guard shall not be instructed to engage in any other activity that could distract his attention from the person concerned.

All staff must be given comprehensive training in working in confined spaces. In addition, regular rescue exercises must be carried out.

Ditches meeting the criteria for confined spaces shall also be treated as confined spaces.

8.9.1 Boiler stanchions, boiler, DENOX

Working alone in boiler supports, in the boiler or DENOX is generally prohibited.

An isolating transformer or safety extra-low voltage must be used for electrical work. The work permit for confined spaces must be used.

As a rule, a clearance measurement is not required if it is ensured that no accumulation of pollutants can take place. A safety belt must be worn. Safety / evacuation equipment must be kept available and used in case of an emergency. The rescue of an accident victim must be possible at any time.

8.10 Hot works

All contractors must provide adequate fire protection measures. Fire protection must be comprehensively regulated in the contractor's HSE Plan.

Each contractor shall maintain its own fire extinguishing facilities in its construction site facilities and work areas in accordance with local regulations. Fire extinguishing equipment from MHPS-EDE may only be used in an emergency situation. Emergency telephones must be available on site.

All fire extinguishers are regularly inspected and labelled in accordance with local regulations. The position of the fire extinguishers must be indicated by signs.

The employees will be trained in the handling of fire extinguishers and other extinguishing equipment by the respective contract partner on the premises.

Alarms are tested at regular intervals.

If necessary, a fire watch will be specified in the work permit. For hot work with a low fire risk, an executor can also assume the role of fire watch. Fire watchmen must be specially trained. The fire watch remains in place at all times. After the hot work has been completed or the fire has been extinguished, the fire watch shall remain at its post for the time specified in the work permit.

Traffic, rescue, escape and emergency exits must be kept clear at all times.
Highly flammable materials may only be stored in small quantities.

Places where flammable gases or materials are used or stored must be suitably marked and suitable fire extinguishers must be provided. Flammable materials or gases must be stored separately. If this is not possible, a sufficient distance (min. 2 m) must be maintained between the materials. The storage area must be continuously ventilated.

For all hot work such as welding, flame cutting, grinding, casting, steel shot blasting, etc., procedures to prevent fires and explosions must be available. The following safety rules apply:

Employees must have a valid work permit (PTW) before starting work.
If required by the type of workplace, welding blankets must be used to reduce the risk of fire from flying sparks.
An approved fire extinguisher must be available at the workplace.
Gas and oxygen hoses must be in good condition and checked for defects before use.
Gas and oxygen cylinders may only be present at the workplace if they are required for the activity.
Gas and oxygen cylinders must be positioned in such a way that they are protected from falling over, e.g. by a chain, and cannot be hit by falling objects. They must be accessible at all times and be quick and easy to remove in the event of a fire.
Acetylene and propane gas cylinders must be equipped with a flame arrester.
At the end of work or at the end of his shift, the operator must inspect his workplace for possible fire hazards. The gas cylinders must be closed. Hoses and burners must be depressurised. The spindles of the pressure reducers must be closed and the electric welding equipment must be switched off.

8.11 Cleaning self-contained systems

The cleaning procedures (e.g. rinsing, pickling and blowing) are specified by MHPS-EDE prior to application. Only chemicals registered in the REACH database may be used.
In addition, the rinsing and waste water resulting from pickling is to be disposed of in accordance with the MHPS-EDE regulations.

8.11.1 Pickling

Pickling is a chemical surface cleaning process prior to commissioning. It removes residues and enables a controlled build-up of a protective layer. Typical steps of the pickling process are for example:

- Pre-rinse with deionised water
- Flushing with a surface-active medium
- Rinse with deionised water
- Heating of the system
- Dynamic acid treatment
- Replacement of acid and rinsing
- alkaline treatment and passivation

In addition to hydrofluoric acid, other substances such as hydrochloric acid are also used. The use of hydrofluoric acid should be avoided and only used where there is no alternative. Depending on the type of process, the use of additional temporary installations should be planned. Liquid chemicals are usually supplied in 1000 l IBCs. The floor should be flat and sufficiently load-bearing. Due to the hazard, an alarm plan must be drawn up in advance. This alarm plan is to be communicated to the executors, the first aiders and the paramedics.
The necessary waste water basins for pickling must be fenced off. The pickling basin must be equipped with exit aids (ladder, rope) and at least 2 rescue belts.

8.11.2 Blowing

Blowing out is a process to remove foreign bodies from the system components. It is used to protect turbines that are very sensitive to foreign bodies. The steam is passed at high pressure through the pipe system and associated parts. In general, the area around the boiler or the entire boiler house and areas in front of the connection openings will be considered risky and blocked. Safety measures must be maintained until cooling is complete. Silencers should be considered. In general, a sound pressure level of more than 120 dB (A) will be possible. Hot steam can fail as mist in the environment. Clouds can be coloured with paint residues or corrosion protection.

8.12 Civil engineering and excavation work

8.12.1 Excavation works

Excavation work is covered by the construction site work permit system.

Infrastructure documentation for underground facilities such as cables, pipes, etc. must be available at the site. In addition, the exact position and condition of these cables must be checked in advance. In consultation with MHPS-EDE, a hazardous substance register and a test for explosive ordnance must also be carried out. If hazardous substances or explosive ordnance are suspected, measures must be taken to ensure that nobody comes into contact with them.

Excavation pits and trenches must be secured or closed off with side guards.

Earthworks near underground pipelines and exploration trenches should be carried out manually.

If the trench reaches a depth of more than 1 m below ground level, the walls must be chamfered and an access must be created. The distance between the different trench entrances should not exceed 20m. Access to the trench is then only allowed through the access.

In the case of sloping trenches, a qualified person must check the condition of the trench lining after rehabilitation, frost or after a long work break.

Excavations must (if necessary) be protected against the ingress of groundwater (e.g. by the use of pumps).

If a trench with vertical walls and a depth of more than 1 m is required, the employees must be protected by prefabricated protective walls.

A protective strip of at least 0.6 m must be built at the upper edge and kept free of excavated material and unused materials. If the trench is not deeper than 0.8 m, the protective strip must only be on one side.

If the earthworks are carried out with mechanical equipment, the working area must be determined and properly marked. For inclined trenches, an excavator must maintain at least the following distances from the trench:
Up to 12.0 t total weight at least 1.0 m
Between 12.0 t and 40.0 t total weight at least 2.0 m

8.12.2 Drilling and piling

Drilling and piling work is covered by the construction site work permit procedure.

Infrastructure documentation for underground facilities such as cables, pipes etc. must be available at the construction site. In addition, the exact position and condition of these cables must be checked in advance. In consultation with MHPS-EDE, a hazardous substance register and a test for explosive ordnance must also be carried out. If hazardous substances or explosive ordnance are suspected, measures must be taken to ensure that nobody comes into contact with them.

The position and impact of groundwater, surface water, etc. must be considered to avoid accidents and pollution. Noise generated at work should be kept to a minimum.

All materials, especially reinforcing steel, must be stored in a safe manner to avoid injury

8.13 Electrical works

8.13.1 Electrical equipment

Mobile electrical devices must be inspected regularly by an electrician to ensure that they are in good condition. Mobile electrical equipment must be inspected before use and periodically thereafter. Inspection intervals are approximately three months. The contractor is responsible for determining the inspection intervals. The intervals must be reduced in the event of heavy use.

1 year is the approximate value for the inspection interval for stationary electrical systems and equipment.

If the tested device has been evaluated as faultless and has a label for this purpose, the test is considered passed. The test reports must be kept on site and, if necessary, shown MHPS-EDE.

The user must visually inspect all mobile electrical devices and, in principle, all tools to determine whether there are any detectable defects.

Electrical tools must be insulated and have a CE mark. After completion of the work, all electrical devices and machines must be switched off.

8.13.2 Power supply

The power supply may only be installed by a qualified electrician and must comply with local regulations. Electrical equipment may only be used with a residual current circuit breaker.

The condition of cables and electrical devices must always be faultless. Special measures must be taken to protect electrical equipment from mechanical damage and moisture.
The light profile of traffic routes must always be kept free of cables.

Plug connections must be made with suitable connecting devices that cannot be accidentally pulled out or disconnected. The maximum permissible length of the required extension cable to the workstation must not exceed 50 m. The maximum permissible length of the required extension cable to the workstation must not exceed 50 m.

