Work to establish standard

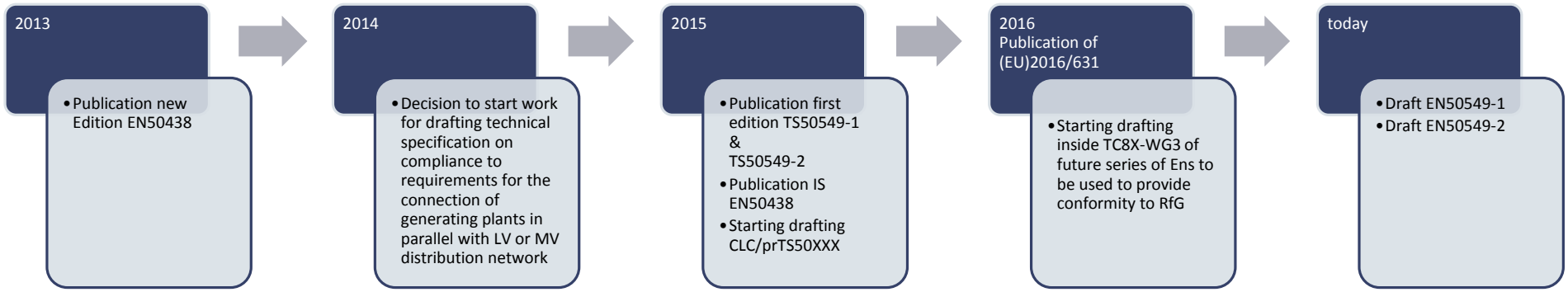
EN50549-1

EN50549-2

EN50549-10

Summary

Key points TC8X / WG3



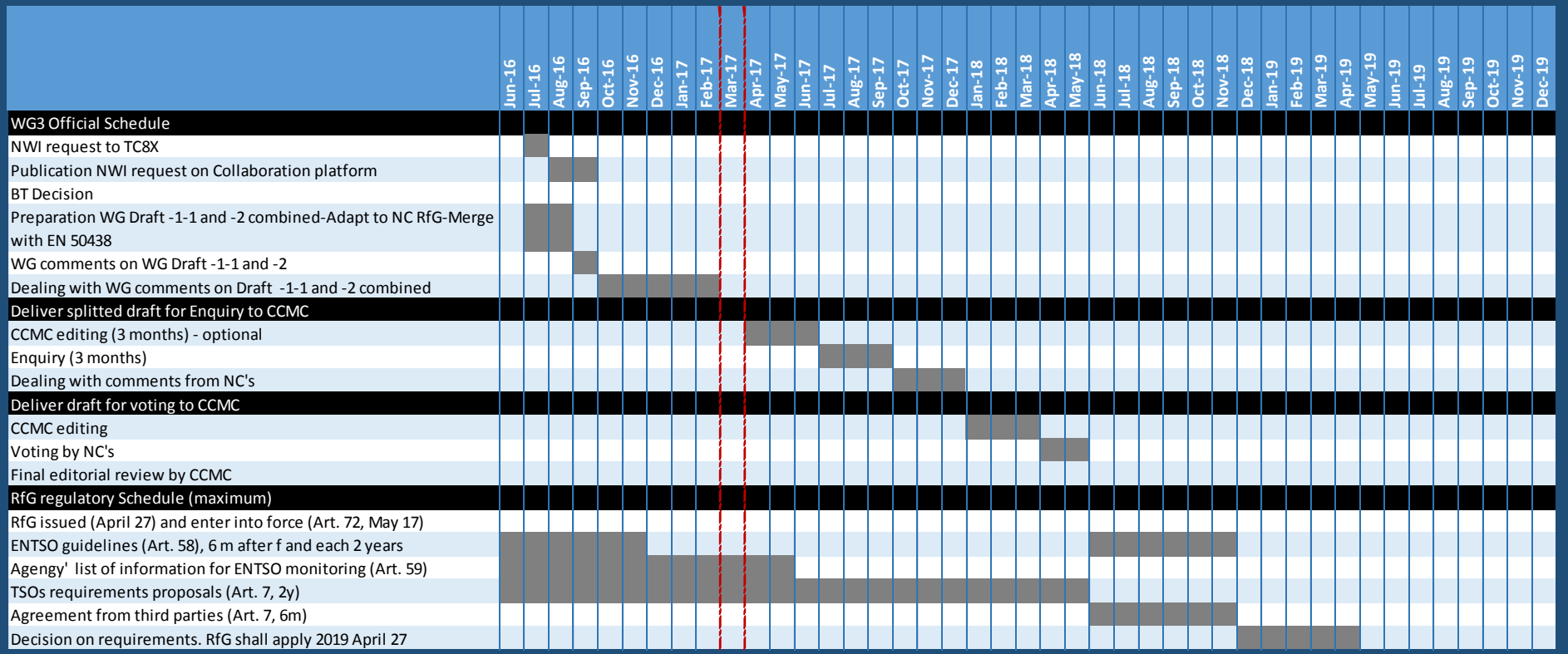
EN 50438 LV connected micro-generating plants

