

# TC8X WG03 Activity Report

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PRESENTED TO ESC MEETING 2024-12-09

# AGENDA

- Status of prEN 50549-10
- Status of prTS 50744-1
- New project about self-regulation of dispatchable loads.
- European Stakeholder Committee and related

# EN 50549 Family Standard Status

EN 50549-10:2022	Requirements for generating plants to be connected in parallel with distribution networks - Part 10: Tests for conformity assessment of generating units	Published 2022-10-28
EN 50549-1:2019/A1:2023	Requirements for generating plants to be connected in parallel with distribution networks - Part 1: Connection to a LV distribution network - Generating plants up to and including Type B	Published 2023-10-27
EN 50549-2:2019/A1:2023	Requirements for generating plants to be connected in parallel with distribution networks - Part 2: Connection to a MV distribution network - Generating plants up to and including Type B	Published 2023-10-27

# prEN 50549-10 ED2 Status

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Requirements for generating plants to be connected in parallel with distribution networks - Part 10: Tests for conformity assessment of generating units

- Published in October 2022.
- Large number of comments received on the public enquiry were not integrated in the available publication
- Development of ED2 to include these comments has been decided by TC8X during the GM held on 2023 Nov 24<sup>th</sup>.
  - The technical discussion is already very far. First completed draft for internal commenting consists in more than 170 pages
  - Comments discussion already started

# prEN 50549-10 ED2 Status

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- From 2024 Oct 8<sup>th</sup> to 2024 Nov 29<sup>th</sup> seven 3 hours webmeetings held/scheduled. Two additional webmeetings and a physical meeting from December 20023 up to February 2024 already scheduled (a 3 days physical meeting already defined end February 2025)
- To speed the process, a dedicated team was created to support the clarification towards transferability of type tests (Families and Variants) with parallel additional meetings (11 experts). Many meetings held and already scheduled due to the heavy involvement of wind industries/experts
- Definition of complete draft of the document expected by April 2025
- Publication expected by end 2026

# CLC/prTS 50744-1 (former prTS 50549-20) Status

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Originally defined as a new 50549 Family Standard project (50549-20), new official denomination is now:

**CLC/prTS 50744-1 Electrical characteristics of grid-forming generating and storage units to be connected in parallel with electrical networks - definitions and tests**

50549 series involves only generating plants to be connected in parallel with **distribution** networks, while this new project refers to generating plants to be connected in parallel with electrical networks (not only distribution)

# CLC/prTS 50744-1 (former prTS 50549-20) Status

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WG03 agreed to keep the scope and just change the numbering of the TS and additionally to modify the title to make the difference to 50549-series clearer.

The project is aimed to:

- define parameters that are representing the electrical characteristics of grid-forming
- set suitable compliance assessment procedure to determine these electrical characteristics

# CLC/prTS 50744-1 (former prTS 50549-20) Status

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- The project covers the behavior of GFCs in normal operational range including:
  - voltage source behavior
  - provision of inertial response
  - power quality
  - controller stability/controller interactions
  
- It covers also the behavior of GFCs during:
  - grid-faults and other events resulting in reaching limitations of the converter (overload situations/limitations)



# CLC/prTS 50744-1 (former prTS 50549-20) Status

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- The TS is aligned with 50549 family Standard, despite the different numbering
- This TS does not provide specific requirements on parameter values such as:
  - inertia,
  - impedance
  - etc,

**these will be defined according to TG GFC outputs.**

To assure the coordination between the prTS 50744-1 and the outcomes of ENTSo-E TG-GFC, seven WG03 experts are participating to ESC-TG-GFC activity.

Once this activity will be concluded, resulting in the publication from ENTSOE of an IGD, WG03 willingness is to convert these requirements, with all the due integrations, in a new 50744 Family Standard document (prTS 50744-2 ?).

# CLC/prTS 50744-1 (former prTS 50549-20) Status

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- 1<sup>st</sup> Draft completed by the subgroups
- Internal commenting and discussion of comments completed
- Implementation of comments ongoing
  - Some comments needs further discussion in the subgroup
- Circulation of complete draft of the doc expected by end April 2025
- Publication expected by October 2026

# New Projects on dispatchable loads

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- WG 03 new title (April 2023): Requirements for connection of generators and dispatchable loads to distribution networks
- NWIP on a TS on Self-Regulation of Dispatchable Loads
  - Introduced in view of DCC 2.0 which foresees stabilising requirements for specific loads
  - Will be based on an existing IEC TS 62898-3-3 (Self-regulation of dispatchable loads) document focused on microGrids, but modified according to the needs of the European framework (revision of the scope, alignment to the EN 50549 family standards, enhancement of the testing chapter according to EN 50549-10, etc)
  - Aimed to define behaviors of dispatchable loads to stabilize AC electricity networks frequency and voltage (by autonomous reaction on variations of frequency and voltage with a change in active power consumption).

# New Projects on dispatchable loads

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- Voluntary quality standard recommended for noncritical loads (not significantly affected by power modulation), without precise definition of which loads shall participate in this approach
- A new work item will be officially started by TC8X after and the call for experts (withing June 2024 - 1/2 half July 2024). Activities will start once the project team will be defined
- An IGD from ENTSOE will be defined regarding certification of heat pumps and Evs, so definition of proper Standardization would be both necessary and an opportunity. 2024 10 25 kick off meeting of ESC GC – Development of Certification for EVs and Heat Pumps
- Results of Call for Experts launched in July to be discussed



CLC/TC 8X - System aspects of electrical energy supply

TC8X/Sec0204/INF  
July 2024

Call for expert for a new project about self-regulation of dispatchable loads

# New Projects on conformity assessment of larger generating units (Type C and D)

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- NWIP on Tests for conformity assessment of larger generating units (Type C and D) including grid support functions of RfG
- Currently -10 only covers grid support functions as required for Type A and B generating units
  - Functions required from Type C and D units need further test definition
  - Relationship to existing 61400 Series for wind turbines must be handled
  - NWIP will be officially proposed from CH NC.

# Conclusion

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**Thank you for your attention.**