

Kröfur sem Landsvirkjun gerir til verktaka og þjónustuaðila varðandi öryggis-, heilbrigðis- og vinnuverndarmál (ÖHU)

Landsvirkjun's Requirements towards Contractors and Service Providers in regard to Occupational Safety, Health and Environment

1. Introduction

One of Landsvirkjun's objectives is to make the company a safe, accident-free workplace, where employee safety is a guiding principle. The same holds for other workplaces where projects are being carried out for Landsvirkjun by people other than company employees.

Therefore, the following rules apply to any contractors and their subcontractors who are working for Landsvirkjun. Landsvirkjun puts a strong emphasis on safety issues and wants its contractors to comply with all acts, regulations and rules regarding workplace safety and health, such as the Act on Working Conditions, Health and Safety in the Workplace, No. 46/1980, as subsequently amended; the regulations on facilities, hygienic practices and safety measures for construction work sites and other short-term construction, numbered [547/1996](#); and Regulation No. 920/2006 on the organisation and implementation of health and safety at workplaces. The same applies to any other Icelandic acts, regulations or rules in effect at any time that relate to the task in any way, even if they are not specifically mentioned here. In addition, contractors shall comply with the rules and requests which are presented by Landsvirkjun in this document and which are conceivably more extensive than the general requirements established by the legislature and executive powers. In any case, the rules of Landsvirkjun are not exhaustive in regard to contractor responsibilities and obligations and do not transfer responsibility for safety matters from a contractor onto Landsvirkjun.

2. General aspects

During the design and preparatory stage of a project, the client shall take measures to allow for the possibility of ensuring complete safety and good facilities and sanitary practices during execution of the project. At the preparatory stage, the client is responsible for working on or seeing to the preparation of a safety, health and environment plan (SHE plan). Consistency must exist between this SHE plan and the SHE plan and risk analysis that the contractor has to prepare during the construction phase, with the stipulation that the contractor present such a plan at the start of the project.

Landsvirkjun or its representative shall supervise the project on site. The company shall appoint a coordinator of safety and health measures, in compliance with current acts and regulations. When working on the premises of a power station that is in operation, the contractor must acquire a project permit from the station manager or her/his representative, using the form VKL-55, Verkleyfi.

The contractor shall designate a safety officer(s) and shall arrange for an election of safety stewards. This election must occur at the start of the project and the contractor must submit information on these matters and on the number of personnel to Landsvirkjun and the Administration of Occupational Safety and Health (AOSH). Together with the contractor's SHE officer, the above-mentioned employees shall serve as communication and liaison officers with Landsvirkjun in the field of safety concerns for as long as the project lasts. A contractor's SHE officer is required to have a vocational education or comparable education as a minimum and to be familiar with worker protection issues. In the case of major projects, a safety committee must be kept active, in compliance with the applicable rules.

Before starting to work on site, every employee of the contractor must be ascertained to have received appropriate safety training, with the contractor demonstrating to Landsvirkjun that such training has occurred. Crew leaders are required to review safety concerns with their personnel every day and to make sure that everyone is conscious of their own safety and that of others.

All personnel at a construction site need to be aware of and follow the emergency response plan for that construction site. Whenever necessary, the coordinator for safety measures shall introduce emergency response plans, in all cases taking note of the individual emergency response plans of every contractor on site.

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In instances of violations relating to occupational safety, health and environment, Landsvirkjun reserves the right to impose sanctions. If finalised agreements and/or tender specifications do not deal with such sanctions, the Landsvirkjun representative for safety concerns shall be authorised to decide in each case what sanctions to apply. In cases of extremely grave violations, immediate expulsion of an employee from the site is permissible if s/he has demonstrated reprehensible behaviour. Landsvirkjun reserves the right to postpone payments until safety issues that are wanting have been rectified. Should a contractor not comply with warnings, Landsvirkjun may cancel the agreement between them. Sanctions shall always be stated in writing and be signed by a Landsvirkjun representative for safety concerns.