EN 50549 Requirements for generators to be connected to distribution networks - Part 1 connection to a LV distribution network – Generating plants of Type B and smaller

EN50549 Requirements for generators to be connected to distribution networks Part 2 connection to a MV distribution network – Generating plants of Type B and smaller

Schedule

EN50549- 1 & 2 a very constrained timetable



TC8X / WG3 approach

- A single understanding of vocabulary and definitions and requirements
- A wider scope than RfG scope
  - including RfG requirements and their national implementation
  - Including requirements of DSOs
- A reference for Members States without existing technical guidelines
- A reference for manufacturer to facilitate design and manufacture of mass generating units (class A&B)

TC8X / WG3 approach

A single understanding of vocabulary, definitions and requirements

Some definitions should be clarified for a common understanding in all members states translated languages

What is the definition of:

- Unit
- Module
- Plant
- Facility

CENELEC

TC8X / WG3 approach

A single understanding of vocabulary, definitions and requirements

CENELEC asked questions to European stakeholder committee regarding requirements

Active power Set-points during LSFM-O

- *When LFSM-O is active, the LFSM-O set-point will prevail over any other active power set-points which would result in an increase of power above the LFSM-O set-point. Is this in line with RfG art 13(2)?*

- Response time to LFSM-O
  - *Based on CENELEC survey to include all technologies a response time between15s and 30s shall be considered. To be confirmed if this is feasible according to RfG*
- Active Power Output for falling frequency
  - *We need confirmation of the understanding that power reduction logic shall take into account technical capabilities of PGU along all frequency range and can foresee higher power reduction than the specified curve*
- LSFM-O logic with Hysteresis
  - *We would like to know if such characteristics are in line with the RfG requirements, since the characteristics serve well reducing the power.*
- Minimum Requirements or …
  - *We need to understand how to consider the RfG requirements to properly align the text of the standards under drafts. The aim of the standards under draft is documents that can be useful for an extended audience. Therefore clarification is needed if more stringent requirements shall be considered and/or additional requirements can be introduced*

New Annexes

List of national requirements applicable for Generating plants

To provide information for the user which further documents are relevant for grid connection

"This list is informative only and might not be complete. It is the responsibility of the producer to ensure that all applicable requirements are complied with"

Annex D
(informative)

List of national requirements applicable for Generating plants

This Annex provides an overview of further national requirements applicable for generating plants. Generating plants are expected to be required to comply with these national requirements.

This list is informative only and might not be complete. It is the responsibility of the producer to ensure that all applicable requirements are complied with.

During the enquiry stage of this document national committees are asked to provide information regarding applicable documents in their country. Please provide information in a comment to this annex

Country	Applicable Documents
Germany	VDE-AR-N 4105 VDE-AR-N 4110
Great Britain	ER G59 ER G83 ER G99 (post May 2019) ER G98 (post May 2019)

TC8X / WG3 approach

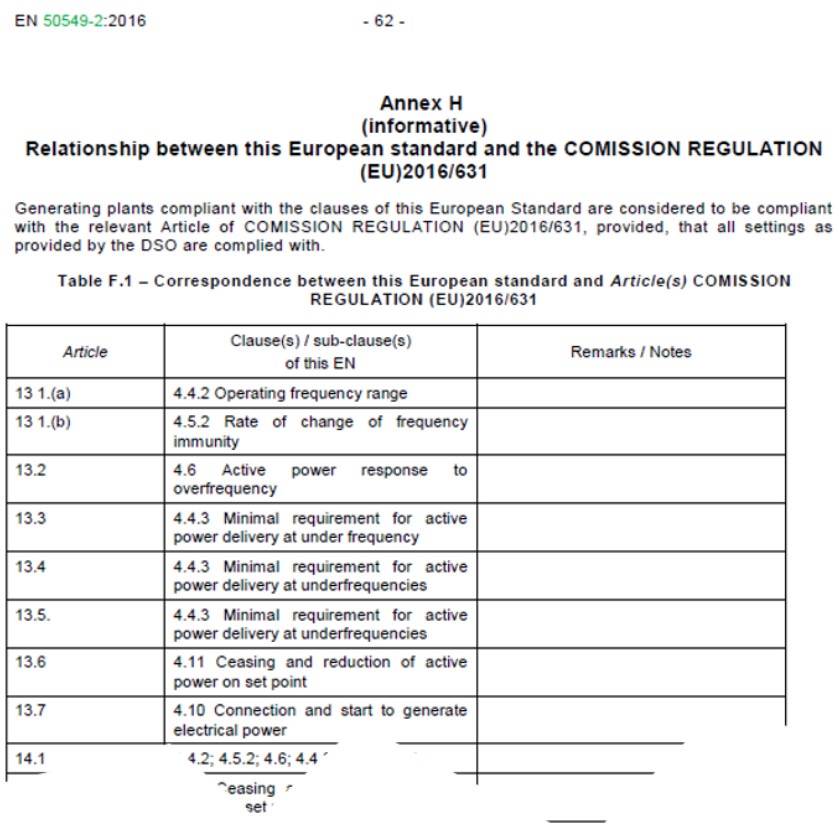
A wider scope than RfG scope -including RfG requirements and their national implementation -including requirements of DSOs

