

Instruction

Distribution of roles: work permits for Wind&Solar facilities

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0 Reference

Document number	Title
ZST.10010043604.000	OP – Work permits in RGB

1 Introduction

This instruction complements the operational procedure on work permits in RGB.

In this instruction, the various roles mentioned in the procedure are described in detail and the parties who are to perform these roles and the associated tasks are named.

2 Roles, responsibilities and tasks

2.1 The operator

The operator is the party appointed by the installations owner to take care of the day-to-day management of the facilities. In this case, the operator will always be Electrabel's Operations & Maintenance Manager Wind&Solar.

2.2 The installation manager

This role is performed by the operations manager within Electrabel O&M Wind&Solar.

The installation manager:

- is responsible for the operation and maintenance of the installation;
- is responsible for key management and access to the installation;
- always has the latest information on the status of the installation and of any planned and ongoing works;
- takes charge of coordination with third parties. If necessary, the installation manager can also coordinate activities remotely.
- can appeal contractors to perform preventive and corrective maintenance and exceptional works;
- authorises contractors to perform preventive and corrective maintenance on the facilities by concluding a maintenance contract and placing an order;
- determines the minimum criteria to be met by the switching and/or tagging responsible and the work responsible;
- gives contractors the information they need about site-specific risks so that they can adapt their risk assessments accordingly;
- reviews contractors' risk assessments and checks compatibility/interference with other works;
- performs checks to determine whether contractors' employees have the certificates they need (e.g. BA4/BA5 certificate, forklift truck operating licence, Limosa declaration);
- may inspect contractors' activities. The installation manager uses the "observation tour" report document when performing such inspections;

2.3 The contractor

- is the company appointed by the installation manager to perform all the works described in its list of tasks, as specified in the order. The appointment document has been included as **Annex 1**.
If the contractor needs to carry out electric switching/tagging operations in order to perform its work, the switching and/or tagging responsible and the work responsible will be mentioned by name in the appointment document;
- gives the installation manager the necessary information about the risks specific to its works, in the form of a risk assessment;
- ensures that its employees who will perform the works have been given the necessary instructions and have received all the training they will need to be able to perform the works;
- appoints a Dutch-, French- or English-speaking contact person so as to ensure clear, unambiguous dialogue with the installation manager.

2.4 The switching and/or tagging responsible

- is a person appointed by the installation manager or the contractor, who is authorised to clear an installation for work or recommission it. The switching responsible is responsible for electrically releasing an installation, while the tagging responsible is responsible for releasing mechanical work;
- has been declared to be BA5-certified (or equivalent) in electrical switching by his/her employer;
- for electric switching, appoints one or more employees as BA5-certified persons to perform switching operations in units managed by Electrabel;
- can be the same person as the work responsible.

2.5 The work responsible

- is a person appointed by the installation manager or contractor to oversee the works, as described in the order;
- is responsible for safety at the installation and for managing specific risks inherent in the work;
- has sufficient experience with the type of work to be performed and has been declared BA5-certified (or equivalent);
- can be the same person as the switching and/or tagging responsible.

2.6 The permit issuer

The permit issuer is the person who issues the work permit for the work responsible. By granting the permit, the permit issuer declares, with regard to the work responsible, that all the relevant safety measures have been taken and that the work responsible can begin work on the installation. This person must therefore be present on site; a permit cannot be issued from another location.

The permit issuer can be an Electrabel employee or a contractor. For electrical switching operations, the work permit is issued by the switching responsible. For mechanical or other tagging, the work permit is issued by the tagging responsible.

