

Instructions

Instructions for connecting and disconnecting earth electrode installations

Document ID: [SDOK-515-61](#), revision: 4.0

Confidentiality: K0 Statnett open information, can be shared with everyone

This copy was downloaded 25.06.2024 by [Jon Halvor Holtet](#).

The original document may have been published in a new revision or revoked since this copy was downloaded.

The current revision of this document can be downloaded here:

<https://samhandling.statnett.no/styrendedok/Dok.aspx?id=SDOK-515-61&language=1033>

Team: [Elsikkerhet](#)

Responsible: [Jon Halvor Holtet](#)

Document owner: [Endre Johan Hoel](#)

Verified: 02.01.2024 by [Jon Halvor Holtet](#)

Approved: 02.01.2024 by [Arnfinn Granheim](#)

Planned review by: 02.01.2027

Keywords: EI-sikkerhet

Based on the Norwegian document SDOK-515-20

1 Governing policy and legislation

These instructions for connecting and disconnecting of earth installations are subordinate to [policy sikkerhet](#) (Safety Policy). They are a supplement to, and superceded by [FSE 2006](#) (Safety regulations related to the maintenance and operation of electrical installations) which is pursuant to the [Lov om tilsyn med elektriske anlegg og elektrisk utstyr](#) (Act relating to the Inspection of Electrical Installations and Electrical Equipment).

2 Purpose and Validity

The purpose of these instructions is to ensure a high level of safety is maintained during work on or in the vicinity of Statnett electrical installations and during their operation, by requiring adequate planning of all activities and the implementation of necessary safety practices in order to avoid any risk to life, health or property.

This set of instructions applies to the connection and disconnection of earth installations for all high-voltage electrical installations where Statnett has operational responsibility.

3 Intended audience

All Statnett employees and external employees who will take part in work that includes connecting and disconnecting of earth installations.

4 Definitions

Operatinon Controller: Person appointed to be responsible for ensuring that all necessary switching operations in high-voltage installations are conducted safely.

Work Controller: Person appointed to have responsibility for electrical safety at the worksite.

Installation Manager: Person appointed by the owner/manager to carry out and be responsible for the ongoing management and maintenance of electrical installations.

Earth installation: All kind of earthing within the substation fence, and all earth installations in connection with transmission line (earth wire and in the ground).

5 Procedures

5.1 Use of equipment/ personal protection

- 5.1.1 Before connecting or disconnecting of earth installations, a short-circuit device must first be installed between the installation parts that are to be connected or disconnected. The short-circuit connection is the first connection to be implemented in a connection procedure and the last connection to be broken in a disconnection procedure. It must be checked separately that the connection is sufficiently fixed.
- 5.1.2 The diameter of the short-circuit connector must be at least 25 mm² Cu or equivalent.
- 5.1.3 If a short-circuit connector has not been installed, no detached installation parts may be touched simultaneously.

- 5.1.4 Insulated gloves certified for up to 1000 V, or isolated operating lever for at least 1000 V, must be used while connecting and disconnecting short-circuit connectors on earth installations. This also applies to spark gap on earth wire.

5.2 Conditions

- 5.2.1 The person leading the work must be an approved Work Controller. Appointment of the Work Controller shall be made by the Local Area Manager or person with such authorization. Appointment must follow section 4.6 in [Electrical safety procedural works](#): Appointing Work Controller for work on disconnected installations or in the vicinity of high-voltage installations, and appointing Work Controller for work on or in the vicinity of low-voltage installations, with use of routine governing the appointment of internal personnel as Work Controller for work on disconnected installations during construction or dismantling to document the appointment in Sveve. There are requirements for two persons present, where person number two must have a relevant trade certificate or relevant approval for the task by the Directorate for Civil Protection.
- 5.2.2 Work comprised by these instructions is not allowed if there are thunderstorms or earth faults.
- 5.2.3 The person leading the work must instruct the work team prior to commencing work.
- 5.2.4 The person leading the work must always be present during the work.

6 Confirmation of compliance

The responsibility for checking compliance with instructions lies with the document holder and approving body.

The position of Installation Manager includes authority to draw up and approve work procedures, guidelines and instructions in areas covered by electrical safety in accordance with [policy sikkerhet](#) (Safety Policy – Norwegian document only).

7 Enclosures and references

References:

- [Policy sikkerhet](#) (Safety Policy – Norwegian document only) (SDOK-856-6)
- [Instructions for the high-voltage Work Controller](#) (SDOK-515-55)
- [Instructions for the Operation Controller](#) (SDOK-515-54)
- [Electrical safety procedural works](#) (SDOK-515-73)
- [Safety regulations related to the maintenance and operation of electrical installations](#) (FSE 2006) (www.dsb.no)
- [Lov om tilsyn med elektriske anlegg og elektrisk utstyr](#) (Act relating to the Inspection of Electrical Installations and Electrical Equipment – only in Norwegian) (www.lovdatab.no)

8 Version log

Valid from	Revision category (New/Updated/Wording/None)	Description of principal changes
01.01.2024	Updated	Changed name of roles: Switching Supervisor – Operation Controller Safety Supervisor – Work Controller Operations Manager – Installation Manager

Instructions

Instructions for connecting and disconnecting earth electrode installations

Revision log SDOK-515-61:

Revision	Approved	Approved by	Description
4.0	Show changes 02.01.2024	Arnfinn Granheim	See the version log
3.0	Show changes 30.12.2022	Arnfinn Granheim	See the version log
2.0	Show changes 29.12.2021	Arnfinn Granheim	Migrated from IFS#3050212
1.0	Show changes 29.12.2021	Arnfinn Granheim	Migrated from IFS#3050212