The inspection intervals specified by the risk assessment, the legislator or the manufacturer must be observed. Inspection records must be handed over to MHPS-EDE

8.13.3 Illumination

Temporary lighting may only be installed by a qualified electrician. In accordance with the regulations, the light sources must be bright enough to allow safe working in dark parts of the building or in the dark. Cables must be laid in a safe manner so that they cannot be damaged. The risk of tripping must be avoided. Cables must not be laid in water and must generally be kept dry. They are hung on hooks at a height of at least 2 m so that nobody can trip or that the cable could be damaged by a vehicle.

Traffic routes and higher areas are normally illuminated by MHPS-EDE. Work areas and traffic routes in the contractor's own work area must be illuminated by the respective contractor.

8.14 Noise protection and reduction

Measurements:

When the lower triggering level of 80 dB(A) is reached:

- instruct personnel
- Provide hearing protection

When the upper triggering level of 85 dB (A) is reached:

- Establishment of a noise protection programme with technical and organisational measures
- Marking and, if necessary, separating noise areas. For example in workshops or construction machines and their control platforms.
- Ensure that hearing protection is worn by employees

8.15 Steel works

Determine the attachment points for the use of safety harnesses

- Permanently installed safety equipment
- Individual attachment points
- Lifting slings with horizontal guide

This must comply with EN 795, particularly with regard to strength and edge protection.

8.16 Construction site office containers

The same conditions apply here as in the offices of MHPS-EDE or the contractor (e.g. fire extinguishers, testing of electrical devices and systems, fire loads, etc.)

8.17 Cranes and crane operation

Before starting the crane work on the construction site, each contractor must submit an installation plan for his crane, including the size, installation location and slewing radius as well as a PTW for crane work. Cranes may only be erected and operated if this plan has been approved and a work permit issued. Before a crane can be used, all forms regarding the qualification and suitability of the crane operator and crane as well as the lifting equipment must be provided.

The various cranes are coordinated by the MHPS-EDE Crane Coordinator. The contractor in question must make his own crane coordinator available for his own work if more than one crane is used or complex lifting procedures are carried out. Before starting work, a priority rule for the cranes must be provided and agreed with all parties involved.

If there is more than one crane on site, they must be assigned unique numbers. In addition, communication between the individual cranes must be possible, e.g. by radio. The respective frequency is specified by MHPS-EDE. The crane drivers must be able to communicate with each other in a language they all know.

Crane drivers must be trained for their work in accordance with local regulations and be able to prove this with certificates. They must be ordered and instructed in writing by the respective contractor.

All cranes must meet the requirements of local regulations. Evidence of inspection intervals and installation and functional tests must be kept on site. It must be possible to inspect the inspection records on site. After each crane has been assembled, a copy of the relevant crane record MHPS-EDE must be submitted.

Driving on loads and staying under suspended loads is strictly prohibited.

When lifting or carrying out lifting operations, the area must be secured (e.g. by chains, fences).

The lifting equipment must be in good condition and marked with the most important characteristics. The lifting equipment must be inspected every working day to ensure that it is in good condition. In addition, the hoist must be inspected by a qualified person at least once a year, depending on the conditions of use. The test reports must be kept on site and, if necessary, shown MHPS-EDE.

Damaged chains or hooks must be removed from the site immediately. The hook lock must be operational at all times. Ropes must be checked for broken wires, kinks, crushing and breaking points. Only the correct lifting equipment may be used.

If necessary, spreaders and / or edge protectors must be used to protect the chain hoist or load from damage.

For extensive lifting operations, a detailed lifting plan must be agreed in advance with MHPS-EDE.

For work with cranes at a distance of less than 10 m from each other, the approval of the MHPS-EDE construction supervisor must be obtained in advance.

Lifting work may only be carried out up to wind force 6. In addition, the crane operator is responsible for stopping crane work as a result of weather conditions. Downtimes must be documented.

Wind force	Average wind speed during 10 minutes, 10 meters above the ground or sea level	Meaning

	m/s	Km/h	Dynamic pressure [N/m^2]	Impact ashore	Impact of shore
0	0.0 – 0.2	0.0-0.7	0-0.03	still air	Smooth sea
1	0.3-1.5	1.1-5.4	0.06-1.4	Light train	Very calm sea
2	1.6 – 3.3	5.8-11.9	1.6-6.8	Light breeze	Light movement at sea
3	3.4 -5.4	12.2 – 19.4	7.2-18.2	Weak breeze	Light movement at sea
4	5.5-7.9	19.8-28.4	18.8-39	Strong breeze	Lightly moving sea
5	8.0-10.7	28.8 – 38.5	40-71	Fresh breeze	Moderately turbu-lent sea
6	10.8 – 13.8	38.9 – 49.6	73-118	Strong wind	Fairly agitated sea
7	13.9 – 17.1	50-61.5	121-182	Stiff Wind	Rough sea
8	17.2 – 20.7	61.9-74.5	184 -267	Stormy wind	High sea
9	20.8-24.4	74.9-87.8	270-371	tempest	Heavy sea
10	24.5-28.4	88.2-102.2	375-502	Heavy storm	Very heavy sea
11	28.5-32.6	102.6-117.3	509-662	hurricane-like storm	Stormy sea
12	>32.6	>117.3	>662	hurricane	Extremely stormy sea

Table 1: Wind force table

8.17.1 Rigging

Only persons with special training are allowed to work as riggers. The qualification must be proven. They must be identifiable by a vest. The riggers must be equipped with a whistle to warn with it. Crane operator and Rigger must speak the same language. Visual or radio communication is necessary,

When the loads are attached, it must be ensured that the load does not exceed the dynamic and/or static capacity of the hoist. It is forbidden to apply a sideways load to a chain. Therefore it is also forbidden to use the chain as a sling by attaching the chain hooks around the chain.

8.17.2 Man baskets

Basically, the transport of persons with man baskets must be avoided. A work permit is required for the use of a man basket.

8.17.3 General construction hoists / goods lifts

Construction hoists and freight elevators are subject to the Industrial Safety Ordinance. It is forbidden to transport people and this must be indicated by a warning label. An annual inspection must be carried out and the test reports must be kept on the premises.

8.18 Machinery, tools and equipment

Contractors may only use equipment and machinery which:
Comply with the Directive on the use of work equipment (95/63/EEC) and
In a working condition.
Only diesel-powered machines and systems are used in buildings which are equipped with an effective diesel particulate filter or which discharge their exhaust gases completely to the outside. Preferably electrically operated machines and equipment should be used.

Machines and electrical installations will comply with the following directives:

Directive 2006/42/EC and its amendment with regard to machinery,
Directive 93/68 / EC and its amendment with regard to low voltage,
Directive 89/336 / EC and its amendment with regard to electromagnetic compatibility.

They must have a CE mark and a European certificate of conformity. All test certificates must be kept on site in accordance with local regulations.

Contractors must ensure that equipment and tools are in good condition and are used only for their intended purpose. Any machine that could present a hazard due to rotating toothed pulleys, axles, drive belts, pulleys, saw blades, etc. must be provided with stable protective covers. Tight working clothes must be worn.

When using angle grinders in particular, make sure that all handles (preferably vibration damping handles) and safety devices (catching basket) are fitted. All angle grinders must be equipped with a dead man's switch and a kick back stop. If no vibration-damping handles are available, vibration-damping gloves must be used. It is mandatory to wear ear, face and eye protection (visor and safety glasses) when working with the angle grinder. This also applies to people who are in the vicinity.

Machines and tools must be inspected at regular intervals, before use and regularly thereafter. An approximate value of three months for the inspection intervals is valid. They should be inspected for visible defects before each use. They must be colour coded to verify the current inspection status.

Machinery, equipment and installations must be stored in an appropriate manner when not in use.
If the maintenance of the machine carries the risk of injury, this work may only be carried out when the machine is switched off and locked (LOTO). This may be ensured by using a protective lock. Special areas for maintenance work must be available. Inspections, maintenance and repairs may only be carried out by qualified personnel.

Work with machines such as hoists, tow ropes, rams etc. may only be carried out under the supervision of security guards.

If work is carried out at a height (e.g. on scaffolding, working platforms, roof edges), all machines, equipment and accessories must be protected from falling by the use of suitable safety measures (e.g. safety rope).

Grinding machines must be equipped with effective safety devices. Wearing ear, face and eye protection during grinding work is mandatory. This also applies to people who remain in the vicinity of grinding work.

