SLOVENSKI STANDARD
SIST EN 50438:2014/IS1:2015

01-julij-2015

Zahteve za vzporedno vezavo mikro generatorjev z javnim nizkonapetostnim razdelilnim omrežjem - Dopolnilo IS1

Requirements for micro-generating plants to be connected in parallel with public low-voltage distribution networks

Anforderungen für den Anschluss von Klein-Generatoren an das öffentliche Niederspannungsnetz

Exigences pour les installations de micro-génération destinées à être raccordées en parallèle avec les réseaux publics de distribution à basse tension

Ta slovenski standard je istoveten z: **EN 50438:2013/IS1:2015**

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29.160.20	Generatorji	Generators
29.240.01	Omrežja za prenos in distribucijo električne energije na splošno	Power transmission and distribution networks in general

SIST EN 50438:2014/IS1:2015 **en,fr**

INTERPRETATION SHEET

FEUILLE D'INTERPRETATION

INTERPRETATIONSBLATT

EN 50438:2013/IS1

May 2015

ICS 29.160.20

English Version

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This European Standard was approved by CENELEC on 2015-04-20. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This Interpretation Sheet to the European Standard EN 50438:2013 was prepared by CLC/TC 8X “System aspects of electrical energy supply”.

Two topics are clarified:

- The considerations when applying EN 50438:2013 instead of EN 50438:2007;
- The intentional delay on the activation of the power response to over-frequency.

EN 50438:2013 has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

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Text of IS1 to EN 50438:2013

1 Application of EN 50438:2013 instead of EN 50438:2007

Clause

Foreword (dow) 2016-11-04

In its foreword, the latest date by which the national standards conflicting with EN 50438:2013 have to be withdrawn, is fixed to 2016-11-04.
It has been reported that the EN 50438:2013 has some new functionalities that are not yet available in current state-of-the art micro-generators.

Question

What considerations should be made when using EN 50438:2013 instead of EN 50438:2007?

Interpretation:

When a CENELEC standard is published, it contains a date of publication and a date of withdrawal defining the timeframe within which the national standards should be adapted to this new CENELEC standard.

Generally, the date of withdrawal is about 2½ years after the date of publication creating an overlap period where the new standard can co-exist with a conflicting one. In the specific case where a standard has been revised, different versions of a same standard can therefore co-exist. This is the case for EN 50438.

The latest version has been available since December 2013 and until the date of withdrawal (2016-11-04), the previous version of 2007 can still be applied.

In the EN 50438:2013 version, the two most significant changes in the technical requirements to the EN 50438:2007 version are the following:

- introduction of a power reduction capability in case of over-frequency;
- introduction of reactive power capability

TC 8X wants to emphasize that the over-frequency response requirements as described in EN 50438:2013 are important for grid stability and should be applied as soon as possible. The over-frequency response function is commonly implemented in the considered range of generating units.

However, there are other new requirements (e.g. providing reactive power) which are actually not yet commonly implemented in the considered range of generating units. For these new requirements, the industry might need appropriate time to modify their products. Often micro-generators are also certified by independent certification bodies which adds more time to the manufacturing and testing process. For the implementation of these requirements, a period of at least 18 months is considered reasonable.

These aspects should be considered when using EN 50438:2013 instead of EN 50438:2007.
When using EN 50438:2013, there may be a need to wait up to July 2015 for the application of Subclause 4.3.1.

2 Interpretation on power response to over-frequency

2.1 Subclause 4.2.5 Power response to over-frequency of EN 50438:2013

It has been reported that the function of the intentional delay to the power response to over frequency may be differently interpreted.

The generator shall be capable of activating active power frequency response as fast as technically feasible with an initial delay that shall be as short as possible with a maximum of 2 s. If the initial delay is below 2 s an intentional delay shall be programmable to adjust the total response time to a value between the initial response time and 2 s.

It is not clear from the above paragraph of Subclause 4.2.5 whether the programmable intentional delay is a permanent delay (dead time) within the function or whether it is only a delay to start the execution of the function.

2.2 Question:

Is the intentional delay integrated into the control loop (dead time) of the active power setpoint in case of over-frequency or is it only delaying the activation of the active power control?

2.3 Interpretation:

With the provision described in Subclause 4.2.5 of EN 50438:2013, the intentional delay is only active for the activation of the function, once the function is operating, the established control loop is not intentionally delayed.

NOTE 1 The option of an intentional delay is required since a very fast and undelayed active power frequency response in case of islanding would correct any excess of generation leading to a generation-consumption balance. In these circumstances, an islanding situation with stable frequency would take place, in which the correct behaviour of any LoM detection based on frequency might be hindered.

NOTE 2 The intentional delay is considered relevant for power system stability. For that reason legal regulations might require a mutual agreement on the setting between DSO and TSO.