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#### 1. Purpose

Work and visits in and near Sydkraft Hydropower AB (SHP) facilities must not cause damage to people, environment, or the facility.

# 2. Responsibility, roles and obligations

Every employer must work systematically with work environment, environment and follow the laws that apply and must be able to report this to the client (SHP).

- The employer is obliged to provide the right personal protective equipment and ensure that its own staff has the necessary skills.
- The employer's responsibility also includes carrying out sufficient protective measures, planning the work and carrying out supervision of premises, machines, and equipment, as well as being responsible for equipment being approved and inspected.
- The foreign contractors who carry out work at SHP facilities must follow the special rules that exist for them.
- The person who hires staff has work environment responsibility for them.

# 2.1. Coordination Officer (SOA)

SHP, as the owner of the facility, is responsible for the work environment and coordination at the workplace according to the Work Environment Act and relevant regulations from the Swedish Work Environment Authority's Constitution (AFS).

- In SHP facilities, coordination responsibility can be arranged in operation and maintenance agreements.
- For projects, the coordination responsibility may be arranged by an external party.
- SOA coordinate and control work carried out inside the operating fence or hydroelectric plant
- SOA inform about SHP rules, routines, special conditions and risks in the workplace.
- At projects the first visit to the facility should be preannounced to SOA.
- Everyone who is to perform work or visit a facility must notify Dispatch Centre (DC) or SOA.

# 2.2. Construction environment coordinator (BAS-P / BAS-U)

When construction and civil engineering works is to be carried out on site, SHP appoints a construction environment coordinator for planning (BAS-P) and for execution (BAS-U).

- The DC and SOA or BAS-U must be notified when work begins and ends at a facility.
- The project manager determines rules for working hours within the project, which is reported in the work environment plan.
- For projects, the project manager creates a routine together with the DC for how the ongoing contact should look.
- For projects, responsible for establishing and updating the work environment plan in consultation with the BAS-U
- For construction and civil engineering works, BAS-P is responsible for the preparation of documents for the work environment plan in the planning and design phase.

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# 3. Solitary Work

When planning solitary work, a risk identification must be carried out by the employer to guarantee the possibility of contact and to minimize the increased risk that arises due to solitary work.

# 4. Keys and ID cards

Keys and tags should be personalized signed and have attached demand for entrance.

- SOA / facilities managers and project managers order the keys or tags.
- The administration takes place via the Reception at the Head Office in Sundsvall.
- Everyone who work within SHP facilities must be able to present a valid ID document.

# 5. Photograph

Photography in the facilities may only take place after approval by the facility manager/SOA/maintenance manager.

#### 6. Education, educational certificates, and language requirements

All main contractors must have complete and submit "List of staff" no later than two months before physical project start, according to agreement with the client.

The list is then continuously updated for new arrivals or new responsibilities need to be changed.

# 7. Local safety introduction

Personnel that are working and visiting a facility for the first time shall receive a local safety introduction at the site. The person who takes the personnel to the facility shall make sure that the local safety introduction is being performed.

It shall include following parts:

- Identified risks, sensitive areas and measures
- Environment and work environment plans
- Emergency, evacuation, and recovery procedures
- Equipment for personal protection, fire and first aid
- Information boards at the entrances with safety rules
- Organization and responsibility SOA, safety representatives, BAS-U and DC
- Access and permits
- Take part of, for the work relevant, facility specific instructions connected to HSE.

The contractor shall be trained in evacuation if the client, BAS-U or SOA decides.

# 8. SSG

SSG Entré Basic training course and SSG Entré Sydkraft Hydropower shall be performed individually by all personnel who will work independently at or around the plants with approved result before work starts. Each person shall be able to display their SSG card at the site.

- SSG number must be filled in "List of staff"
- Exceptions to the requirement for education can be granted if visitors are accompanied by a designated person

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# 9. ESA – Energy industry safety directions

SHP applies safety directions relating to the current work to be carried out.