Tools should not be dropped or thrown from one place to another or from one person to another. When tools are lifted from one level to another, suitable means must be used (e.g. buckets on a leash).

For pneumatic tools, the on/off switch must be arranged in such a way that the machine cannot be switched on unintentionally. Air hoses for these devices must be properly secured.

Tools actuated by gunpowder may only be used in accordance with the legal regulations and recommendations of the manufacturer. The manufacturer's instructions for use will be kept on site for inspection. Such equipment must be stored safely to prevent misuse.

Unused cartridges must be safely protected from misuse. Dud bombs and burnt-out cartridges must be collected and disposed of in an appropriate manner. A PTW is required for the use of gunpowder operated tools.

8.18.1 Fork lift trucks

All forklift drivers must be trained to operate the vehicle. The license must be submitted before work begins. Forklift drivers must be instructed and named in writing by the contractor.

If a forklift is not used, the forks must be lowered to the ground so that no one can trip over them. The engine must be switched off and the key removed. No unauthorized person may operate forklift trucks.

All forklift trucks must be inspected by an authorized person at regular intervals and must comply with local laws. The inspection report must be kept on site.

Persons must not be transported on forklift trucks.

8.18.2 Mobile working platforms (mobile working platforms, mobile scaffolding)

Mobile working platforms must be erected and used in accordance with the manufacturer's instructions and the assembly instructions.

Mobile working platforms may only be assembled, dismantled and converted under the supervision of an authorised person. Workers must be technically qualified and specially trained for this work.
Mobile working platforms must be inspected by an authorised person before use. They may only be used on a stable surface.

Mobile scaffold towers manufactured from components of a scaffold system must be inspected and their usability verified.

Essential elements of a safe scaffold are:

- Only elements from one manufacturer may be used.
- The covering must comply with the manufacturer's assembly and use instructions.
- Structurally stable internal access hatches must be available.
- Bridging between mobile work platforms and buildings or components is not permitted.
- The use of lifting gear is prohibited. Exception: The instructions for installation and use expressly permit this.
- A 3-part side guard must be provided on each working platform

Essential elements for safe application are:
The permissible load is observed.
Mobile scaffolds are only moved slowly and on a level and obstacle-free surface that can support the weight.
The rollers with brake lever are tightened after the unit has been moved.
Avoid any impact.
Move in longitudinal or diagonal direction only.
Before moving, make sure that no loose parts can fall down.
Don't jump on the surface.
No persons are standing on the rolling tower while it is being moved.
If a storm is imminent (more than wind speed 6) and mobile working platforms must be locked after the end of the work so that they cannot fall over.

8.18.3 Mobile working platforms (working platforms)

All mobile MEWP operators must be trained to operate the vehicle. The licence must be submitted before work begins. Operators of mobile aerial work platforms must be trained by the
Contractor in writing and named.

All mobile aerial work platforms must be inspected by an authorised person at regular intervals and must comply with local laws. The inspection report must be kept on site.

Mobile MEWP users must use a safety belt.
The mobile MEWP must be equipped with a sign with the following information:
Name of the contractor
Person responsible
Phone number of the responsible person

8.18.4 Earth moving machinery

All earth-moving machine operators must be trained to operate the vehicle. The licence must be submitted before work begins. Earth-moving machine operators must be ordered and named in writing by the contractor.

If an earth-moving machine is not used, the installation must be placed on the ground so that nobody can trip over it. The engine must be switched off and the key removed. No unauthorized person may work with earth-moving machines.

All earth-moving machines must be inspected by an authorised person at regular intervals and comply with local laws. The inspection report must be kept on site. Persons must not be transported with earth-moving machines.

8.18.5 Winches, lifting and pulling equipment

All winches, lifting and pulling equipment must be inspected by an authorised person at regular intervals and comply with local laws. The inspection report must be kept on site.

The operators of winches, lifting and pulling equipment must be suitable and trained to carry out the operation. He is responsible for selecting suitable attachment points.

8.18.6 Hand tools

Stop using damaged hand tools immediately and repair them properly.
Do not carry loose sharp tools in the pockets of your work clothes.
The use of knives is prohibited, other suitable tools must be used instead.
Make sure that you are at the correct working height, on a stable surface and have sufficient space for movement.
When working at height with hand tools and small parts, safety ropes must be used.

8.19 Shut down

Safety measures must be taken when shutting down systems, equipment and their parts. These should prevent the machine from being switched on again accidentally. This means, for example: setting padlocks on main switches, using lockable switch boxes, setting locking discs. Reference is made to the LOTO procedure (XXXXXXXXXX).

8.20 Working at height

8.20.1 Scaffolds

All materials for the scaffolding and the qualification requirements of the scaffolder and his workers must comply with the requirements of local regulations.

The scaffolder is responsible for the safe erection and dismantling of the scaffold. The user of the scaffold is responsible for the safe maintenance and use of the scaffold.

Scaffolding may only be erected by suitable professional persons. The work must be supervised on site by a sufficiently qualified, authorised person (competent person). If personal protective equipment against falls from a height (safety harness) is used, additional training / exercises are required.

A plan for the erection, modification and dismantling of the scaffolding (assembly instructions) must be drawn up based on the manufacturer's instructions for erection and use. This must be carried out by the responsible scaffolder or an authorised designated person.

This plan must be available to the supervisor. Workers must be informed.

The contractor responsible for the erection of scaffolding must have the scaffolding inspected by an authorised person after assembly according to a plan for the erection, modification and dismantling of the scaffolding (assembly instructions).

The responsible contractor using the scaffold must have the scaffold checked for operational safety by an authorised person before it is used for the first time to ensure that it is suitable for use.

Scaffolds must be registered with the MHPS-EDE Scaffold Coordinator before being erected. The MHPS-EDE Scaffold Coordinator keeps a Scaffold Logbook with the following data:

- locality
- erection date
- release date
- Inspection date (usually weekly)
- date of dismantling
- scaffold number

The scaffolding book should be kept in electronic form.

The scaffolding contractor's system was to serve as the basis for the electronic scaffolding book. The data should be compared once a week between the scaffolder and MHPS-EDE.

The basic elements of a safe scaffold are: Stability, rigidity, anchoring, 3-part side protection, if necessary fall protection on the inside with internal side protection or plates, as far as possible complete planking, corner protection, accessibility, if necessary provide protective scaffold, if necessary protection against falling parts.

The scaffolds must be approved and marked by the scaffold builder (scaffold tag). Acceptance for use must be confirmed in writing by the scaffold user on the scaffold day. Areas that have not been completed must be blocked. Unmarked scaffolds will not be used.

8.20.2 Usage of ladders

In principle, the principle of "stairs in front of ladders" applies. The use of ladders must be kept to a minimum. Ladders may only be used for a short time to bridge the gap between the small differences in height.

Ladders may not be used as workstations. Before each use, check that a ladder is the best and safest way to reach the temporary workstation or work area. In some cases, for example, a mobile scaffold may be the better solution.

All ladders must be kept in good condition. The rungs must be securely fastened. Damaged ladders must be replaced or removed immediately. All ladders must be inspected by authorized personnel at regular intervals. The written inspection book must be kept on site. Ladders must be securely erected and secured against slipping. The correct angle of attack and the correct position of the user must be checked regularly. The ladder must protrude at least 1 m beyond the exit area (landing zone).

Metallic ladders must not be used for electrical work.

Unused ladders must be removed.

Ladders may not reach higher than 7 m and must be provided with foot extensions. Stain and hot liquids must not be transported over ladders.

8.21 Fall protection

8.21.1 Side protection (railing) - Barriers

Fall protection in the form of side protection (railing) or barriers is required for:
Irrespective of the drop height at workplaces at or above water or other solid or liquid substances in which you can sink

Irrespective of the height of fall on traffic routes at or above water or other substances in which you can sink
On stairs and landings, on wall openings and control stands for machines and their accesses with a vertical drop height of more than 1.00 m
workplaces and traffic routes on roofs with a vertical drop height of more than 3.00 m
At all other workplaces and traffic routes with a vertical drop height of more than 2.00 m
For concreting work and work on windows with a vertical drop height of more than 5.00m

8.21.1.1 Railing dimensions

Handrails and middle rails must be fixed in such a way that they cannot be removed unintentionally. The toe boards (skirting boards) must not tilt. Without static proof, the following spans can be used for handrails
With a span of 2.00 m boards with minimum dimensions of 15 x 3 cm
With a span of 3.00 m boards with minimum dimensions of 20 x 4 cm or Ø 48.3 x 3.2 mm steel tube or Ø 48.3 x 4 mm aluminium tube.
Toe boards (skirting boards must protrude at least 15 cm above the floor covering). Minimum thickness 3 cm.

