REGISTRATION FOR CONNECTION OF POWER PRODUCTION FACILITY TYPE A – Pre registration attachment

Pre-registration applies to power production facility type A, which must meet all requirements according to EU regulation 2016/631 "Establishing a network code on requirements for grid connection of generators", and the Swedish regulation EIFS 2018:2 "Energimarknadsinspektionens föreskrifter om fastställande av generellt tillämpliga krav för nätanslutning av generatorer". It is the facility owner's responsibility to ensure that the production facility meets these requirements.

A type A production facility refers to a generator in the range from 0.8 kW to 1500 kW.

Ellevio as the grid owner is entitled to require of the owner of the production facility Type A to carry out initial and subsequent conformity tests and simulations, as planned or according to a general schedule. Tests can also be required after each fault, change or replacement of any equipment that may affect the production facility's compliance with the requirements of the above-mentioned regulations.

The facility owner is entitled to invoke equipment certificates issued by the competent certification body to demonstrate compliance with the requirements set out below.

Included pages of questions must be completed, signed by the responsible electrician and included in the application.

Relay protection settings (found in inverter type test protocol)	**Set value** Time	Level	**Rec. value** Time	Level
Overvoltage (step 2)	60 s	253.0 V	60 s	255.3 V
Overvoltage (step 1)	0.2 s	264.5 V	0.2 s	264.5 V
Undervoltage	0.2 s	195.5 V	0.2 s	195.5 V
Loss of Mains (LoM)	0.5 s	-	0.15 s	-

Power quality		Value	Rec. level	
Flicker values max 16 A	P_{st}	0.12	0.35	Flicker calculated according to EN 61000-3-3
	P_{lt}	0.12	0.25	
Flicker values >16 A	P_{st}	0.12	0.35	Flicker calculated according to ☐ EN 61000-3-3 ☑ EN 61000-3-11
	P_{lt}	0.12	0.25	

Frequency Response Settings

The requirements for the configuration of frequency response settings below are taken from the Energy Market Inspectorate's EIFS 2018: 2 regulation (valid from 2019-04-27), EU Commission Regulation 2016/631 (RFG) and applicable Swedish electricity standard SS-EN 50549-1 (applicable from 2019-05-16, replaces SS-EN 50438 2014 edition 2). All requirements are mandatory to fulfill unless otherwise stated.

Question	Answer	Hänvisning
	Yes/No	
Can the facility remain connected within the following frequency band?	Yes	EIFS 2018:2 3 Ch. §1
At least 30 minutes within frequency range 47.5 – 48.5 Hz?	Yes	
At least 30 minutes within frequency range 48.5 – 49.0 Hz?	Yes	
Unlimited time within frequency range 49.0 – 51.0 Hz?	Yes	
At least 30 minutes within frequency range 51.0 – 51.5 Hz?	Yes	
Does the facility meet the requirement to remain connected to the grid and operate at frequency changes up to 2,0 Hz/s?[1]	Yes	EIFS 2018:2 3 Ch. §2
Can the facility reduce its active output power when the frequency exceeds 50.5 Hz?	Yes	EIFS 2018:2 3 Ch. §3
Does the facility meet the requirements of a droop setting[2] of 8%?	Yes	EIFS 2018:2 3 Ch. §4
Is the active output power from the facility reduced by a maximum of 3% per Hz at a frequency lower the 49.0 Hz?	Yes	EIFS 2018:2 3 Ch. §7
Automatic reconnection of the facility is only done within the frequency range 47,5 – 50,1 Hz	Yes	EIFS 2018:2 3 Ch. §8
If yes, confirm that connection only occurs when the main frequency has been within this range connected for at least 3 minutes?	Yes	EIFS 2018:2 3 Ch. §8
Does the facility meet requirements for increasing the output of active power during automatic connection according to: • <49.9 Hz - Rate of increase of active power output not limited • 49.9–50.1 Hz - Rate of increase of active power output is a maximum of 10 percent of the nominal output per minute • > 50.1 Hz - Increase in output of active power does not occur	Yes	EIFS 2018:2 3 Ch. §9
	Value	
Specify the minimum regulating level (in kW) that the system can be controlled down to at overfrequency	0 kW	EIFS 2018:2 3 Ch. §5

Hereby it is verified that the above information is correct:

Signature	Torben Christensen Print name
Sønderborg Place	12.10.2021 Date

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[1] The value of the rate of change of frequency shall be measured in the connection point and be calculated over a time period of 0,5 s

[2] The droop setting is the ratio of a steady-state change of frequency to the resulting steady-state change in active power output, expressed in percentage terms. The change in frequency is expressed as a ratio to nominal frequency. The change in active power expressed as a ratio to the maximum continuous capacity (according to EIFS 2018:2 6 §).