• Valid training certificate for work regulated in the ESA must be able to be shown

#### **10. Language requirements**

Anyone who hires labour who does not speak Swedish must ensure that the staff has a command of the following levels of English according to CEFR = Common European Framework of Reference for Languages:

- Work management and their replacement and Safety leader: English according to level B2
- Other workers: English according to level A2

#### 11. Risk management

Employer shall regularly examine and risk assess the work environment and inform the workers at the site about identified risks.

- Employer shall also make sure that the workers have sufficient knowledge about safety measures to prevent risks.
- A risk analysis shall be performed before each work, and shared with SHP.
- A last minute risk assessment shall be performed in connection to the start of work.

# 12. Safety inspection

A safety inspection is performed to examine the environmental and work environmental conditions, it is also performed to identify eventual risks.

- Periodicity is determined by SOA or BAS-U and concerned contractor is obliged to participate.
- The safety inspection shall begin with a review of previous protocol and measures that cannot be executed immediately shall be put into an action plan.

# 12.1. Safety inspections in projects

Protocol from safety inspections must be:

- visible on the site
- sent to SHP project manager and HSE department via shp.hsse@uniper.energy.

#### 12.2. Annual safety inspections on operating location.

At least once a year should a safety inspection must be carried out in each power plant. This work includes checking previously performed safety rounds and any Safety Walks. Responsible for annual safety inspections is maintenance manager or O&M contract manager.

#### 13. Risk assessment

Written risk assessments and associated action plan must be performed for all tasks. Plan for rescue operation shall be established before start of work when risk assessments have shown it to be necessary.

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#### 14. Chemical products and risks

The employer has a responsibility to ensure that risk assessments are carried out for work with chemical risks.

Contractors must be able to demonstrate these risk assessments.

- Maintenance staff and basic service contractors are responsible for checking at least once a year that the list of chemicals in the chemical management system matches the products that are in the facility
- Anyone who intends to use a chemical product at SHP facilities must, before use, submit a safety data sheet in Swedish to the HSE department via Claes.Hallberg@swe.uniper.energy
- Information must also be provided on which alternative products have been selected in the selection of the least dangerous product and which quantities are intended to be used.
- HSE department approve products that meet the product selection and update the chemical list in the company's chemical management system, where safety data sheets and risk assessments are also entered.
- Safety data sheets or safety data sheets must be available, accessed via the IChemistry mobile app which is read into a mobile phone/tablet in Swedish via a QR code.
- The HSE department must be notified when a product is no longer used and can be removed from the facility.

# 14.1. Storage and labelling

Chemical products should be stored at designated area with clear signs and notifications about eventual hazards and be equipped with leakage protection.

Chemical products in projects should be stored separately from products that are used in normal operation.

- Storage vessels and facility parts should be labelled according in Swedish regarding the content, risk, pictogram and be properly sealed.
- Project contractors label their products with company name and are responsible for that each product is not installed in the facility will be removed from the facility after ended project. HSE department should be notified about this.
- Vessels with unknown content are being handled as hazardous waste.

# 14.2. Pesticides

A use permit is required from the county administrative board with training requirements when spreading plant protection products of class 1 and 2, stated in the safety data sheet, as well as a permit or notification to the municipal board.

When using a class 1 biocide product against pests, a use permit is required by the Public Health Authority.

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# 15. SF6 and refrigerants

Facility owner and maintenance personnel in facility where the isolation gas  $SF_6$  is present (in switches and refrigerants in heat pumps, cooling and air-condition equipment) should be instructed how the equipment should be handled.

Periodic leakage test is required for refrigerants 5 ton  $CO_2$  equivalents, leakage control for equipment containing more than 6 kg  $SF_6$  and leakage warning systems for equipment containing more than 21 kg.

# 16. Oil

Water that is being released to the surrounding environment should not contain more than 5 mg/l oil. Stricter requirements could be established within each municipal. Equipment, containing oil, no longer in use should be emptied and the oil should be reused if possible and handled as hazardous waste.

- If PCB contaminated oil is suspected, oil sample be sent for analysis and facility manager / HSE department is to be contacted.
- Hydraulic oils used in construction machinery must be included on RISE's list of products that meet the environmental requirements in Swedish standard.