8.21.2 Fall protection

The side protection at the fall edge can be dispensed with at workplaces and traffic routes on surfaces with an inclination of less than 20 degrees, if at least 2.00 m from the fall edge is firmly blocked with handrail, chains or ropes but not with flutter tape.

The side protection at the fall edge can be dispensed with in the case of workplaces and traffic routes on roofs with an inclination of less than 22.5 degrees and an area of less than 50 m² if the work is carried out by technically and physically suitable and specially instructed personnel. The edge of the fall must be clearly visible to the workers.

Side protection or barriers may only be dispensed with if they cannot be erected for technical reasons, e.g. when working at the corner and if catching devices (safety scaffolding, roof safety scaffolding, safety nets, protective walls) are available instead. Safety lines may only be used if the catching devices are disproportionate.

The supervisor will determine the stopping mechanisms and ensure that the safety belts are in use.

8.21.3 Working on roofs / above each other

When working on the roof, the material of which the roof is made must be determined before starting work. It is therefore necessary to assess whether safe work can be carried out on the roof. If necessary, a fall protection system (e.g. side protection, fall restraint systems) must be installed in order to create a proper workplace. A safe entrance and exit to the roof must be guaranteed.

If the work on the roof involves a fire hazard or exposes combustible materials, the risks involved must be assessed in the risk assessment.

Work on top of each other must be avoided and, if this is not possible, reduced to a minimum. If work on top of each other cannot be avoided, warning signs must be installed on the floor indicating the dangers of this work. If necessary, the area must be secured with a fixed barrier. Warning signs must then also be placed here.

8.22 Radiographic examinations

Radiographic examinations generally require a work permit. The work is coordinated by the HSE coordinator / permit manager.

All official regulations regulating the use, storage and handling of a radiation source must be complied with.

The handling of radioactive materials is only permitted if the corresponding handling permits have been issued in the name of the contractor and a copy of the notification has been sent to the radiation protection officer of the construction site. Only officially recognised specialists may directly handle radioactive materials.

Contractors who handle radioactive materials must inform MHPS-EDE and the responsible radiation protection officer at least one day in advance in writing of the location and time of the work. Before welding seam inspections are carried out, the radiation protection commissioner responsible must check whether safety-relevant EMR measuring instruments can be influenced in the neighbourhood.
Locations where radioactive radiation sources are used must be marked and secured.
Site specific regulations must be observed.

Material tests with X-rays or gamma rays are carried out either outside normal working hours or, if possible, in special areas to which unauthorised persons have no access.
A detailed description of the procedure, including a risk analysis, must be provided by the contractor carrying out the work, indicating the working procedures, the equipment used and the safety zones and special protective measures. This document must be submitted to the competent authorities.

The proposal and documents must be submitted to MHPS-EDE one week before the start of the work.

The storage of radioactive material on the construction site is prohibited.

This authorisation to carry out the above work does not replace the basic requirements for legal authorisation in accordance with the conditions of the X-ray and radiation protection regulations.

8.23 Fire and explosion protection

The contractors are responsible for checking whether sufficient fire protection measures have been taken in their working areas. The subject of fire protection shall be dealt with in detail in the contractor's HSE plan.

In accordance with local laws, each contractor must provide its own fire extinguishers in its work and storage area. MHPS-EDE fire extinguishers may only be used in emergencies.

In accordance with local regulations, fire extinguishers must be regularly inspected and marked. The locations of the fire extinguishers must be marked with signs.

The employees must be trained in the handling of fire extinguishers and other extinguishing equipment by the respective contractors on the premises.
A work permit is required for hot work.

If necessary, a fire guard will be specified in the work permit. For hot work with a low fire risk, an operator may act as a fire watch. Fire guards must be specially trained. The fire watch must be present at all times. After the hot work has been completed or the fire has been extinguished, the fire watch remains at its post for the time specified in the work permit.

Traffic, rescue and escape routes must be kept clear at all times.

Highly flammable material may only be stored in small quantities.

Places where flammable gases or materials are used or stored must be suitably marked and suitable fire extinguishers must be provided. Flammable materials or gases must be stored separately. If this is not possible, a sufficient distance (min. 2 m) must be maintained between the materials. The storage area must be continuously ventilated.

Areas with a gas hazard may only be entered by authorized personnel. To enter the area, permission must be requested from the MHPS-EDE HSE office.

After a fire or other event, MHPS-EDE may perform its own analysis. All contractors involved must participate in this investigation if the HSE Manager so requests.

8.23.1 Fire protection and fire fighting

The contractor is responsible for compliance with fire protection laws and regulations and the fire protection regulations of the construction site.

The local fire brigade is called in at the necessary speed for all preventive fire protection measures and hazard prevention.

8.23.2 Fire drills

Fire drills should be carried out at least twice a year.

8.23.3 Fire prevention measures

Preparation of a fire protection plan (with locations of extinguishing agents)
Close off danger points, look for sources of ignition, if necessary appoint a fire watch.
Store flammable materials separately from gas cylinders or pressure tanks.
Store flammable and oxidizing gases separately.
Extinguishing media: sand, water, fire blanket, fire extinguisher (portable).
Only use suitable fire extinguishers.
Place fire extinguishers in an easily visible and accessible location. Have them checked and serviced regularly.
Attach operating instructions to fire extinguishing systems.
Train personnel in the use of fire extinguishers. Carry out fire drills on site if necessary.
Fire extinguishers must be inspected by an expert every two years to ensure that they function all the time.

8.23.4 Equipment for fire fighting

Workplaces must be equipped with fire extinguishers in accordance with local specifications.

Fire extinguishers are procured, operated and tested in accordance with local regulations and generally accepted codes of practice. Deviations are permitted if the same level of safety is ensured by other means. Misuse of fire extinguishing systems is strictly prohibited and will result in disciplinary action.

8.23.5 Reporting chain

Every fire and every explosion must be reported immediately to the construction site by the MHPS-EDE reporting chain, stating the exact location (e.g. inform the local fire brigade). The available fire-fighting resources must be used and traffic routes must be kept clear until the fire brigade arrives.

The alarm plan must be published.

8.24 Hazardous substances

8.24.1 Pollutants

The construction industry uses a wide range of materials such as cement, paints, detergents and adhesives. Some of these materials can have harmful effects on health and the environment. However, if they are handled with care, and if the possible risks are taken into account, the risk of damage can be kept to a minimum. Special training will be given to all people who handle such substances and use the working procedures will be especially carefully examined. All residues or unused hazardous substances must be removed from the site when they are no longer required.

All contractors are obliged to check in advance whether substances delivered to the site are potentially harmful to health or the environment. All hazardous substances and their quantities must be listed, together with the possible risks (in terms of storage, use, spillage, release, waste products, etc.). The relevant safety data sheets must be included. The list must be handed over to MHPS-EDE before the start of the work with the corresponding safety data sheets and operating instructions. The import, storage, replenishment or use of hazardous substances must be approved by prior agreement.

Only hazardous substances that fall under the REACH regulations (EC No. 1907/2006) may be used. Carcinogenic or mutagenic substances may not be used on the construction site.

Each hazardous substance must be clearly labelled with at least the following information: Name of the substance, hazard symbol, hazard description and recommended safety measures, manufacturer or supplier. A copy of the safety training of the employees will be attached.

In addition, the contractor must in any case ensure that the personnel and other persons have only the lowest possible contact with dangerous substances, whether by inhalation, swallowing, touching, etc. The contractor must also ensure that the personnel and other persons have only the lowest possible contact with dangerous substances. Hazardous substances must be replaced by less hazardous substances if possible. If this is not possible, they should be isolated by limiting the number of employees who come into contact with them. As a rule, careful handling and continuous monitoring by supervisors is mandatory.

In addition, all hygiene rules at work, such as not eating, drinking or smoking, avoidance of skin contact, separate storage of contaminated clothing and generally special care in handling them, must be followed.

Dangerous goods must be transported in accordance with the applicable regulations.