New Annexes

Relationship between this European standard and the COMISSION REGULATION (EU)2016/631

To provide information which articles of 2016/631 are covered by which clause of EN50549

"Generating plants compliant with the clauses of this European Standard are considered to be compliant with the relevant Article of COMISSION REGULATION (EU)2016/631, provided, that all settings as provided by the DSO are complied with."



EN 50549-2:2016 - 62 -

Annex H
(informative)
Relationship between this European standard and the COMISSION REGULATION (EU)2016/631

Generating plants compliant with the clauses of this European Standard are considered to be compliant with the relevant Article of COMISSION REGULATION (EU)2016/631, provided, that all settings as provided by the DSO are complied with.

Table F.1 – Correspondence between this European standard and *Article(s)* COMISSION REGULATION (EU)2016/631

Article	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
13 1.(a)	4.4.2 Operating frequency range	
13 1.(b)	4.5.2 Rate of change of frequency immunity	
13.2	4.6 Active power response to overfrequency	
13.3	4.4.3 Minimal requirement for active power delivery at under frequency	
13.4	4.4.3 Minimal requirement for active power delivery at underfrequencies	
13.5.	4.4.3 Minimal requirement for active power delivery at underfrequencies	
13.6	4.11 Ceasing and reduction of active power on set point	
13.7	4.10 Connection and start to generate electrical power	
14.1	4.2; 4.5.2; 4.6; 4.4 Ceasing set	

New Annexes

Parameter Table

Table for all defined parameters might be used by DSOs to provide parameter settings to customers

Annex B
(informative)

Parameter Table

This Annex provides an overview over all parameters used in this European Standard, the value range and the default values provided in this European Standard as well as a column for specific values as required by one DSO. The Column Ref specifies if a parameter is relevant for COMMISSION REGULATION 2016/631 and for what Type of generating module the parameter is relevant.

Table C1 – Parameter Table

Clause(s) / sub-clause(s) of this EN	Ref	Parameter	Value range	Value default	DSO Require-ment
4.3.2 Interface switch	n.a.	Single fault tolerance for interface switch required	Yes | no	no	
4.4.2 Operating frequency range	A	47,0-47-5Hz- Duration	n.a.	0s	
	A	47,5-48-5Hz- Duration		30 min	
	A	48,5-49,0Hz- Duration		30 min	
	A	49,0-51,0Hz- Duration		Unlimited	
	A	51,0-51,5Hz Duration		30 min	
	A	51,5-52Hz Duration		0s	
4.4.3 Minimal requirement for active power delivery at underfrequencies	A	Reduction threshold	49 – 49,5Hz	49,5Hz	
	A	Reduction rate	2% - 10% PM	10%	
4.4.4 Continuous operating voltage range	n.a.	--			
[illegible] Rate of change [illegible]		ROCOF withst[illegible]			

Next steps

- 2016-11-23

  TC8X decided to distribute the draft of technical Specification (CLC/prTS50XXX) on compliance test and start debate inside WG3 of the structure of the future series of Ens to be used to provide conformity to the network code RfG.

- 2017-03-22

  Start of work on EN50549-10 Compliance test specification

Others considerations

CENELEC wrote of European stakeholder committee to drawn the attention on an essential point

Establish

- An effective Harmonization or as a minimum coordinated values for non exhaustive parameters regarding frequency requirement on the same synchronous area

To avoid

- A specific range of product developed for each member state with consequences on generation cost
- An unfair sharing of efforts to ensure system stability

Others considerations

- Drafting of EN50549-10 is starting.
  It should be use to provide conformity with RfG
- Simultaneously national implementation are progressing and future national technical guidelines are to be established.
- Should EN5049-10 be taken as basis to specify a methodology for testing and assessing RfG exhaustive and non exhaustive requirements to be used for mass generating units