A contractor is obligated to notify Landsvirkjun of circumstances that might create danger and to take measures for avoiding accidents and losses. A worker's immediate superior shall be notified of every accident, and it must be handled and recorded as soon as possible, irrespective of its seriousness. A contractor is obligated to prepare a summary of all accidents, dangerous incidents and losses to machinery and equipment and to turn the summary in to Landsvirkjun. The causes of work accidents shall be analysed and remedied immediately, so as to prevent their recurrence. In addition, the AOSH, Consumer Agency (in instances of electrical accidents) and the police must be notified of an accident as promptly as possible. These notifications shall reach the appropriate parties within 24 hours, cf. the currently applicable provisions. Project meetings shall review the hazardous situations, accidents and mishaps which have occurred since the previous meeting. Landsvirkjun is to be informed immediately of any notifiable accident.

Smoking is forbidden on those Landsvirkjun premises that are covered by the [Tobacco Control Act](#).

The consumption of any narcotics or strong alcohol is strictly and entirely prohibited, and no one under the influence of alcohol or narcotics shall be permitted access to the premises, vehicles or worksites of Landsvirkjun.

A worksite shall be demarcated and unauthorised traffic onto it obstructed insofar as possible. Where work occurs in or by a traffic artery, the site shall be indicated in accordance with the laws and regulations on markings for worksites, cf. the Road Administration and the relevant local authority or proprietor of the road.

3. Requirements regarding personal protective equipment

The contractor shall make sure that her/his employees always use suitable personal protective equipment that is in accordance with the risk analysis of the particular project. Moreover, the contractor shall ensure that her/his employees have been trained in using personal protective equipment and that they use it whenever required by rules or regulations, in order to prevent any health damage. The personal protective equipment must display CE marks and comply with current rules.

- I. Ear protectors - Ear protectors shall always be worn in noisy places (cf. AOSH requirements).
- II. Work clothes - Employees must wear protective clothing or safety vests that meet standards on visibility and, whenever appropriate, clothing that protects against burns and other mishaps.
- III. Breathing masks - When using solvents or other substances that may emit hazardous fumes, breathing masks must be worn. Breathing masks must also be worn where dust pollution occurs, for instance in underground tunnels.
- IV. Safety belts and safety lines - Where a danger of falling exists, suitable safety belts with safety lines must always be used (see also Section 8).
- V. Safety goggles and face shields - Safety goggles and face shields must be used for work where there is a risk of eye injury and where machinery or equipment may cast particles or shavings.
- VI. Safety helmets - Safety helmets are mandatory for all construction work.
- VII. Protective footwear - During construction work, personnel shall always wear protective footwear

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4. Requirements regarding vehicles

A contractor is responsible for all of the equipment, machinery and tools s/he owns and shall make certain that their condition fulfils the stipulations of acts and regulations. All heavy machinery and equipment shall have a current inspection certificate.

Vehicle and machinery operators must have the prescribed credentials for operating the equipment concerned, a driving licence and/or a licence issued by the AOSH. The greatest possible caution must be exercised while operating machinery, and it is desirable that drivers be guided by an assistant while backing heavy machinery. The contractor bears responsibility for machinery controls and safety equipment being in order and for the secure fastening of loads.

When leaving a vehicle, it shall be left behind in keeping with the rules at the operations site involved. As for lifts, they shall be left with the lift forks in their lowest position. The transport of passengers using vehicles or machinery is prohibited unless there is a special seat intended for the passenger(s).

All machinery shall be equipped with lights and any other equipment which is expected of equipment used for driving in traffic.

Lifting people with machinery that has not been approved by the AOSH for that purpose is strictly prohibited.

5. Requirements regarding first aid

At each work site, there shall be employees who have attended a first-aid course and know how to respond in case of emergency. The contractor shall see to having the proper equipment for emergency help on hand, such as a first-aid kit.

Should an accident or emergency arise, the general emergency number, 112, shall be called. The following prioritisation shall be followed in such instances:

- I. Assure safety at the location
- II. Give emergency help
- III. Give notification of the incident
- IV. Provide general first aid

A person calling the emergency number, 112, must speak calmly and plainly, telling the exact location, a telephone number and name; s/he should describe the incident and state the number of injured people and their condition.