A drip tray for liquids must be used. The contractors are responsible for informing MHPS-EDE immediately of any release of chemicals, oils, fuels, solvents, acids, pickling agents, etc.. In case of danger (fire, environmental damage) the internal emergency number must be called immediately (XXXXXXXXXXXX).

8.24.1.1 Asbestos

During the renovation of old neglected facilities (e.g. a building demolition) of unknown quantity and size, appropriate protective clothing / chemical protective clothing of the corresponding category must be selected in advance by a risk assessment.

8.24.2 Storage of hazardous substances

The relevant technical rules such as stack height, stockpile condition etc. must be observed.

Temporary storage of waste without the use of container systems (e.g. on unpaved open areas) must be coordinated with MHPS-EDE. The storage areas must be secured. Contamination of the soil, the surrounding soils and drains must be excluded. The storage area must be specified by the contractor together with MHPS-EDE.

All gas cylinders and other hazardous substances must be stored in special areas.

8.24.3 Explosives

All relevant regulations must be observed for the storage of flammable and explosive substances of any kind and gas cylinders.

Storage locations outside the locations must be determined by the contractor.

A warning "Attention gas cylinders" must be attached to the entrances of workshops and other closed rooms. In addition, a message with the floor plan of the building or the surroundings and the indicated positions of the gas cylinders must be attached next to the doors.
Gas cylinders may only be transported with their respective lids. Cylinders must be secured during transport and storage.

8.24.4 Ozone depleting substances (ODS) and fluorinated gases

All on-site equipment containing ozone-depleting substances and fluorinated gases must be registered. Service and repair work on these devices may only be carried out by personnel qualified and trained in accordance with local ODS qualifications and fluorinated gas regulations.

9. Site safety

9.1 Site access

9.1.1 Access and egress

Entrances and exits are monitored by an external security service, which is contracted by MHPS-EDE. The construction site may only be entered and left with the personal ID card of the employee via the normal entry points of the construction site. The access points to the construction site must be kept clear at all times. Persons are prohibited from entering areas or locations without valid permission. Access control to the construction site is recorded.

ID cards are personal documents and may not be forwarded to other employees. Non-compliance with this regulation leads to a permanent reference to the construction site for both employees.
The mandatory PPE (safety helmet, protective shoes, goggles and safety vest) must also be worn when entering the site. The way from the gate or the car park to the offices is usually a PPE-free zone.

The site must be completely enclosed by a fence and regular security checks will be carried out. The fence as well as the gates will also be monitored by cameras. The recordings are kept for at least 14 days and can only be checked by authorized personnel.

The instructions of the security personnel must be followed at all times.

In case of expected unauthorized entry, all gates will be closed immediately.

In the event of public demonstrations or blockades, persons on the construction site must tolerate the deprivation of liberty.

Photographing on the construction site is forbidden without permission.

9.1.2 Access control

The employees of the company must be registered in writing by MHPS-EDE two weeks before the start of work on the construction site.

When entering the site for the first time, a personal ID card must be applied for to gain access to the site. The basic information that must be submitted to apply for an ID card is as follows:

- company's name
- Surname
- first name
- date of birth
- photo
- Duration of stay at the construction site
- Copy of page no. 7 (personal data) of the personal security passport (only accepted with a photo)

In addition, at least the following documents must be submitted in copy to MHPS-EDE:

- Copy of the social insurance certificate (A1 form)
- Copy of passport or identity card
- Copy of the SCC certificate (Doc. 17 or 18). SCC certificates according to Doc. 16 are not accepted.
- Residence Permit
- work permit

After applying for the ID card, a safety-related site briefing (initial briefing) must be carried out. After successful completion of the initial instruction, the ID card is issued. The ID card must be worn clearly visible at all times, unless this impedes personal security.

Delays caused by the missing handover of the documents entitle MHPS-EDE to make reasonable claims for damages. These additional documents are necessary so that the legally compliant processing on the

construction site can be proven to the relevant authorities and this information does not contradict the GDPR.

9.1.3 Visitors

All visitors must also undergo initial training to gain access to the site. They will be issued with a visitor badge.

All visitors must also wear the required PPE at the construction site. If only the offices are visited, there is no need to wear PPE.

Visitors must be accompanied at the construction site. The person visited is responsible for the visitor, in particular for correct safety behaviour.

9.1.4 Safety Precautions

Taking and taking alcoholic drinks and drugs on the construction site is strictly prohibited.
If persons are suspected of being under the influence of alcohol or drugs, they must be sent to the security service or a doctor and tested for alcohol and if the result is positive for alcohol or drugs, they must be immediately removed from the construction site. They must be accompanied home or to the hotel / accommodation. The responsibility for this lies with the employer or his/her superior.

Unannounced alcohol and / or drug tests must be carried out. Everyone must take this test or can be expelled from the construction site.

Access to the site must be denied to any person who refuses an alcohol and/or drug test. Alcohol and / or drug tests can also be performed by the client.
Firearms or other weapons in any form whatsoever are prohibited and may not be brought to the construction site at any time. Failure to comply with this requirement must result in disciplinary action, reporting and/or legal action.

Family visits are prohibited.

Animals are forbidden on the construction site.

Incidents relating to safety issues must be reported daily by the safety officer to the site manager

9.2 Traffic

9.2.1 Construction site traffic

The MHPS-EDE Site Manager must be notified in writing of the delivery of material at least 24 hours in advance.

Private vehicles are not allowed on the construction site and must be parked outside. All vehicles of the contractor must carry the company name, telephone number and the responsible person. The entry permit must be attached to the windscreen so that it is clearly visible.

Material and equipment transported on the truck must be secured according to the rules. Material such as soil, sand, waste, etc. must be covered before leaving the site. Material hanging out must be marked with a red flag.

Vehicles/trucks are registered at the entrance by the security service.

All persons and vehicles entering or leaving the construction site as well as the objects and materials they may carry with them may be searched by the security service.

Motorized machines must not be left unattended during operation. If work is interrupted or stopped, the machine must be switched off and the ignition key removed.

9.2.2 Traffic routes

The dimensions of the access routes to the MHPS-EDE work area or designated work area shall be sufficient to ensure that no obstacle emanates from or for other vehicles. Where possible, crossings shall be made. It must be possible to manoeuvre and reverse trucks and vehicles with trailers without risk. Reverse driving must be avoided as far as possible. In principle, a suitable guide or assistant must be used. Traffic routes must be clearly marked.

All access routes must be kept in good condition. Traffic routes must not be blocked by waste, materials, cable routes or other obstacles. Particular attention must be paid to the appropriate routing of power cables. Running over unprotected cables is not permitted.

Ditches, shafts and holes in the ground must be covered in accordance with regulations with a fixed corner that cannot be moved, or they must be closed off at a sufficient distance from them. The edges of traffic routes on construction sites, on roofs, in buildings or on work platforms must be provided with side protection or blocked.

Work areas and traffic routes in the contractor's areas must be illuminated and regularly inspected.

Dust formation must be kept to a minimum. In order to prevent the formation of dust on roads and paths in our construction phase, water is blown up if necessary. Dry sweeping is not permitted. If necessary, the surfaces must be wet cleaned or vacuum cleaners must be used. If possible, rainwater should be used. Flooding by rainwater must be avoided.
Access roads and internal roads must be protected from damage. Any dirt is removed immediately. Any pollution must be reported to MHPS-EDE.

Traffic on construction roads must not be obstructed or endangered by temporarily stored materials and construction machinery.

MHPS-EDE must be informed immediately of traffic disruptive measures (for example, construction work on road surfaces such as canal work, the installation of platforms for the platform to lift people, cranes, scaffolding) to ensure public safety.
Roads shall be constructed in such a way as to avoid any risk of impact or unfavourable route design. In the planning phase, it must be taken into account that the footpaths and the traffic routes are built separately and in such a way that no employees are endangered.

9.2.3 Escape and rescue routes

Escape and rescue routes, like emergency exits, must be kept clear at all times. Emergency exits that can also be blocked from the outside must also be marked.

Lifts are not part of escape and rescue routes. In the event of an alarm, the lifts are not used for evacuation. In the event of an alarm, elevators should preferably travel to the ground floor and stop there with the doors wide open.

Escape routes must be clearly and permanently marked in an easily visible place. The marking must indicate the direction of escape. Escape routes must be designed in such a way that the width is sufficient for the number of persons employed there. All escape route signs shall be photoluminescent. All escape route signs must comply with DIN ISO 7010 or DIN 4844-2 or ASR A1.3.
In an emergency, smoke can make it difficult to recognise the escape route signs above, so markings such as arrows should also be placed on walls and stairs in the floor area.

