

Work program of TC8X WG03

Current state of work on the Standards

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TC8X WG03 denomination and scope

WG03 updated title:

“Requirements for connection of generators and dispatchable loads to the public electrical grid”

WG03 updated scope:

- **connection criteria to public electrical grid;**
- **protection criteria (control, switching and protection equipment);**
- **safety criteria;**
- **installation criteria**

New Scope does not imply automatic extension to transmission, but the possibility, on specific projects, like prTS 50744-1, and following their approvals, not to limit the application to distribution.

It is not intended to replace Grid Codes from TSO !

TC8X WG03 Overall Standardization activities overview

EN 50549-10	Requirements for generating plants to be connected in parallel with distribution networks - Part 10: Tests for conformity assessment of generating units	ED. 1 published 2022-10-28 ED. 2 in publication stage MORE INFOS IN DEDICATED SLIDE
EN 50549-1/A1	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	A1:Published 2023-10-27 Work on ED 2 or A2 started MORE INFOS IN DEDICATED SLIDE
EN 50549-2/A1	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	
prTS 50744-1	Electrical characteristics of grid-forming generating and storage plants to be connected in parallel with electrical networks - definitions and tests of units	Fully aligned with TG-GFC Final Report chapter 3 + necessary details for application + optional tests Full draft for WG03 internal comments mid July 2026
prTS 50XXX	Requirements for dispatchable loads to be connected in parallel with public electrical grid - Part 1: Self-Regulation of Dispatchable Loads	Circulation of 1 st draft for internal comments before Summer 2026, target to deliver doc for inquiry end Summer. MORE INFOS IN DEDICATED SLIDE

Overall Standardization activities overview

prTS CLC/prTS 50773-1	Requirements for generating plants to be connected in parallel with public electrical grid - Part 1: Type C Generating plants	Circulation of 1 st draft Dec. 2026 - 1 th quarter 2027 MORE INFOS IN DEDICATED SLIDE
prTS CLC/prTS 50773-2	Requirements for generating plants to be connected in parallel with public electrical grid - Part 2: Type D Generating plants	
prTS CLC/prTS 50773-10	Requirements for generating plants to be connected in parallel with public electrical grid - Part 11: Tests for conformity assessment of Type C and D generating units	
prEN 50744-2	Electrical characteristics of grid-forming generating and storage plants to be connected in parallel with electrical networks – functional requirements	1 st draft expected last quarter 2026. ENQ first quarter 2027

prEN 50549-10 ED2 Status

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

Edition 2:

- ENQ started May 22nd and will end August 14th.
- If 70% of votes will be positive, it will be directly published as a standard.
- Target is to have EN 50549-10 ED.2 before RfG 2.0 publication.
- A further update is to be expected once 50549-1 and -2 will be updated in view of RfG 2.0

EN 50549-1&2 AMD/ED2 Status

- Secretary inquiry closed
- EN 50549-2 received the about 70 comments, many editorial ones, from limited number of Countries: Croatia, Switzerland, Finland, Italy, France, Spain
- EN 50549-1 seems not to have received comments
- Foreseen/possible improvements: ROCOF immunity, OVRT, evolved Q(U), etc, plus received comments resolution. Iberian blackout analysis recommendations to be included
- A TF has been set-up, activity program to be defined with the target to have new Standards versions around publication of RfG 2.0

82843 prTS 50XXX-1

“Requirements for dispatchable loads to be connected in parallel with public electrical grid - Part 1: Self-Regulation of Dispatchable Loads”

- The TS will start from a non identical adoption from IEC source, namely TS 62898-3-3 “Microgrids – Part 3-3: Technical requirements – Self-regulation of dispatchable loads”
- Main justification: useful in view of DCC 2.0 which foresees stabilising requirements for specific loads (to avoid multiple not coordinated implementations). Updates of DCC 2.0 with respect to Dec. 2023 draft, if any, would help the TF work.
- Experts participation
 - Industrial Automation
 - E-Mobility
 - Heat Pumps
 - Test labs & certification bodies
 - Academia
 - System Operators
 - Stationary BESS