6. Requirements regarding fire protection and orderliness on site

Contractors working in or by Landsvirkjun facilities shall acquaint themselves at the start of the project with the escape routes and assembly areas for the particular facilities or site. Also, contractors shall make sure they acquire and maintain at least minimal fire extinguishing equipment.

Fire bells or sirens sound in order to call for evacuation due to fire or other danger; contractor personnel are thereupon obligated to vacate without delay the facilities or site involved. Following evacuation, the contractor's safety officers shall contact Landsvirkjun, which will decide in consultation with the contractors on the continuation of work.

The operations site must be kept orderly and organised, with no combustible material nearer a building than 12 m, unless a closed waste container is used. This distance must be greater if substantial quantities are involved. Trash and combustible material that is not being used shall be removed from the worksite, while the material that must be on site due to construction shall be positioned such that fire squads and other emergency services have ready access throughout the site.

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Extreme caution shall be shown while using or handling flammable liquids or gases, in accordance with safety instructions. Such substances shall be stored in a secure place while not in use. It is not permissible to burn materials at a construction site.

Special attention must be given to the positioning of lighting equipment, taking care that it cannot cause overheating and fire. Where substantial dust, wood shavings and so forth are present, lamps shall have safety glass to protect the bulb.

All combustible material shall be removed where welding is to occur, shielding any combustible articles that cannot be taken away. After welding has been completed, it must be made certain that there is no risk of any fire starting, and the contractor must keep a watch on the welding area throughout the following hour. There is good reason to treat gas and oxygen cylinders with extreme caution, so every cylinder must be equipped with the necessary safety equipment, such as backflow check valves, backflash arrestors and handles with backflow arrestors. When in use, cylinders shall be securely fastened onto a cart that is purpose-made for them or else be kept so that they cannot fall over. Extra supplies shall be stored in a secure manner, away from the site of work.

Where there is felt to be any risk of fire, a fire extinguisher must be on hand and be readily accessible. A location within 25 metres of the point of work is preferable, with the type of extinguishers being based on the work and materials on site and their number being based on the fire load, so as to attain an adequate total extinguishing capacity.

7. Requirements regarding electrical work

The Regulations for Electrical Installations, No. 285/1998 [first issued as No. 264/1971 in Icelandic], as subsequently amended, must be observed in every instance. The safety exclusion zone surrounding aerial high-voltage lines and high-voltage equipment shall be determined in the following manner, cf. rules from the Safety Division of the Consumer Agency in its memorandum numbered 1/84.

A safety distance shall be specified for each task. This shall be determined by adding a suitable supplement to the hazard distance that shows consideration for the work methods, equipment and facilities, material, personnel skills, weather conditions and safety supervision (see illustration).

[English for the terms in the illustration, online or in the table below:

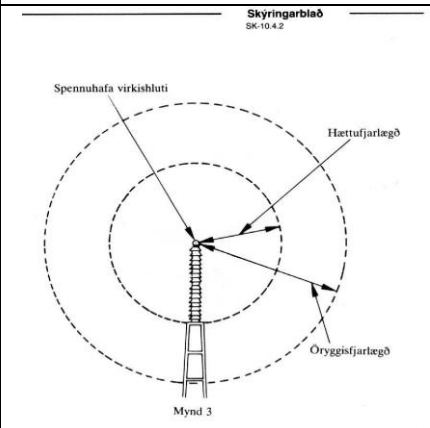
Spennuhafa virkisluta = Charged part of the electrical installation

Hættufjarlægð = Hazard distance

Öryggisfjarlægð = Safety distance]

The safety distance shall be communicated to those concerned as the minimum safe working distance from either particularly specified parts of the body or a part of the machinery or equipment to a charged part of the electrical installation.