If it is not ensured that escape routes can be used safely in the event of lighting failure, emergency lighting must be installed.

An escape and rescue plan must be drawn up for those areas where the workplace or location requires it. This is e.g:
if the escape route is complex;
when a large number of people are not familiar with the area;
in high-risk areas;
Escape and rescue plans shall be displayed in sufficient number in suitable locations.

9.2.4 Special transports

For the special transport of bulky or heavy goods as well as hazardous substances, the contractor must inform MHPS-EDE in advance about the road conditions and the necessary safety measures. In particular, attention must be paid to narrow places, passage heights, superstructures (e.g. pipe bridges) and control lines and power cables.

Accompanying personnel must be applied for in advance by MHPS-EDE in order to carry out and secure special transports (e.g. construction site safety, safety at work, etc.).

9.2.5 Traffic regulation

On the construction site and in the outdoor car parks, all road users are subject to the Road Traffic Regulations (RTR Road traffic regulation).

In particular, all vehicles and machines must be in a safe operating condition at all times. Always check your vehicle for damage before use. During the journey it must be ensured that all doors are closed and that the load is secured.

Driving vehicles is only permitted if the driver is qualified, medically fit, not overtired or under the influence of medication, alcohol or drugs.

The use of mobile phones or walkie-talkies is only permitted if a hands-free kit is used. The talk time should be reduced to a minimum.

The maximum speed is 20 km / h, unless otherwise specified. Speed checks must be carried out randomly. Any violation of speed limits or other traffic regulations will result in disciplinary action.

All vehicles on the construction site must be fitted with safety belts.

Rail traffic has the right of way in principle. Track crossings are not marked separately.

The railway operations manager must be informed of all restrictions on free space.

9.2.6 Driving and parking of vehicles

Access to the construction site or to a defined site may only be gained via traffic routes provided for this purpose. Vehicles may only be parked where they do not obstruct or block the flow of traffic, railway tracks, fire brigades, fire extinguishing equipment (e.g. hydrants), emergency exits, entrances or exits.

In the event that its vehicle blocks one of the aforementioned devices and is not removed in time, MHPS-EDE reserves the right to remove this vehicle at the expense of the person who parked the vehicle.

9.2.7 Working in the track area

Work in the track area may only be carried out after prior consultation with MHPS-EDE and approval by the Head of Rail Operations.

A sufficient safety distance from the outer edge of the rail must be observed if it is necessary to stop and park near the rails.

The free space of the tracks must be ensured at all times.

Contractors must inform their employees of special hazards, including all associated precautions, in the track area.

9.3 First Aid

MHPS-EDE must organise a central first aid unit. In addition, each contractor must ensure that it has sufficient and appropriate first aid material in accordance with local legislation.

In accordance with local legislation, each contractor must designate a certain number of first responders to be presented to MHPS-EDE. The contractor shall ensure that first responders are trained at regular intervals to meet this requirement. These persons will participate in the site rescue exercises.

Number of employees	Amount of first aiders	Presence
< 21 Employees	1 First Aider	Full time
>20 Employees	10 % of the present workforce	Full time
>100 Employees per shift	1 additional paramedic	Full time

Any injury must be recorded and handled by qualified personnel and recorded in the site's association manual. Every first aid case must also be reported to the MHPS-EDE HSE Site Manager and recorded in MARSH.

In an emergency, everyone is required to provide first aid. In addition, the necessary rescue measures, such as calling the fire brigade or an ambulance, must be carried out. MHPS-EDE must be informed immediately.

9.3.1 First Aid Station

The first aid station managed by MHPS-EDE must be equipped with adequate medical care (e.g. adequate first aid equipment, automated external defibrillator (A-ED), stretcher).

The first aid station must be staffed by a trained paramedic during the entire working time and can be visited free of charge for minor injuries. The first aid station is located directly next to the main entrance.

9.3.2 Medical treatment

Medical treatment must be provided by nearby hospitals or specialist doctors. The telephone numbers must be published by the emergency plan

9.3.3 Construction site rescue team

Depending on the size of the site, there is usually a site rescue team. The site rescue team consists of a full-time paramedic (usually from the first aid station) and a security guard. They are equipped with at least one rescue backpack, a stretcher and a radio link to the main gate.

In the event of a medical emergency, the site rescue team will be informed through the main gate (after receiving the emergency call) and will then drive to the scene (or nearest available point). Depending on the type of emergency reported and the alarm plan, external ambulances will also be informed. Meanwhile the main gate will inform the MHPS-EDE Site Management about this incident.

9.4 Emergency planning

9.4.1 General

MHPS-EDE is responsible for the basic escape and rescue plan and will supplement it with the assessments for the specific work area. The escape and rescue plan must be constantly virtualized. The contrac-

tors' managers must be informed of the specifications and updates. All personnel must be informed of this by their superiors through briefings.

Each contractor will appoint a manager to deal with escape and rescue planning issues. A deputy arrangement must be made. In the event of an evacuation, this person will ensure that everyone is at the collection point. He will also start the first aid measures and help the construction site rescue team. All managers will participate in exercises.

In case of emergency, all personnel must follow the instructions of the rescue service. Escape and rescue planning must be disclosed by MHPS-EDE when construction begins and must be agreed with contractors.

Each part of the emergency equipment shall be clearly and appropriately marked.

Emergency telephones must be provided in the lifts and on the safety islands on the site and on several floors in the stair tower.

9.4.2 Safety stations

Several special security islands must be set up on site. At these safety islands, staff will find the basic equipment in the event of an emergency. This will include an emergency telephone, first aid equipment, an emergency stretcher, basic fire-fighting equipment and the escape and rescue plan on which the site is marked.

These safety islands shall be located outside the buildings, clearly marked and the location specified on the escape and rescue plan.

9.4.3 Alarm / Test Alarm

A test alarm must be performed at regular intervals by MHPS-EDE. When the alarm sounds, all people must switch off their machines and other equipment, check the gas cylinders, etc. and then proceed to the specified collection points. These are special points on the construction site in a safe area and clearly identified by signs. There their name is read to get an overview of the number of missing persons. You must pay attention to the people who did not hear the alarm. The person responsible for emergency planning for the individual contractors must determine who is present at the collection point and who is missing. In order to ensure complete evacuation, a list of all people on the construction site must be handed over to the fire brigade by the security guard.

After the evacuation, MHPS-EDE and the contractual partners must discuss and record in writing possible improvements to the evacuation procedure.

Several test alarms are also carried out after prior notification of the contractor. These test alarms serve to test the equipment and therefore the work does not have to be stopped.

Evacuation exercises must be carried out in accordance with local regulations. These evacuation exercises do not need to be announced and are organised and monitored by MHPS-EDE emergency numbers.

9.4.4 Emergency numbers

The emergency numbers for

- the local fire brigade
- Fire, accident, danger
- workplace safety and
- environmental protection

will be recorded in the emergency plan on the construction site and the contractor will inform his employees thereof.

9.4.5 Reporting chain in case of emergencies

The following must happen when an emergency telephone call is made:

- call and say it's an emergency or an incident, or
- inform the control room of the construction site where the work is to be carried out
- WHEN did the incident occur?
- Indicate the location where the emergency or incident occurred, e.g. street, building, side of building, floor or hallway.
- describe WHAT has happened, e.g. accident or fire, gas, water hazard
- describe the situation, e.g. details of the number of injured, type of injury, rescue required
- indicate the position of the escort
- Specify WHO is calling, specify name and phone number from where the call is being made.
- stay on the phone until the message is understood and confirmed
- WAIT if you have any questions.

Further procedures can be added at the operational level.

9.4.6 Actions in case of an incident

In the event of an event (z emergency, dangerous situation, malfunction) the following action must be taken: An orientation aid can be found in the escape and rescue plans for the danger area:

- Stop all work immediately
- Switch off all electrical appliances (implements; heaters)
- Switch off ventilation systems
- Close windows and doors
- Immediately leave the danger area - if gases and smoke are present, transverse to the wind direction
- use the safety devices for this purpose
- go to the specified collection points
- make sure everyone's there, notify the fire department.
- follow the instructions of the supervisors
- Keep emergency exits free
- Keep exits, stairs, emergency exits and fire extinguishers clear
- Do not use lifts
- Vehicles park on the right side of the street and leave the key inside (in countries with left-hand traffic on the left side of the street)
- Switch off the engine and lights on the vehicle.
- keep cool

The instructions of those responsible for regulatory and safety tasks must be followed. Stopping or walking or driving through blocked areas (blocked with bars or barrier tape) is strictly prohibited. Violations can be punished by construction site reprimands.

