TC8X WG03 Activity Report

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PRESENTED TO ESC MEETING 2025-03-19

AGENDA

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

TC8X WG03 scope modifications

Following TC8X GM (November 2024) some Qs were launched following comments from some Member States regarding clarifications on the WG scope

Q.1: Do you approve WG03 new title "Requirements for connection of generators and dispatchable loads to the public electrical grid": APPROVED

Q.2: Do you approve WG03 new scope:

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

: APPROVED

Scope modification does not imply automatic extension to trasmission, 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 !

Due to scope modification, not limited to distribution networks, a call for expert (additional ones) has been launched to increase expertise.

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

During 3 days physical meeting in Brussels (February 2025, 17th-21st) all comments have been discussed.

A taskforce for implementation has been created and work started in March 2025, supported also from Fraunhofer ISE.

8 weeks for the completion are expected, followed by 4 weeks for document reviewing from WG03 members.

A final meeting to close the draft is planned for June 3rd .

Publication of EN 50549-10 Ed. 2 is anyway expected by end 2026.

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

Internal comments discussed during 3 days physical meeting in Brussels (February 2025, 17th-21st).

Comments implementation is currently ongoing.

Draft shall be provided to WG03 members by mid May, comments by end May 2024.

The second WG draft is planned to be distributed beginning of June.

Islanding test will be added.

Publication anyway expected by October 2026

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

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)

Following TC8X GM (November 2024) some Qs were launched following comments from some Member States regarding numbering and title changes due to clarifications on the scope

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

Inquiries results:

- **Q.1: Do you confirm the TS numbering: CONFIRMED (New numbering)**
- **Q.2: Do you confirm the TS title: CONFIRMED (New title)**
- **Q.3: Do you confirm the TS scope: CONFIRMED (TS scope is not limited to the distribution grid)**

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

- 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 ?).

New Projects on dispatchable loads

- WG 03 new title (April 2023): Requirements for connection of generators and dispatchable loads to distribution networks
- work item is approved
- Currently we need a Project Leader Acting Secretary to start the activity without any further delay
- Another call for experts had been distributed
- Contact with the Associations (namely EHPA) and industries has been established
- No useful answer up to now

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

- Waiting for Swiss NC actions.

Report about Grid Connection European Stakeholder Committee (GC ESC) and its Expert Groups

- Partecipation to European Stakeholder Committee
- Partecipation to TG-GFC with 7 experts. Meetings every second week. Important contribution from WG03 experts. Huge effort to align the test chapter originally present in the IGD draft with 50744-1 draft from the Project Leader (Roland Singer, Fraunhofer)
- Once the publication from ENTSOE of an IGD on GFCs, WG03 willingness is to convert these requirements, with all the due integrations, in a new 50744 Family Standard document (prTS 50744-2 ?).

Possible relationship with IEC Standardization

IEC SC8A since early 2023 has considered the possibility of collaborating with IEEE on grid forming through its WG5 taking into consideration IEEE 2800.

During plenary meeting of SC8A in Paris in September 2024, it was proposed to establish a series of grid connection standards related to Grid forming and to promote the joint development of the IEC and IEEE dual logo standard within JWG5.

A 3 days meeting of SC8A and JWG5 was held in Fraunhofer premises (Kassel) March 4th-6th 2025 to start this activity.

After long discussion JWG5 decided that “JWG5 will take the responsibility to simultaneously monitoring and coordinating global grid forming related activities (e.g. ENTSO-E RfG, Cigre, NERC, AEMO, NESO, VDE) to ensure consistency and alignment”.

WG03 experts invited to SC8A/JWG5 pointed out that:

- Rfg 2.0 and related documents (IGD on grid forming) will have legal value, other docs mentioned are voluntary or will have to be consistent with RfG (EU National Standards)
- RfG 2.0 will entry into force by end 2025 and IGD on GFCs requirements within 6 months from the entry into force of RfG 2.0.
- Being expected from 3 to 5 years for the IEC-IEEE docs, EU docs will be totally defined well before IEC-IEEE ones.

Possible relationship with IEC Standardization

Therefore, considering that:

- Important point is that in IEC-IEEE Standard among all possible solutions/capabilities which may be included, EU docs (RfG, IGD, others) will be as well considered and allowed to avoid conflicting standardizations and totally market specific products
- The way of coordinating the works with ENTSO-E is not specified

it seems useful to involve ENTSO-E in the projects at JWG5 to enhance coordination with IEC and IEEE.

IEC TC 8 Convenor indicated as the potential method to achieve this is in the establishment of a Category C liaison with ENTSOE.

As described in IEC website (Global partnerships), **Category C liaison organizations are entities that contribute technically and participate actively in working groups, maintenance teams, or project teams. These organizations include multinational manufacturer associations, commercial associations, industrial consortia, user groups, and professional/scientific societies. They must be willing to contribute to IEC or ISO and have significant representation in their field. The committee secretary submits Category C liaisons for approval to the technical management board, including a rationale and evidence of meeting acceptance criteria. Liaison arrangements are reviewed regularly, at least every two years or at each committee meeting. Category C liaison organizations have the right to participate as full members in working groups or project teams, with their experts acting as official representatives**.

It is necessary that WG03 will start to work on a TS on grid forming capabilities (TS 50744-2 for instance) after the end of TG GFC work.

Conclusion

Thank you for your attention.