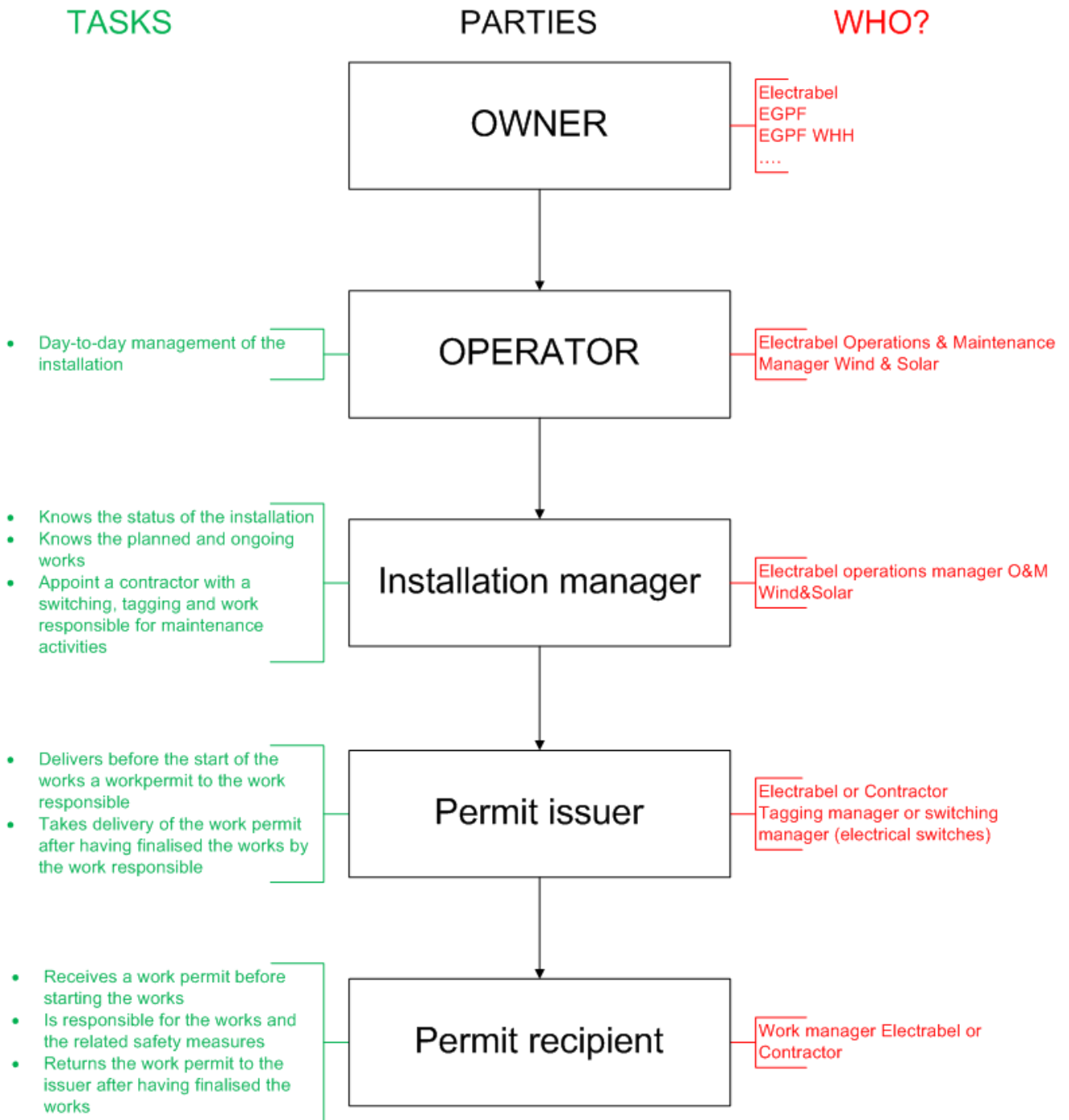
Annex 2a is a template that can be used for issuing work permits. The template in **Annex 2b** can be used for specific work permits for electrical switching. Contractors are allowed to use their own companies' templates providing that these are at least equivalent to the installation manager's template.

2.7 The permit recipient

The permit recipient is the work responsible. The permit recipient checks whether the safety measures in place will be enough to enable the works to be performed safely. Once the works are over, the permit recipient confirms that the installation has been left in a safe state and returns the work permit form to the permit issuer. Returning the form is a clear sign to the work responsible that the works have been completed, the safety measures are no longer in place and staff have been informed that the installation will be recommissioned and that it is dangerous to approach it.

The permit recipient may be an Electrabel employee or a contractor.

Summary diagram



3 Procedure

3.1 Types of work for which a work permit is required

The basic principle is that a work permit is required for any and all work. The only activities for which a work permit does not need to be issued are those listed in the *List with interventions not subjected to the work permit form*.

This list has been included as an annex to this instruction.

A project map must be drawn up before any high-risk works can be performed. The procedure for this is described in the instruction *Exceptional work at RGB*.

3.2 Interactions between the various parties

The principles described below apply at all times, whether a work permit is required or not.

3.2.1 Basic principles

A number of basic principles are outlined below. These must be respected by the various parties at all times.

All mechanical and electrical operations should be carried out in the presence of two authorized persons, other than following simple electrical operations, which can be performed by one authorized person if no third party is involved:

- Operating switchgear up to 1000V level, where there is no risk of contact with touchable parts;
- Resetting protections, or to operate the installation using a control panel where contact with touchable parts can be prevented at any time.