9.5 Rescue from height

For the following events:

- Rescue and securing of injured people at height
- first aid at the scene of the accident
- fastest possible transport on the ground, for example
- Rescue from the boiler supports by getting out and abseiling on the outside,
- Rescue from the boiler supports by draining inside the support to the next manhole and then evacuating via trusses and bridges to the elevator,
- Rescue of installation sites outside the boiler supports by abseiling,
- Rescue by crane or person handling equipment etc.

a rescue team is required for rescue at height.

10. Environment protection

10.1 General rules for environment protection

The Contractor shall comply with the relevant environmental protection laws and regulations (e.g. Emission Control Act, Waste Management Act and Water Resources Act).

Special requirements must be recorded in writing or recorded by the environmental protection officer of MHPS-EDE or the authorised representative. The regulations of the emergency and hazard plans of the companies must be followed.

MHPS-EDE must be informed about all work that may have an impact on the environment.

MHPS-EDE keeps a register of environmental aspects and impacts (EAI - Register) for all work that could have an impact on the environment. Particular attention should be paid to the following points:

- Handling environmentally hazardous materials
- air pollution
- Discharging into water bodies, waste water
- Soil and water protection
- soil contamination
- waste management
- Use / consumption of energy, raw materials and natural resources
- Release of energy, e.g. in the form of heat
- Noise release (on construction sites)
- odour release
- release of vibrations
- Start-up and shutdown activities
- Consideration of disturbances
- Consideration of emergencies (emergency stop)

Precautions must be taken to prevent environmental pollution (e.g. air, noise, water, earth). MHPS-EDE must be informed of all unforeseen events that have an impact on the environment.

All parties concerned must minimise the impact on the environment through the use of environmentally sound working methods, substances and mechanisms.

- Noise nuisance should be kept at a low level
- dust nuisance must be kept at a low level
- an increase of the traffic volume is to be kept small by an extensive logistic planning in the apron
- The amount of waste has to be kept as small as possible, there has to be a strict separation of waste.
- Contamination must be avoided, the original condition must be restored after contamination.
- large effects (e.g. air pollution) should be avoided

MHPS-EDE must inform the customer immediately. In the event of environmental pollution, the correct preventive measures must be taken to solve the problem, if necessary with the help of a specialist company.

10.2 Public safety and environment protection

Where there is a risk to the public from falling parts, transport operations, pollution or tripping hazards, etc., these areas must be secured. In addition, the MHPS-EDE site manager must be informed immediately.

In case its substance, which is dangerous for the environment, has been spilled, the MHPS-EDE Spill Response procedure must be applied.

10.3 Protection of local vegetation

If there is a risk that the local vegetation will be affected by the work processes, MHPS-EDE must be given timely permission to do so.

Each contractor must inform MHPS-EDE in advance about the environmental requirements for soil, water, vegetation, animals, etc.

10.4 Disposal, storage and recycling of waste

The contractor shall draw up a disposal and recycling plan for the disposal of waste. MHPS-EDE has XXXX as a contractual partner for waste disposal.

As much waste as possible should be recycled. Therefore, for example, waste wood, paper and cardboard are to be fed into the paper industry, mineral waste is to be used for road construction, mixed waste is to be further treated by XXXX and residues of combustible substances are to be incinerated. Waste must be separated accordingly. The containers must be marked according to the type of material that can be disposed of.

The contractor must obtain information from MHPS-EDE about the existing waste management systems on the construction site. The disposal of waste owned by the contractor is the obligation of the contractor, unless otherwise contractually agreed.

The normal disposal must be proven to MHPS-EDE. The corresponding certificates (disposal certificates, export certificates, etc.) must be submitted to MHPS-EDE on request. MHPS-EDE reserves the right to check the contractor's waste before it leaves the construction site. The handling of waste must be carried out in accordance with the applicable statutory provisions.

Waste disposed of by MHPS-EDE must be treated in accordance with the MHPS-EDE regulations. The contractor is prohibited from taking waste from MHPS-EDE. Illegal disposal of waste on site will be punished. The responsible person shall bear the costs of disposal.

10.5 Waste with a risk potential

Storage of combustible waste, oily cloths and combustible materials is only permitted in the designated areas and after consultation with MHPS-EDE.

These waste containers must be marked accordingly.

10.6 Avoidance of water pollution

If there is a risk that local waters or groundwater may be affected by the work, the permit must be obtained in good time before the start of MHPS-EDE.

Process water must be treated in accordance with contract conditions, local laws and MHPS-EDE environmental guidelines. Waste water quality must comply with the requirements of the drainage system.

Each contracting party informs itself in advance at MHPS-EDE about the environmental protection requirements for soil, water, vegetation, animals, etc.

10.7 Sewer system

The discharge of substances (e.g. solid waste, waste, solvents) into water or sewage systems is strictly prohibited.

Construction site-specific regulations are observed.

10.8 Refuelling of construction vehicles

When refuelling construction site vehicles, the regulations of the site must be observed, in particular the ban on smoking and open flames.

When refuelling vehicles, it must be ensured that no fuel gets into the ground, the terminal or the water.

Petrol stations for private consumption and containers of flammable liquids must be marked, approved, set up, secured and secured by MHPS-EDE in accordance with the applicable regulations.

10.9 Soil protection

If there is a risk that the soil will be affected by work processes, permission must be obtained from MHPS-EDE in good time before work begins.
All storage devices and containers must be built on a solid base, e.g. appropriate foundations. In accordance with local regulations, liquids must be stored in a collection tank designed for the quantity of liquids.
Each contractor supplies material for neutralising and absorbing hazardous substances.

10.10 Dust pollution

The corresponding areas (e.g. roads) are moistened to avoid dust nuisance.

10.11 Mineral dust

Before starting work, it must be determined whether mineral dusts are released during the work. The contractor can start the activity after the risk assessment has been carried out, the necessary precautions have been taken and a work permit has been issued.
The following topics are to be considered:

1. 1. determination of the dust-loaded work areas or activities
2. 2. determination of material and activity information,
3. 3. risk assessment
4. 4. defining preventive measures
5. 5. checking the effectiveness of preventive measures
6. 6. documentation

Suitable respiratory protection must be provided by the contractor.

11. Referenzdokumente

11.1 Mitgeltende Vorgaben

Normen / Regelwerke	Bezeichnung
ArbSchG	Arbeitsschutzgesetz
ArbStättV	Arbeitsstättenverordnung
ASIG	Arbeitssicherheitsgesetz
ASR A 4.3.	Erste Hilfe
ASR 47 1-3,5	Waschräume
ASR 48	Toilettenräume auf Baustellen
ASR A 4-4	Unterkünfte
ASR A2.2	Maßnahmen gegen Brände