# 17. Waste

The waste hierarchy applies to minimize the amount of waste. In the first instance, the waste must be reused, then materials recycled, followed by energy recovery, and finally landfilled.

- All waste must be sorted in the designated place, be protected against collision, weather and wind, and documented before removal to an approved waste recipient.
- Contractor is responsible for sorting, documenting, and removing own waste.
- Quantities and types of waste must be included in the annual environmental data report to HSE department according to a special template.
- Local burning of waste is forbidden.

# 17.1. Hazardous waste

All transportation of hazardous waste requires permit if the amount of waste is above 100 kg or liter/year or if the waste contains mercury (whole fluorescent lamps is excluded), cyanide, cadmium or PCB.

- Transportation below permit levels requires a notification to the county administrative board every fifth year. Transportation document must be established.
- Examples of hazardous waste are asbestos, oils, fluorescent tubes, electrical equipment, glycol etc.
- Information about the hazardous waste must be recorded before the waste is transported away. SHP has an agreement with the waste recipient who takes care of the registration.
- The environmental shed at the plant is intended for chemicals and hazardous waste in ordinary operation and maintenance work.
- Chemical waste must be clearly separated from chemicals used in the business.
- The contractor must have a system for waste management so that material recycling is possible.
- The relevant municipality's regulations regarding waste sorting must be followed.
- The contractor is a waste producer and must keep records of generated waste quantities, these must be able to be reported to the client up to 3 years after the work has been completed.
- Notes for Hazardous waste that arise must be reported to the waste register at the Swedish Environmental Protection Agency.

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# 18. Hot work

Every company that will carry out hot work must have a permit manager who is approved in writing by SHP.

- The form Assignment as permit manager for flammable hot work must be completed and the permit manager is responsible for following the Safety Rules for hot work.
- Both the permit holder and the hot worker must have training in hot work with a certificate issued by the Swedish Fire Protection Association

# **19.** Confined conductive spaces

A confined conductive space is limited mainly by electrical conductive limitation areas.

- Examples on confined conductive spaces are penstock, pressurized oil systems, turbine spiral, floodgates and draft tube.
- Equipment that is used must be powered by battery, fed by low voltage protection (SELV) or fed via a protective or isolation transformer.
- The equipment's supply must be placed outside the confined conductive space.

# 20. Protective device

Person that is supposed to use a machine or equipment shall make sure that protective devices works properly before start of work.

- A protective device is only allowed to be removed after a risk assessment and permission from SOA/BAS-U or Electrical Safety Manager according to the Electrical Safety Instructions (ESA)
- If a work is causing a risk for injury, a temporarily protective device must be installed e.g. guardrail, screen or sign around the work area.
- Temporarily protective devices could only be removed by the person installing the temporarily protective device.
- All openings shall be covered and able to carry any possible load, be mounted firmly and marked.

# 21. Personal protective equipment

The employer is responsible for providing personal safety equipment in good condition with instructions about accurate usage. Adapted demands shall be formed and written in the work environmental plan.

- Safety helmet and safety shoes must always be used at the facilities, this also applies for visitors.
- Hi-visibility clothing shall be used during lifts and at areas were vehicle traffic is present.
- Arc-tested clothing is required for work on electrical connections and electrical work. (underwear, shoes, gloves, helmet and visor)
- Other protective equipment must be used where the risk analysis requires.

The user is responsible for ensuring that the personal protective equipment is maintained in good condition.

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# 22. Hand tools and hand machines

Contractor provides own hand tools, hand machines. Angle grinders must be equipped with a handle so that they can be held with two hands and be equipped with an adjustable disc guard, brake, throw guard and dead man's grip.

When using an angle grinder, personal protective equipment is required in the form of; safety glasses, visors, gloves and clothing that covers the arms.

# 23. Inspection required equipment

Each employer is responsible for maintenance, inspection, supervision and daily control of own technical equipment.

- Certificate from annual inspection shall be shown for SOA before work starts.
- For construction and civil engineering works the certificate shall be shown for BAS-U.