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

- CLC/prTS 50773-1: Requirements for generating plants to be connected in parallel with public electrical grid - Part 1: Type C
Generating plants:

The proposed TS will provide technical requirements for the connection of Type C generating plants which can be operated in parallel with a public electrical grid (generally MV or HV). They are intended to be used as a technical reference for connection agreements between grid operator and electricity producers and to demonstrate compliance with Requirements for Generators Regulation.

- CLC/prTS 50773-2: Requirements for generating plants to be connected in parallel with public electrical grid - Part 2: Type D
Generating plants:

The proposed TS will provide technical requirements for the connection of Type D generating plants which can be operated in parallel with a public electrical grid (generally HV). They are intended to be used as a technical reference for connection agreements between grid operator and electricity producers and to demonstrate compliance with Requirements for Generators Regulation.

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

- CLC/prTS 50773-10: Requirements for generating plants to be connected in parallel with public electrical grid - Part 10: Tests for conformity assessment of Type C and D generating units:

The proposed TS will provide tests for conformity assessment of Type C and D generating plants which can be operated in parallel with a public electrical grid. They are intended to be used as a technical reference for connection agreements between grid operator and electricity producers and to demonstrate compliance with Requirements for Generators Regulation.

- kick-off meeting: 27 April 2026
- TF established to work on all 3 parts
- EN 50549-2 will be used as basis for the standard regarding structure, content will refer to RfG 2.0 draft Dec. 2023 (and agreed recommendation presented within GC ESC) or RfG 2.0 once published
- delivery of 1st WD: last quarter 2026 unless important changes due to RfG 2.0 publication

- Approval & publication: end 2027, 1st half 2028

prTS 50744-2 Status

“Electrical characteristics of grid-forming generating and storage plants to be connected in parallel with electrical networks – functional requirements”

- After entry into force of RfG 2.0, each Member State will have to define a “national Roadmap” within 2 years to rule also GFC implementation.
- TG GFC Final Report does not have a sufficient level of detail so to allow an unambiguous application, both from RSOs and from Manufacturers perspective
- purpose of this document is to give a detailed description of the grid-forming functions to be implemented in generating units of non-synchronous generating technology, offering a solution to avoid diverging national implementation of RfG2.0 principles
- will relate to both the RfG European Network Code 2.0 and GRID FORMING CAPABILITY OF POWER PARK MODULES - REPORT ON TECHNICAL REQUIREMENTS 2025-10-03. Main focus will be on requirements described at high level in Articles Y, 20 and 21 of draft European Network Code RfG2.0 and in Chapter 2 of the REPORT.
- will be also fully coordinated with TS 50477-1, whose content is already aligned with chapter 3 of the REPORT.

prTS 50744-2 Status

- Working draft prepared: same approach as 50744-1, i.e. chapter 4 defining minimum mandatory requirements with addition of necessary additional details for unambiguous interpretation & chapter 5 describing testing of additional optional capabilities following a voluntary based approach.
- Once finalized, both RSOs and Manufacturers will have all details and proper time to define the solutions and the products
- PL: T. Schaupp, CO-PL: Y. Laba on RTE proposal sent to public inquiry and approved on 2026-05-08

IEC activities on GFCs

Main updates

- IEC TC8 SC8A JWG5 **PNW TS 8A-230 ED1 Interconnection of converter-based resources with power systems - Part 10: Framework for the capability and performance of grid forming functions:**
- **Two meetings with presentation of overall “EU” solution (TG GFC Final report) + 1 meeting dedicated to “current scaling” choice.** Evaluations from IEEE still on course, no agreement at the moment of EU solution. Likely EU GFM framework, both from legal and Standardization perspective, will be completed much ahead and with proper detail level for unambiguous application