Baustellenordnung des Kunden	
BetrSichV	Betriebssicherheitsverordnung
BetrVG	Betriebsverfassungsgesetz
BGI 607	Stehleitern
BImSchG	Bundes-Immissionsschutzgesetz
DGUV Grundsatz 308-001	Ausbildung und Beauftragung der Fahrer von Flurförderzeugen
DGUV Grundsatz 309-003	Auswahl ,Unterweisung u. Befähigungsnachweis f. Kranführer
DGUV Information 112-194	Benutzung von Gehörschutz
DGUV Information 201-011	Handlungsanleitung f. den Umgang mit Arbeits-/Schutzgerüsten
DGUV Information 203-001	Sicherheit bei Arbeiten an elektr. Anlagen
DGUV Information 203-005	Auswahl u. Betrieb ortsveränderl. elektr. BM nach Einsatzbereich
DGUV Information 203-006	Auswahl u. Betrieb elektr. Anlagen auf Bau-Montagestellen
DGUV Information 203-070	Wiederholungsprüfung ortsveränderlicher elektr. Betriebsmittel
DGUV Information 204-001	Anleitung zur Ersten Hilfe
DGUV Information 204-006	Erste Hilfe
DGUV Information 208-004	Gabelstaplerfahrer
DGUV Information 208-016	Handlungsanleitung für den Umgang mit Leitern und Tritte
DGUV Information 208-019	Sicherer Umgang mit fahrbaren Hubarbeitsbühnen
DGUV Information 209-012	Kranführer
DGUV Information 209-013	Anschläger
DGUV Information 209-021	Belastungstabellen für Anschlagmittel
DGUV Information 209-058	Schweißtechn. Arbeiten mit Chrom- und Nickel Zusatz- und Grundwerkstoffen
DGUV Information 209-061	Gebrauch v. Hebebändern und Rundschlingen aus Chemiefasern
DGUV Information 211-041	Sicherheitskennzeichnung am Arbeitsplatz
DGUV Information 212-019	Chemikalienschutzkleidung bei der Sanierung von Altlasten
DGUV Information 212-024	Gehörschutz
DGUV Information 213-001	Arbeiten in Behältern und engen Räumen
DGUV Information 213-521	Leitern sicher benutzen
DGUV Information 214-009	Gestaltung von Sicherheitsräumen, Sicherheitsabständen und Verkehrswegen bei Eisenbahnen
DGUV Information 215-210	Natürliche und künstliche Beleuchtung von Arbeitsstätten
DGUV Regel 100-500	Betreiben von Arbeitsmitteln
DGUV Regel 101-005	Hochziehbare Personenaufnahmemittel
DGUV Regel 109-003	Tätigkeiten mit Kühlschmierstoffen
DGUV Regel 109-005	Gebrauch von Anschlag –Drahtseilen
DGUV Regel 109-006	Gebrauch von Anschlag-Faserseilen

DGUV Regel 112-198	Benutzung von PPE gegen Absturz
DGUV Regel 113-004	Arbeiten in Behältern und engen Räumen
DGUV Vorschrift 1	Grundsätze der Prävention
DGUV Vorschrift 3	Elektrische Anlagen und Betriebsmittel
DGUV Vorschrift 38	Bauarbeiten
DGUV Vorschrift 54	Winden Hub und Zuggeräte
DGUV Vorschrift 6	Arbeitsmedizinische Vorsorge
DGUV Vorschrift 68	Flurförderfahrzeuge
DGUV Vorschrift 70	Fahrzeuge
DGUV Vorschrift 73	Schienenbahnen
DGUV Vorschrist 77	Arbeiten im Gleisbereich
DIN 18211	Temporäre Konstruktionen für Bauwerke
DIN 4124	Baugruben und Gräben
DIN 4420	Arbeits- und Schutzgerüste
GefStoffV	Gefahrstoffverordnung
KrWG	Kreislaufwirtschaftsgesetz
TRBS 1201	Prüfungen von Arbeitsmitteln und überwachungsbedürftigen Anlagen
TRBS 2121 Teil 1	Gefährdungen von Personen durch Absturz - Bereitstellung und Benutzung von Gerüsten
TRBS 2121 Teil 4	Gefährdungen von Personen durch Absturz – Heben von Personen mit hierfür nicht vorgesehenen Arbeitsmitteln
TRBS2121	Fahrgerüste
TRGS 519	Asbest ,Abbruch, Sanierungs- oder Instandhaltungsarbeiten
TRGS 521	Abbruch, Sanierungs- oder Instandhaltungsarbeiten mit alter Mineralwolle
TRGS 528	Schweißtechnische Arbeiten
TRGS 559	Mineralischer Staub
VBG 9a	Lastaufnahmeeinrichtungen im Hebezeugbetrieb
VBG-R 513	Innere Reinigung von Wasserrohr Dampferzeugeranl. + Rohrleitungen
VerpackV	Verpackungsverordnung
WHG	Wasserhaushaltsgesetz

Die genannten Vorgaben erheben keinen Anspruch auf Vollständigkeit

11.2 SDA / Standard-Vordrucke

Dok-Nr.	Bezeichnung
VO-306-001-01	Unterweisungen
VO-306-001-02	SGU Aktionsplan
VO-306-001-03	Baustelleneröffnungsgespräch

VO-306-001-04	Baustellen – Checkliste
VO-306-001-05	Stellenbeschreibung HSE-Officer
VO-306-001-06	Stellenbeschreibung HSE-Manager
VO-306-001-07	aufgabenbezogene Montageanweisung mit Risikoanalysen
VO-306-001-08	Liste der Subkontraktoren
VO-306-001-09	Besprechungsprotokoll
VO-306-001-10	Qualifikationsmatrix
VO-306-001-11	Betriebsanweisungen BLAU Maschinen und Arbeitsverfahren
VO-306-001-12	Betriebsanweisungen ROT Gefahrstoffe
VO-306-001-13	Stellenbeschreibung 1. HSE-Officer
VO-306-001-14	Aufgabenteilung FBL und HSE
HPES-306-002	UMSETZUNG BaustO
VO-306-002-01	ANZEIGEFORMULAR
VO-306-002-02	Verwarnung
VO-306-002-03	Verweis GELB
VO-306-002-04	ROT sofort
VO-306-002-05	Kontoauszug
HPES-306-003	Permit System
VO-306-003-01	Schachterlaubnis
VO-306-003-02	Arbeitserlaubnis für Heißarbeiten
VO-306-003-03	Befahrerlaubnis
VO-306-003-04	Freigabe zur Druckprobe
VO-306-003-05	Arbeitserlaubnis für PAM

VO-306-003-06	Arbeitserlaubnis für Krane
VO-306-003-07	Erlaubnis einer Bodenöffnung
VO-306-003-08	LMRA
VO-306-003-09	Erlaubnis Durchstrahlungsprüfung
VO-306-003-10	Erlaubnis für Arbeiten in der Höhe
VO-306-003-11	Erlaubnis Hubarbeitsbühne
VO-306-003-12	Fotografiererlaubnis
HPES-306-004	Gerüstprocedere
VO-306-004-01	Gerüstbuch
VO-306-004-02	Gerüstfreigabeschein
HPES-306-005	Schulung der Subunternehmer
VO-306-005-01	Teilnehmerliste
VO-306-005-02	Schulungsmatrix Subkontraktor
HPES-306-006	Erstellung von Gefährdungsbeurteilungen
VO-306-006-01	Rundschreiben
HPES-306-007	Gefährdungsbeurteilung
HPES-306-008	Ausgabe von PPE
VO-306-008-01	Form Ausgabe von PPE
VO-306-008-02	PPE Katalog
HPES-306-009	HSE Dokumentation auf Baustellen
VO-306-009-01	Auflistung der HSE- Dokumentation auf Baustellen
HPES-306-010	Projektspezifische Anpassung der Dokumente
VO-306-010-01	Anpassung

HPES-306-011	Personalanmeldung und die erforderlichen Unterlagen
VO-306-011-01	Anmeldung für Besucher
VO-306-011-02	Personalerfassung
HPES-307-003	Ergänzende Bedingungen HSE
VO-307-003-01	Übertragung von Unternehmerpflichten
HPES-309-001	Berichtswesen
VO-309-001-01	Alarmplan
VO-309-001-02	Unfalluntersuchungsbericht
VO-309-001-03	Sicherheitsalarm
HPES-000-02	Umweltschutz
VO-000-02-01	Abfallbilanz
VO-000-02-02	Wasser
VO-000-02-03	Energie
VO-000-02-04	Papier und Toner
Betriebsanweisungen	
	Baustelle
BA001	Zugangsregelung UHA während Durchstrahlungsprüfung
BA002	Absturzgefahr von Bühnen und Laufstegen
BA003	Schweiß-, Schneid-, Löt- und Trennschleifarbeiten
BA004	Aufstellung von Kleinteillagerkästen
BA005	Benutzung eines Auffangsystems gegen Absturz
BA006	Benutzung von Gehörschutz im Lärmbereich
BA007	Witterungsbedingte Sperrung und Freigabe von Arbeitsbereichen

BA008	Strahlenschutzanweisung
BA009	Arbeiten bei Schnee Eis und Frost
BA201	Salzsäure >25%
BA202	Salzsäure >37%
BA203	Natronlauge
BA204	Eisen-III-Chlorid
BA205	Chlorbleichlauge 1
BA206	Ammoniakwasser
BA207	Heizöl
BA208	Wasserstoff
BA209	Antifouling RoClide DB20
BA210	Organosulfite
BA211	Praestol A3040L
BA212	Kalkmilch
BA213	Nalco 7385
BA214	Natriumbisulfit
BA215	Branntkalk