# 24. Scaffolding

When working on scaffolding with a fall height of more than 1 m, the scaffold must be equipped with at least 1 m high two-jointed guardrails and a minimum 15 cm high skirting. If this is not possible, approved fall protection equipment must be used.

- Holes and openings must be blocked off and warning signs must be in place.
- The scaffolding contractor must be authorized by the scaffolding contractors' trade organization STIB or equivalent and be responsible for carrying out a risk assessment before the scaffolding begins.
- The risk assessment must also include the need for fencing around the scaffolding during construction and in the use phase.

# 25. Ladders and trestles

Ladders may only be used as an access point and for short-term work from the ladder, if the work can be done with one hand, such as cleaning, changing broken lamps, simpler s softening, single assemblies, exchanges and adjustments.

• The ladder must be shorter than 5 meters.

# 26. Lifts with lifting devices or lifting tools

Lifting must be assessed before they start so that it can be carried out safely under the prevailing conditions.

A lifting plan must be drawn up if work needs to be carried out with people suspended or if the lifting could result in serious damage to the facility. Completed lifting plan must be submitted to SHP

- When lifting where work needs to be carried out with people under hanging loads, the load must be mechanically limited so that the risk of personal injury is counteracted.
- If the lifting can result in serious damage to the plant, the plant being lifted over must be taken out of operation. Identified risks due to dropped load must be eliminated or limited
- In connection with the start of the lift, a last-minute risk analysis must be carried out.
- Personal fall protection equipment is mandatory when using a mobile work platform and all persons in the lift must be anchored in a defined anchor point.

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# 27. Driver of lifting device

Lifting device drivers shall hold:

- Valid certificate
- Employer's certificate
- Plant owner's permission (SOA or BAS-U)

#### 28. Fire equipment and fire alarm

Facilities are provided with mobile and maintained extinguishing devices.

It is a joint responsibility to reduce the risk of fire by keeping the workplace in good order.

- In the event of an alarm, the work must be finished immediately, valves on gas pipes must be closed and collection must take place at the designated collection point.
- Lifts must not be used for evacuation.

# 29. Gas cylinders

Gas cylinders must be stored upright (even during transport) in the intended storage location, outdoors or in a well-ventilated area, be well anchored and have the protective hood on.

- Acetylene tubes must be fitted with a non-return valve and the welding handle must be fitted with a non-return valve on both the acetylene and oxygen sides.
- On the front door, a sign must state that gas bottles are in the building and where they are located.

# 30. Environmental and work environmental plan

For every project carried out at SHP facilities, an combined environmental and work environment plan must be drawn up with the aim of working safely and minimizing the environmental impact of the work, alternatively, a separate environmental plan and a work environment plan are created.

For projects that are operated as process upgrades, SHP has decided that a work environment plan must be drawn up.

- An environmental plan must ensure that chapter 2 of the Environmental Code's Consideration Rules are met. SHP provides a template for developing a plan.
- Risks to health and the environment with preventive measures and protective measures, of which at least the following risks to human health or the environment must be taken into account, which are included in the AMP template,
- For construction and civil engineering works, BAS-P is responsible for the preparation of documents for the work environment plan in the planning and design phase.
- For implementation, BAS-U is responsible for adapting and updating the work environment plan.
- For other work, SOA is responsible for establishing and updating the work environment plan.
- In all cases, each contractor must submit an environmental plan and documentation for the work environment plan in good time, no later than four weeks before work begins.
- The joint work environment plan must be reviewed with all contractors at the start of the project.
- The work environment and environmental plan must be specifically described for the location and be continuously revised in the event of changes in work methods, external conditions and risks.
- It must be available to everyone in the workplace. There may only be one work environment plan in a project. However, each contractor can have their own environmental plan.

# 31. Workplace disposition plan / allocation table (APD-plan)

During project a APD-plan should be established and be posted.

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# 32. Incident

- Emergency number 112 must always be called in case of fire, serious personal injury or dam failure with risk to third parties
- Accidents and incidents must be reported as soon as possible to the DC via +46-60-12 77 77 or via +46-60-12 93 95 and to SOA/BAS-U.
- Information on course, cause, injuries, number of people, spill quantities and measures taken must be included.

