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| **FSE Instructions Skagerak Kraft** |   |
| Instructions for Work Controller and Appointer of Work Controller – Skagerak Kraft |
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# PURPOSE

To ensure safety when working on or in the vicinity of low-voltage installations.

#  SCOPE

Applies to any work at low-voltage installations in Norway where Skagerak Kraft AS (SK) and Statkraft Energi AS (SE) are responsible for operations.

Personnel approved as Work Controller (WC) and Appointer (the person who appoints the WC) are regulated through safety cards for electrical installations.

#  RESPONSIBILITY

The WC and the Appointer are responsible for ensuring that these instructions are followed. The Installation Manager must ensure that activities regulated by the instructions are carried out properly. The Installation Manager is responsible for preparing and updating instructions.

Only the Installation Manager has the authority to grant a deviation permit.

#  DESCRIPTION OF PROCEDURE

The WC must fulfil requirements according to FEK 2013 and ensure that the work is carried out in accordance with FSE 2006 and these instructions. Any references to “Sections” below refer to FSE 2006.

The appointment of the WC must be documented, and the Appointer is responsible for such documentation. The documentation is kept for a minimum of one year after the work has been completed.

##  Validity

These instructions apply to all types of work on disconnected installations (Section 14), in the vicinity of live parts (Section 17) or live working (Section 16).

##  Planning work

The Appointer must appoint the WC from among pre-approved personnel and ensure that the WC has the necessary qualifications for the work to be carried out, ref. FEK 2013.

The WC is responsible for ensuring that all safety aspects of the work are well planned (Section 10) and that a Job Safety Analysis (JSA) is carried out before the safety measures are established and the work starts.

As a minimum, the planning must include:

* obtaining relevant information about the installation
* a risk assessment
* considering safety measures in the event of a risk of induction or input from others connected to the grid
* choice of working method
* assessment of necessary equipment
* ensuring that measuring instruments are **at least CAT III**
* assessment of the necessary use of personal protective equipment
* assessment of the need for qualifications for the work team
* instruction of personnel

The person who is to be appointed as WC must have good operational knowledge of the installation, be familiar with its structure and operation, and be able to find their way around the installation easily.

The WC must be able to communicate directly with all members of the work team without the use of an intermediary (e.g. an interpreter).

If the WC does not feel competent to perform their role as WC for a specific work assignment, they have a duty to stop the work.

##  Establishment of safety measures at the disconnection points

The WC is responsible for ensuring that the installation is disconnected (Section 11) and that the necessary safety measures have been established at the disconnection points. Safety measures are:

* disconnection (Section 14)
* securing against reconnection (Section 14) – any switches/fuses that could energise the worksite must be secured against reconnection and labelled

The WC must lock and label all disconnected switches/fuses included in the disconnection with their personal LOTO lock.

If the same switch/fuse is involved in multiple jobs with different WCs, each WC must lock with their personal lock.

Externally approved WCs must preferably use Statkraft Energi’s LOTO equipment in the installation.

##  Establishment of safety measures at the worksite

### Establishment

The WC is responsible for ensuring that the necessary safety measures are established at the disconnection site and the worksite. If the establishment of safety measures entails a risk, at least two people must be present.

Safety measures are:

* disconnection
* voltage control (Section 14)
* optionally, short circuit/earthing (Section 14)
* labelling/locking
* optionally, cordoning
* protective shielding in connection with work in the vicinity (Section 17)
* LOTO must be used whenever possible

Where several work teams are using joint safety measures, separate labels/locks must be used for each work team (LOTO). This also applies to other parallel activities, for example in waterways.

### Disconnection/live working

If it is impossible to protect against contact or there is a risk that tools could cause a short circuit and/or earth fault, the installation must be disconnected or the work must be carried out as live working[[1]](#footnote-2). Personnel responsible for live working must undertake additional training (Section 16). If live working has not been planned, a new JSA must be carried out.

If the establishment of safety measures entails a risk, at least two people must be present.

### Briefing

The WC must notify everyone in the work team of their role and give the necessary instructions about the work. These must include:

* the scope of work
* the delimitation of the worksite
* safety measures that have been implemented
* permitted working position

If the WC needs to leave the workplace, a new WC must be appointed.

WCs in work teams must wear a flame-retardant reflective vest or armband marked *“AFA”* (i.e. “Work Controller”).

##  Initiating work

The installation must be considered energised until all safety measures have been established. Only then can the WC initiate work.

##  Safety during work

The WC must ensure that the work is carried out safely, and check the safety measures as necessary.

## Termination of safety measures

### Briefing

When work is finished, the WC must personally notify everyone in the work team that the worksite is to be considered as energised (Section 15) and inform anyone working in the vicinity that the safety measures will be terminated (Section 18).

### Termination

The WC is responsible for terminating safety measures at the worksite and the disconnection point. If terminating safety measures entails a risk, two people must be present.

When all safety measures have been terminated and the work finished, the appointment as WC comes to an end.

##  Connecting an installation

Any trial connection implemented after a fault or change in the installation must be made using an appropriately dimensioned switch or fuse drawer.

If connection is carried out locally, a JSA must be carried out. It must be assessed whether two people should be present (Section 11).

##  Duration, updating and distribution

These instructions apply from the date of approval until they are replaced by new instructions, and are distributed to everyone who has been approved as an WC.

#  REFERENCES AND DEFINITIONS

##  Internal references – Skagerak Kraft AS

5.1.1 Pilot, Power, HSE, Electrical safety Instructions for electrical safety

5.1.2 Pilot, Power, HSE, Electrical safety Work Controller (WC) and Appointer

5.1.3 Pilot, Power, HSE, Electrical safety Live working

5.1.4 Pilot, Power, HSE, Electrical safety Inspection and control of low-voltage systems

5.1.5 Pilot, Power, HSE, Electrical safety Risk assessment – declaration of conformity – notification to the TSO

5.1.6 Pilot, Power, HSE, Safe work Use of personal protective equipment

##  Internal references – Statkraft Energi AS

5.2.1. Governing document P-23 Supervision – operation and maintenance of electrical installations

5.2.2. Governing document P-23/120 Instructions for electrical safety

5.2.3. Governing document P-23/122 Instructions for LOTO/securing of electrical installations

5.2.4. Governing document P-23/136 Live working

5.2.5. Governing document Doc-no 18-01 Process for a work permit in Norway for P

5.2.6 Governing document Doc-no 20-2 Isolation of energy sources with LOTO

##  External references

5.3.1. FSE 2006 Safety regulations related to the Maintenance and Operation of Electrical Installations

5.3.2. FEF 2006 Regulations related to Electrical Supply Installations

5.3.3. FEL 1998 Regulations on Electrical Low Voltage Installations

5.3.4. FEK 2013 Regulations for Electrical Enterprises and Qualification Requirements for Work Related to Electrical Installations and Electrical Equipment

5.3.5. NEK 400: 2018

1. See reference list at the end of the document SE 5.2.3 [↑](#footnote-ref-2)