Apply the golden rules

The switching and/or tagging responsible must ensure that the five golden rules are applied in full.

The five golden rules are the following actions, which must be performed in this order:

1. Separate;
2. Tagging;
3. Measuring;
4. Earthing and short-circuiting;
5. Marking

- Separate

The part of the installation on which work is being performed must be disconnected in all directions of supply through use of appropriate, reliable isolating materials that can interrupt the current safely.

- Tagging

Appropriate material measures (e.g. applying a padlock or other lock, blocking the controls) must be taken so that the installation or the part of it being worked on cannot be

reconnected to the electricity supply or activated accidentally or early. Additional warning signs with messages like “Do not operate switches” or “Do not operate” must be placed. Auto reament power circuit breakers or other automatic mechanisms must be deactivated.

- **Measuring**

Suitable devices must be used to check that the system is seperated/depressurised. These devices must be checked beforehand to ensure they are working properly.

- **Earthing and short-circuiting**

The installation must be depressurised (mechanical) or earthed and short-circuited (electrical), as close as possible to the location of the works, by placing separate earth connections on parts that may go live. Earthing and short-circuiting is performed along both sides of the decommissioned parts.

- **Marking**

If the limits of the worksite are not clear or if confusion may arise, markings must be made to show where the work area begins and ends. It is advisable to use Electrabel's colour code:

- red and white to mark out work areas;
- yellow and black to mark hazardous areas;
- white for the access point to the work area.

Before the installation is decommissioned and recommissioned, the works must be prepared in writing (the eight golden rules). This section provides more information about who will take charge of this on behalf of the various parties.

3.2.2 Wearing PPE

The staff members reporting to the appointed switching and/or tagging manager and work supervisor must always wear the appropriate personal protective equipment when performing their activities, as specified by the risk assessments for these activities.

In performing electrical power switch operations, the following personal protective equipment must be worn at minimum:

- electrically insulating hard hat
- electrically insulating gloves of a class suitable for switching the installation on/off
- electrically insulating jacket
- insulating mat/bench.

3.2.3 Interactions before the works

The **installation manager**:

- approves the general work clearance and/or tagging guidelines drawn up by the switching and/or tagging responsible;
- must always be informed, by the switching and/or tagging responsible or the work responsible, of their presence on the site before the works start, in accordance with the applicable access procedures.

-

The **switching and/or tagging responsible** must prepare in writing for separation or tagging. This preparation is to be submitted to the installation manager before starting work.

The switching and/or tagging responsible ensures that the work supervisor has understood the following points correctly by including the following information in the work permit:

- an indication or description of the decommissioned installation (in the relevant section of the work permit), and/or a diagram if appropriate;
- the limits of the worksite (locations of the safety interrupters, of installations that will remain active, and of the markings);
- any specific risks (e.g. presence of any electrical installation that will remain live, cables, capacitor banks);
- special safety measures for the work to be performed.

The switching and/or tagging responsible signs the work permit and has the document signed by the work responsible. From that point on, no unilateral changes may be made to the work permit (or any annexes).

The **work responsible**:

- only gives authorisation to perform the works (after the five golden rules for electrical switching have been applied) after the switching and/or tagging responsible has supplied the work permit and after the work responsible has briefed his/her staff;
- must always check the safety measures applied by the switching and/or tagging responsible, using appropriate resources (such as a voltage detector);
- must place an additional padlock or means of immobilisation, in line with the principle of guaranteeing that electrical switches are separated and immune to short circuits;
- gives the staff performing the work all the safety information that they need or may find useful (more specifically, concerning all the risks connected to the work and the relevant preventive measures, such as: nature and scope of the decommissioned installations, limits of the works, location of the earthing and short-circuit mechanisms, location and meaning of markings, nature and scope of any parts of the installation that will remain operational);
- performs an LMRA before work starts;
- has the right and the duty to stop work from being performed if, despite the presence of tagging and a signed work permit, s/he feels on the basis of his/her knowledge of the subject that his/her staff or subcontractors will not be able to perform the work safely.

3.2.4 Interactions during the works

The **installation manager**:

- performs checks to ensure compliance with the provisions of this safety regulation.

While the work is going on, the **work responsible** is responsible for all measures to be taken with regard to the installation. In particular, the work responsible:

- ensures the safety of his/her own staff and subcontractors' staff;
- maintains earthing and short-circuiting measures and markings until the works are complete;

- suspends the works in the event of severe weather conditions that could threaten employees' safety (e.g. storms).

