

## NOTIFICATION OF CONNECTION OF TYPE A POWER-GENERATING FACILITY TO THE LOW-VOLTAGE NETWORK – attached to pre-registration

The pre-registration concerns a type A power-generating facility which must meet all requirements of Commission Regulation (EU) 2016/631 establishing a network code on requirements for grid connection of generators, as well as the related Swedish regulation EIFS 2018:2

establishing generally applicable requirements for grid connection of generators. It is the facility owner's responsibility to ensure that the power-generating facility meets these requirements.

A type A power-generating facility is a facility with a maximum continuous capacity of between 0.8 kW and 1500 kW. The grid operator is entitled to require a type A power-generating facility owner to undertake compliance tests and simulations according to a repeat plan or general scheme or after any failure, modification or replacement of any equipment that may have an impact on the power-generating facility's compliance with the requirements of the above Regulation.

The power-generating facility owner may rely upon equipment certificates issued by an authorised certifier to demonstrate compliance with the above requirements.

**The attached pages with questions must be completed and signed by the responsible registered electrical installation company and by the facility owner, and attached to the notification.**

### Customer's details

Name	Telephone number
Address	
E-mail	
Facility ID	Electrical meter fuse

### Details of the power-generating facility

Power source	<input type="checkbox"/> Solar	<input type="checkbox"/> Wind	<input type="checkbox"/> Hydro	<input type="checkbox"/> Biofuel
	<input type="checkbox"/> Battery	<input type="checkbox"/> Other	<input type="checkbox"/> Supplemented with battery	
Make and type designation (inverter)				
Rated power (kVA/kW)		Power factor (cos $\phi$ )		
Maximum short-circuit current (A)		Size of any battery (kWh)		
Connection *Three-phase connection is always recommended, single-phase connection should not exceed 3 kW	<input type="checkbox"/> Single-phase	<input type="checkbox"/> Three-phase	Number of inverters (qty)	
The facility can be used for back-up power (island operation)	<input type="checkbox"/>			

Protection settings	Setting Time		Recommended value	
	Time	Level	Time	Level
Overvoltage (step 2)			60 s	253,0 V
Overvoltage (step 1)			0,2 s	264,5 V
Undervoltage			0,2 s	195,5 V
Overfrequency			0,5 s	>51,5 Hz
Underfrequency			0,5 s	<47,5 Hz
Protection from unwanted island operation			0,5 s	2,5 Hz/s <sup>1</sup>

<sup>1</sup> Frequency derivative

Electricity quality data	Value	Rec. limit	
Flicker values <sup>2</sup>	Pst	0,35	≤ 16 A <input type="checkbox"/> Calculated according to SS-EN 61000-3-3
	Plt	0,25	16 – 75 A <input type="checkbox"/> Calculated according to SS-EN 61000-3-11
			> 75 A <input type="checkbox"/> Calculated according to SS-EN 61400-21
Harmonics max 16 A	<input type="checkbox"/> Meets SS-EN 61000-3-2		
Harmonics 16-75 A	<input type="checkbox"/> Meets SS-EN 61000-3-12		
Harmonics > 75 A	<input type="checkbox"/> Interharmonics and individual current harmonics must be reported separately		

<sup>2</sup> To be completed only for wind power or if the information is requested

- The power-generating facility is designed as a fixed connection on a dedicated final circuit
- Switching devices for the power-generating facility are accessible for the grid operator at all times and are located:
- Indoors in the basement    Indoors in the distribution board    Outdoors in façade cabinets
- The facility is equipped with a logic interface that allows remote control

## Frequency response

The following configuration requirements for frequency response settings are taken from the Swedish Energy Market Inspectorate's regulation EIFS 2018:2, Commission Regulation (EU) 2016/631 (RFG) and the applicable Swedish standard SS-EN 50549-1. All requirements are mandatory unless otherwise stated.

<input type="checkbox"/> The facility meets the following requirements	Reference
The facility meets the requirement to remain connected within the following frequency ranges: <ul style="list-style-type: none"><li>• Not less than 30 minutes for frequency 47,5 – 49,0 Hz</li><li>• Unlimited for frequency range 49,0 – 51,0 Hz</li><li>• Not less than 30 minutes for frequency range 51,0 – 51,5 Hz</li></ul>	EIFS 2018:2 chapter 3 (1)
The system meets the requirement to remain connected to the network and operate with a rate of change of frequency up to 2.0 Hz/s	EIFS 2018:2 chapter 3 (2)
The plant meets the requirement to reduce its active power output when the frequency exceeds 50.5 Hz	EIFS 2018:2 chapter 3 (3)
The droop <sup>2</sup> setting is 8%	EIFS 2018:2 chapter 3 (4)
Active power output from the facility is reduced by a maximum of 3.0 per cent per Hz at frequencies below 49.0 Hz	EIFS 2018:2 chapter 3 (7)
The facility is automatically reconnected only within the frequency range 47.5 - 50.1 Hz: <ul style="list-style-type: none"><li>• Connection occurs only if the network frequency has been within this range continuously for at least 3 minutes</li></ul>	EIFS 2018:2 chapter 3 (8)
The facility meets the requirement concerning the increase of active power output during automatic connection as follows: <ul style="list-style-type: none"><li>• &lt; 49.9 Hz - rate of increase of active power output unlimited</li><li>• 49.9-50.1 Hz - rate of increase of active power output is limited to 10 per cent of nominal power output per minute</li><li>• &gt; 50.1 Hz - there is no increase of active power output</li></ul>	EIFS 2018:2 chapter 3 (9)
State the lowest active power output (in kW) to which the facility can be down-regulated in case of overfrequency:        kW	EIFS 2018:2 chapter 3 (5)

**We hereby certify that the above information is correct**

Signature

Name

Registered electrical installation company

Telephone number

**Facility owner**

Signature

Name

Telephone number

<sup>1</sup> The value of the rate of change of frequency must be measured at the grid connection point and calculated over a period of 0.5 s.

<sup>2</sup> Droop means the ratio of a change of frequency to the change in power output, expressed in percentage terms. The change of frequency is expressed as a ratio between the actual frequency and the nominal frequency. The power output is expressed as a ratio between the nominal power and the power output in case of overfrequency in the network. For regulation of the power output based on overfrequency, the droop is calculated according to the installed power of the plant. According to section 6 of the EIFS 2018:2.