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Homologation HV switchgear (Ur ≤ 24kV)
New C2/113-x Ed.2
Info session 25 March 2024
(Webinar)

Welcome!

- Subject

  Review of documents C2/113-x related to the Synergrid homologation of HV switchgear, intended for use in an installation connected to the public **HV distribution loop** of a Belgian DSO

- Drivers for review of the documents C2/113-x
- Documents today available on the Synergrid website
- Q&A via Chat

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1. Context
2. Optimisation of homologation procedure
3. Review of technical requirements
4. Review coding FU and AA categories
5. Published docs & info on website
6. Wrap-up
7. Q&A

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Context for review of C2/113-x documents

Drivers for review of C2/113-x documents

- Optimisation of the homologation procedure (C2/113-1):
  - Enabling shorter lead times and commitment towards applicants
  - Clarification of role and responsibilities of parties involved:
    - Synergrid's responsibility consists in the correct application of the homologation procedure
    - Technical content is the responsibility of the applicant
- Review of normative requirements (C2/113-3) and specific design & construction requirements (C2/113-4) :
  - Maintain only the requirements related to well defined criteria (pillars) as explained further in this presentation
  - Align as much as possible the applicable international standards IEC 62271-series (C2/113-3)
  - Make fit for homologation of F-gas free HV switchgear regarding the European F-gas Regulation (EU) 2024/573

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Optimisation of homologation procedure

Pro-memory:

A homologation procedure consists of two consecutive steps:

1. (Registration and) Pre-classification step
2. Homologation step

Optimisation of homologation procedure

Which new elements have been introduced to achieve the optimisation?

- Registration by the applicant prior to his pre-classification request
- Mandatory info session where the homologation process and related documents are explained
  → Aim first time right 🎯
- Technical session where the applicant explains his homologation scope and pre-classification file
  a.o. cross section views of FUs with gas evacuation path in case of internal arc (to acknowledge the AA-category)
- Increased monitoring of input quality
  → Rules to be followed by the applicant for compiling his technical dossier and defining its technical content
- Early-stage evaluation of the maturity of the HV switchgear family subject to homologation
  → Based on the completed assessment guide C2/113-3 "big 5"
  big 5 = dielectric, continuous current, short time and peak withstand current, make & break, IAC
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the process if result of administrative check (incl. rules for compiling the dossier) is not OK

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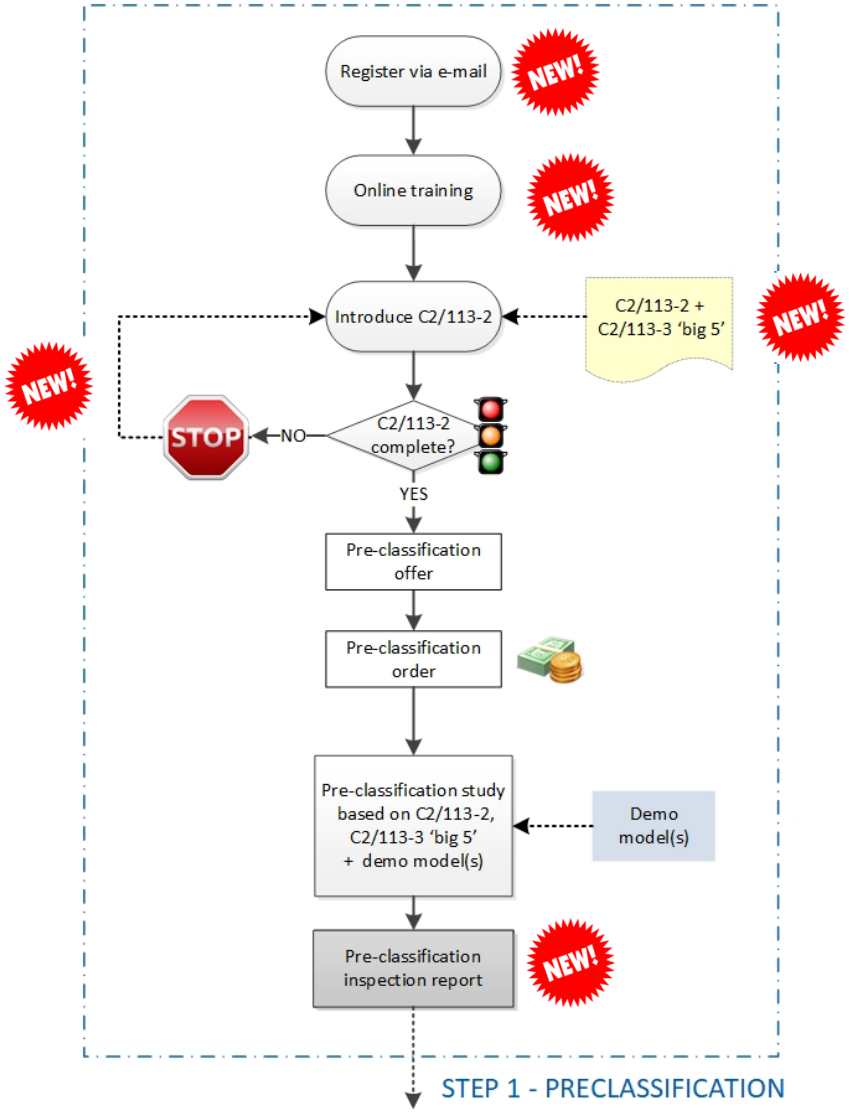