# 33. Risk observations and improvement proposals

Anyone who observes a situation that may lead to danger to people, the environment, the facility, or operations must immediately rectify the situation.

If this is not possible, the work must be stopped, and the employer and safety representative notified immediately.

• Risk observations must be documented and followed up.

Observations and comments from the public must be reported to DC and registered in Lotsen.

# 34. Investigation of incidents

The employer has a responsibility to investigate accidents, incidents and misconduct.

- Contractors operating at SHP workplaces are obliged to cooperate and participate in investigations of incidents in order to actively prevent accidents and ill health at the workplace.
- Contractors who have an accident or incident must conduct their own investigation and report to the Work Environment Agency and also notify SHP who conducts their own investigation of the incident

# **35.** Temporary establishments

Placement of sheds and storage must take place in a fire-safe manner as well as storage ling of water, sewage and construction power must take place according to SHP instructions. Isolation transformer 230/400V must be equipped with earth-fault circuit breakers and all cables must be protected against mechanical damage.

# 36. Alcohol and drugs

The workplace is alcohol and drug free. Random drug and alcohol tests may be conducted. Persons who are perceived to be under the influence of alcohol or drugs are immediately rejected from the workplace. Smoking may only take place outdoors in a designated place and cigarette butts are thrown in designated waste bins.

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#### **37. Housekeeping**

Materials and waste must be stored in the designated place. Garbage must be disposed of continuously during the working day. Obstacles and tripping hazards must be eliminated in access routes, stairs, on scaffolding and work platforms.

- Transport and escape routes must never be blocked.
- Contractors maintain order and order within the respective contracting area and personnel space with daily cleaning.
- Access roads and car parks must be cleared of snow and sanded to prevent the risk of slipping. Responsibility for this is governed by agreement.

#### **38. Traffic rules**

When risk assessment requires, a traffic arrangement plan, must be drawn up showing temporary traffic solutions. This must be set up and available to everyone.

- Within the work area, vehicle parking may only take place in designated places.
- General speed limit is 10 km/h.
- Work vehicles must use sound and light signals when reversing.
- When parking a vehicle down in an underground station, the vehicle must be parked with the direction of travel out of the station, the windshield on the driver's side left open and the key placed on the driver's seat.
- If a need is deemed to exist, special walkways for pedestrians must be constructed

#### 39. Noise

Noise must be reduced as close to the source as possible and shielded through planning and selection of methods, machinery, and equipment.

- If the sound cannot be reduced, appropriate hearing protection must be used.
- Signs must indicate whether an area has a noise level that may be harmful to hearing.
- Sound equipment (radio, earmuffs with radio or equivalent) may only be used after approval by the employer and BAS-U/SOA.

#### 40. Dusty work

Dusty work must be reduced as close to the source as possible and screened off through planning and selection of methods, machines and equipment, for example irrigation, water spraying, integrated extraction on machines/tools, point extraction and dust protection on conveyor belts.

• Appropriate personal protective equipment must be used

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#### 41. Work in land and water

Work in land and water must be carried out in a gentle manner so that consideration is given to valuable nature types and species worthy of protection, among other things by choosing environmentally adapted fuels and timing of work.

- Setting up of machines, diesel and oil tanks must take place according to the APD-plan, alternatively in consultation with the SOA.
- To obtain knowledge about the natural values of the place in question, see the current local environmental considerations instruction.
- If contaminated soil is suspected, work must be stopped immediately for further investigation.

# 42. Energy use

Fuel must be the one that affects the environment, people, third parties etc. in the least possible way

- From a work environment and environmental point of view, battery-powered vehicles, tools, and machines are preferred.
- If this is not available, the most energy efficient vehicles, machines, materials, and methods should be chosen for minimal consumption.

# 43. Environmental data reporting

After the end of the project or by January 20 at the latest, environmental data from the last calendar year must be submitted to the HSE department via shp.hsse@uniper.energy Templates for reporting environmental data are available for operation and maintenance as well as projects.