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Measured operating voltage kV	Maximum operating voltage, kV	Hazard distance (considered equal to touch), cm	Skýringarmynd
1-33	36	50	
5-66	72,5	75	
120-132	145	120	
150	170	140	
220	245	210	
380-400	420	321	

If circumstances arise in which personnel or equipment must enter such an exclusion zone, the contractor shall submit a risk assessment and safety rules, together with written authorisation from the person in charge of electrical safety. Work using a power station's operating electricity shall only be performed in close consultation with someone on shift at the site. Care must always be taken during work near a charged object or object which might possibly be charged. Work of any kind on electrical equipment shall be the responsibility of a certified electrician, and electrical contractors shall operate according to an authorised safety control system. In regard to other aspects of the operation, inspection and maintenance of electrical installations, please see memorandum No. 1/84 [in Icelandic] from the Consumer Agency.

8. Requirements regarding work at fall heights

An effort shall be made to perform as many tasks as possible on the ground, in order to avoid working at heights. Work at fall heights is not restricted to locations high above ground, as such work may simultaneously be classified as work below ground, for instance in underground tunnels, ditches and pits. The equipment selected must always offer the optimum ergonomic conditions for personnel, using personal protective equipment if it is impossible to apply ordinary safety measures.

Fall protection shall be used in every instance where:

The risk exists of an employee falling and being injured

Work is being carried out beyond areas normally bounded by handrails

An employee finds such protection necessary

Fall protection may entail but shall not be restricted to:

Work platforms

Reliable handrails

Appropriate safety belt(s) with a safety line, to provide protection from falling

9. Requirements in regard to lifting

The slings, chains, crane cables, cargo hooks, and cranes or equipment used for lifting shall be certified and their capacity shall conform to the weight of the load to be lifted. Slings and chains must be in perfect shape and their condition inspected regularly. When lifting, careful attention must be paid to the locations of other

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employees, never lifting a load above any personnel; also, the signaller must remain at a safe distance. Lifting equipment must be in perfect condition; the contractor is responsible for ensuring it is inspected on a regular basis. No load may ever be left hanging in a crane. The contractor bears responsibility for keeping the levelling feet in proper order and for their correct use, including their placement on an appropriate base.

Before lifting starts for extremely heavy objects, such as mechanical equipment or large transformers, an approved risk assessment must be on hand concerning the precautionary measures, choice of lifting equipment and manner of executing the lift.

10. Requirements regarding work in closed spaces

Contractors who will be working in a closed space shall present their task procedures and turn in a risk assessment before their personnel are allowed into the closed space. A supply of breathing air into the closed space must be assured, as well as escape routes out of the space, should an emergency arise. Finally, any work in closed spaces must comply with the current rules prescribed by the AOSH.

11. Requirements regarding work in high-temperature fields

Special care shall be taken when working near steam or hot-water pipes. Where there is a risk of being burned by hot water, contractors shall put on appropriate footwear and long gloves.

A risk assessment must be available prior to starting work on a steam supply system that is or has been in operation; this assessment should show whether it is acceptable for employees to be there alone and whether any potential risk stems from heat and/or gases at the proposed worksite.

Two life-threatening gases are carbon monoxide (CO) and hydrogen sulphide (H₂S). The greatest risk is posed by work in steam pipes that are cooling off or have become cold, for instance on account of cleaning. Another gas that can be dangerous is carbon dioxide (CO₂), if it is present in sufficient quantities. Hazardous gases that are heavier than air (hydrogen sulphide, H₂S, and carbon dioxide, CO₂) may collect in basements and depressions, resulting in death where their concentrations are substantial. Contractors shall educate their personnel on the hazards stemming from gases and urge them to stay alert. Personnel needing to work on a steam supply system must have an alert meter on site, and no project permit shall be issued until consideration of every risk has been assured and arrangements completed for achieving employee safety.

In the case of new construction projects for a steam supply system that is not yet connected to geothermal heat, the same rules are to apply as those applying other construction work.

12. Requirements regarding cleanliness and order and the use of hazardous substances

These requirements fall under LEI-237, Landsvirkjun's Requirements towards Contractors and Service Providers in regard to Environmental Matters.

13. Requirements regarding cleanup and finishing touches at worksites

On project completion, the development site shall be tidied and left in accordance with the conditions appearing in the tender documents and project contract. Signs and obstructions that might cause [Hér vantar texta!]