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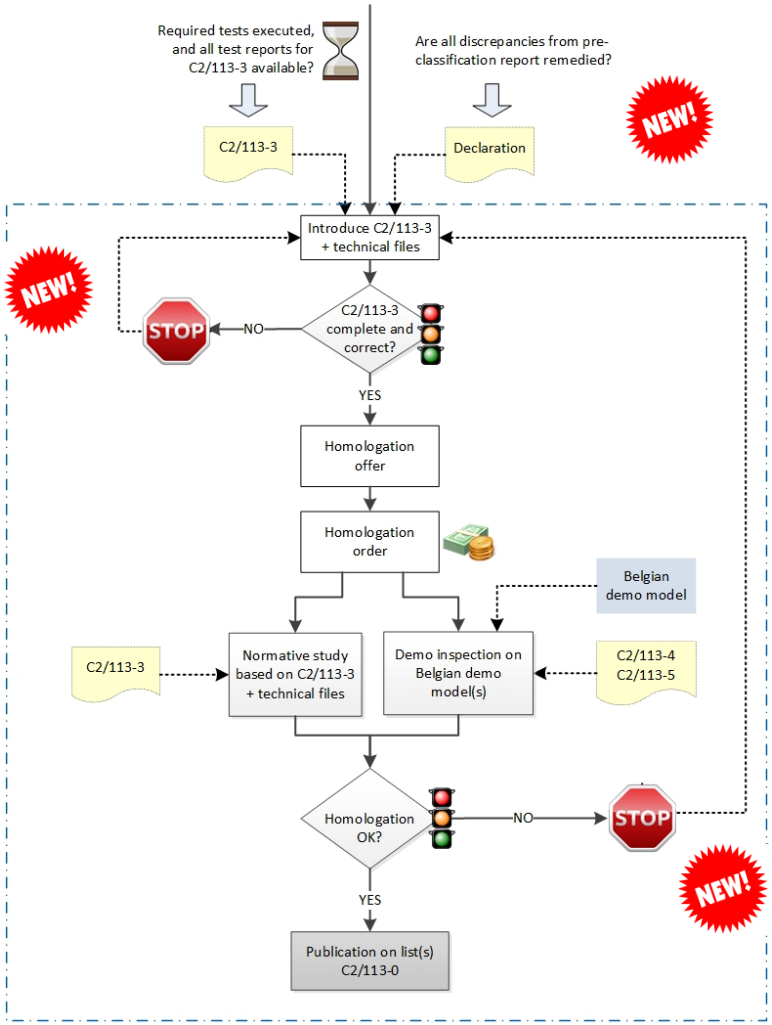

STEP 2 - HOMOLOGATION

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Review of technical requirements C2/113-3 & -4

Pro-memory:

- C2/113-3: Ratings & specific test specifications (normative)
- C2/113-4: Specific design & construction requirements

Applied criteria (pillars) for technical requirements specified in C2/113-3 & -4:

- Safety of the DSO agent
- Continuity of supply of electrical energy in the HV distribution loop
- Reliability of the billing metering

Review of technical requirements C2/113-3 & -4

Review of technical requirements:

- Removal of previous requirements which were not based on the afore mentioned 3 pillars
- Maximum alignment with the applicable international standards IEC 62271-series
  Specific Synergrid requirements have been minimised or removed
- Removal of purely asset management-related requirements, such as lifetime, maintenance, …

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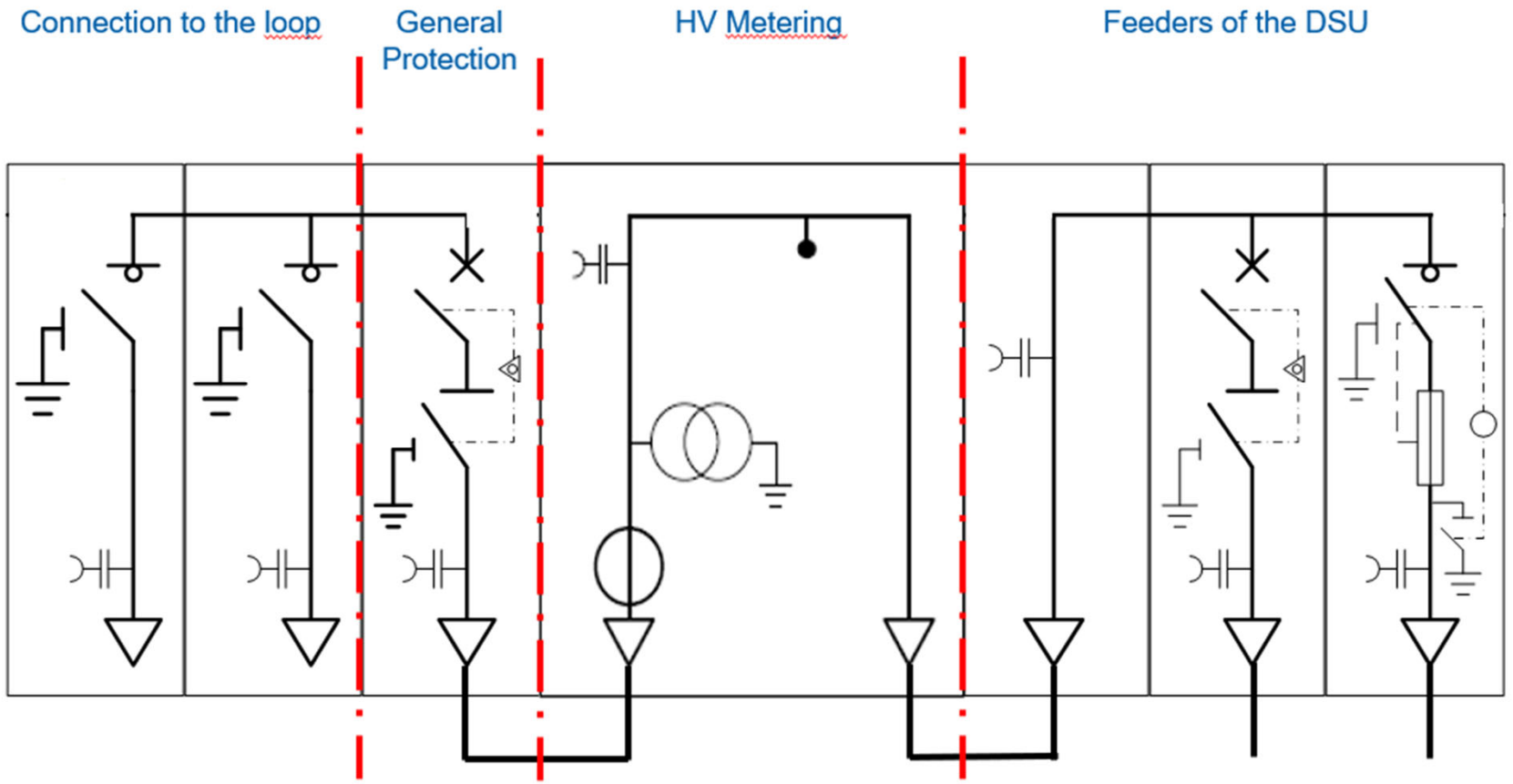
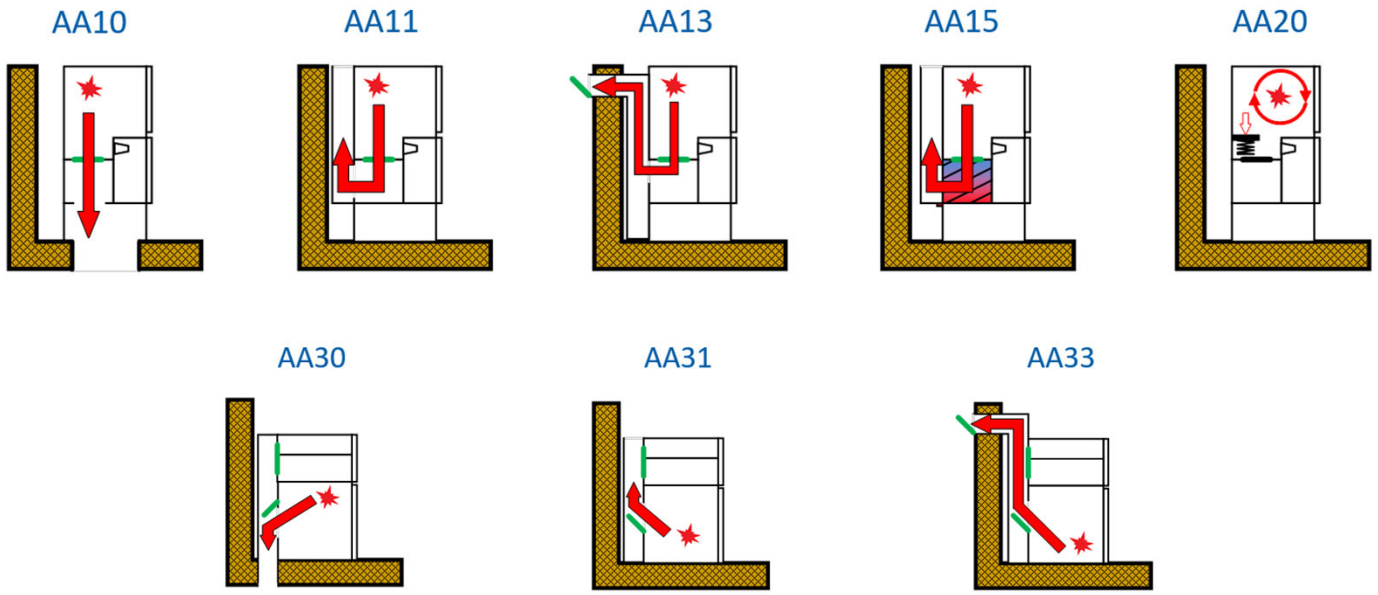
Review coding of Functional Units (C2/119)



Review of AA categories (C2/113-7)

Defined AA-categories in C2/113-7 Ed.2:



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Published documents & info on website

Documents presently available on the website:

→Webpage NL: Homologatie van HS-schakelapparatuur – Synergrid

→Webpage FR: Homologation d'appareils de coupure HT - Synergrid

- C2/113-3: Ratings and specific test specifications - Technical file
- C2/113-4: Specific design and construction requirements
- C2/113-5: DSO specific requirements
- C2/113-7: Internal arc withstand and associated AA categories
- C2/119 (Part 1): Coding of functional units
- Barometer regarding the availability of F-gas free HV switchgear

Coming soon:

- C2/113-1: Homologation procedure
- C2/113-2: Shortlist (and registration sheet)
- C2/113-3: Ratings and tests - Assessment Guide

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Wrap up

3 pillars :

- Safety of DSO personnel
- Continuity of energy supply
- Reliability of Metering for billing purposes

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Wrap up

Efficiency of overall process :

- First time right
- →Registration enables training
- →Training enables quality of input
- →Quality enables faster throughput
- →Faster throughput = faster publishing if homologation is granted

STOP principle = avoid wasting time and effort

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