The **work responsible** and his/her staff are strictly prohibited from:

- passing markings, prohibition/warning signs, screens, obstacles, chains, padlocks or anything else that limits or prevents access to certain areas, regardless of the means used;
- operating levers, buttons or other controls of Electrabel facilities, unless these actions are among the actions that they have been asked to perform;
- using conductive materials such as rods or ladders, unless safety measures have been taken to stop these materials from accidentally or prematurely coming into contact with parts of the installation that are still in operation.

3.2.5 Interactions at the end of the works

The **work responsible**:

- removes all tools and materials used during the works;
- brings the staff together and formally forbids them to continue working on or in the vicinity of the installation;
- signs the work permit document to indicate the handover of the installation and gives it to the switching and/or tagging responsible;
- informs the installation responsible that the works have been completed if a switching and/or tagging responsible was not involved in the works.

The **switching and/or tagging manager**:

- after receiving the work permit, removes any markings and earthing and short-circuit measures and recommissions the installation;
- signs the work permit to indicate that the installation has been recommissioned and gives the installation manager a copy of the work permit.

Once the work responsible has cleared the installation to the installation manager, the work responsible and his/her staff will have to go through the work clearance procedure again before doing any other work, with the procedure being confirmed by a duly completed and signed work permit.

3.2.6 Works with the system operator/third parties

3.2.6.1 Works initiated by the grid operator or a third party

If the grid operator or a third party approaches the installation manager to initiate a separation, the following procedure applies:

- The installation manager is responsible for all communications with the grid operator or third party as far as planning the works is concerned.
- The switching responsible is responsible for all necessary communication with the grid operator or third party on site.
 - o The switching responsible is in charge of carrying out switching operations, as described in point 3.2.

- The switching manager gives the grid operator or third party a release certificate of the grid user (RCU). The RCU is not a work permit – it is a document drawn up by the switching responsible to confirm to the grid operator or third party that the requested system component has been removed from the grid user's system and is now available to the grid operator or third party. **Annex 3** is a template that contractors can use to draw up an RCU. Contractors are allowed to use their own companies' templates providing that these are at least equivalent to the installation manager's template. Before the works begin, the RCU must be signed by both the switching responsible (for execution) and the grid operator or third party (for acceptance).
- Once the grid operator or third party's works are over, this party must contact the switching responsible to ask for the separation to be lifted. They need to return the RCU (signed to indicate the handover of the installation) to the switching responsible.
- The switching responsible gives the installation manager a copy of the completed RCU.

3.2.6.2 Works initiated by the work responsible

If the work responsible requests works that will require safety measures to be taken on installations owned by the grid operator or a third party, the following procedure applies:

- The work responsible contacts the installation supervisor to organise a separation and to exchange information about the desired state of the installation and the physical position of the switches.
- The installation manager is responsible for all communications with the grid operator or third party as far as planning the works is concerned.
- The switching responsible/coordinator is responsible for all necessary communication with the grid operator or third party on site.
 - The switching responsible requests a delivery certificate from the grid operator or third party, in which this party confirms to the switching responsible that the components in question have been removed from the grid and are now available, in line with the switching responsible's requirements. This document is not a work permit. The switching responsible still needs to issue a work permit for the work responsible before works begin. The work permit must refer to the delivery certificate. Before the works begin, the delivery certificate must be signed by both the grid operator or third party (for execution) and the switching responsible (for acceptance).
 - The switching responsible is in charge of carrying out switching operations on the installation for which s/he is responsible, as described in point 3.2.
- Once the works are over, the switching responsible must sign the delivery certificate to indicate the handover of the installation. The grid operator or third party coordinates measures to lift the work clearance.
- The switching responsible gives the installation manager a copy of the completed delivery certificate and the work permit.

4 Annexes

Annex 1: contractor appointment document

Annex 2a: work permit

Annex 2b: work permit for electrical switching

Annex 3: RCU template

5 Supporting and reference documents

Document number	Title
ZNO.10010421873.000	IN – Exceptional work in RGB
ZNO.10010425426.000	HD – Work permit template
ZNO.10010425431.000	HD - List with interventions not subjected to the work permit form
ZNO.10010437261.000	HD – Register of RGB installation managers

6 Explanation of changes

Version no.	Reason for changes	Changed pages
00	Document layout	
01	Changes to roles and tasks	2, 3, 5