

## IEEE PC57.32.10

# [Guide for the Selection of Neutral-Grounding Devices for High Voltage Direct Current (HVDC) Converter Transformers]

Sponsored by IEEE Power and Energy Society/Transformers Committee/Performance Characteristics Subcommittee (PE/TR/PCS)

**30-31 May 2019**  
**Chengdu, China**

### Minutes

**Chair: Zhang Hua**

**Secretary: Xu Yin**

#### Day 1, [Date: Thursday, 30 May 2019]

##### 1. Call to Order

- The meeting was called to order at 10:50 am.
- All present introduced themselves and declared their affiliations.
- All participants signed their names on the attendance sheets.

##### 2. Roll call of entities: Establish membership and associated DR & DRA

- WG membership consists of State Grid Corporation of China (SGCC), China Southern Power Grid (CSPG), Southwest Jiaotong University (SWJTU), University of Electronic Science and Technology of China (UESTC), North China University of Technology (NCUT), Beijing Jiaotong University (BJTU), Xi'an Jiaotong University (XJTU), TBEA Hengyang Transformer Co., Ltd. and Shenyang Transformer Research Institute Co., Ltd (STRI).
- The quorum was determined to be 5 (of 9 entity members).
- The designated representatives of the above entities were determined.
- X specialists from 8 entities attended the face-to-face meeting; 1 Chinese specialist attended via web conference; two guests from the performance characteristic subcommittee (PCS) called in.

##### 3. Approval of agenda

- Chair Zhang presented the agenda.
- *Motion #1*  
*Approve the agenda for [30-31 May 2019] meeting*  
*Moved: Xu Yin, Beijing Jiaotong University*  
*Seconded: Li Ying, TBEA Hengyang Transformer Co., Ltd*  
*(Procedural, required  $\geq 50\%$ )*  
*Motion passed by voice vote without opposition.*

##### 4. IEEE Patent Policy

- Patent Slides were presented to the WG.
- Chair Zhang made a call for potentially essential patents at 11:05 am. No potentially essential patent claims were declared, and no holders of potentially essential patents were identified.

## 5. Appointment of WG Officers

- Zhang Hua was confirmed as the Working Group Chair (WGC) of PC57.32.10.
- *Motion #2*  
*Approve the appointment of Xu Yin, as WG Secretary.*  
*Moved: Li Ying, TBEA Hengyang Transformer Co., Ltd*  
*Seconded: Wan Qingzhu, North China University of Technology*  
*(Procedural, required  $\geq 50\%$ )*

*Motion passed by voice vote without opposition.*

## 6. Approval of the WG P&P

- *Motion#3*  
*Approve PC57.32.10 WG P&P.*  
*Moved: Wan Qingzhu, North China University of Technology*  
*Seconded: Yang Yan, Southwest Jiaotong University*  
*(Procedural, required  $\geq 50\%$ )*  
*Motion passed by voice vote without opposition.*

## 7. Technical Discussion

- SGCC restated that the main purpose of the standard is to guide engineers on how to select proper neutral-grounding reactors for HVDC converter transformers in order to limit single-phase short-circuit current.
- SCCC proposed that the standard can be divided into 2 parts. The first part is about how to select proper reactors for HVDC converter transformers, which will be described in Clause 4. The other part concerns Service Conditions, Technical Requirements and Tests for Neutral Grounding Reactor, which will be described in Clauses 5-7, respectively.
- XJTU proposed that the standard should provide the method of calculating overvoltage for properly selecting the value, current, capacity, insulation and types of the neutral-grounding reactor in Clause 4.
- STRI and TEBA proposed that Technical Requirements and Tests for the Neutral Grounding Reactor in Clauses 5-7 should coordinate with PC57.32a since there may be some potential overlap.
- PCS specialists proposed that the name and scope changed from “Neutral-Grounding Devices” to “Neutral-Grounding Reactors”. This suggestion was agreed by all WG members.
- PCS Chair Craig Stiegemeier suggested that the standard at least provide a brief description on why neutral-grounding resistors are not used for HVDC converter transformers.

The WG recessed at 5:00 pm.

## Day 2, [Date: Friday, 31 May 2019]

The WG reconvened at 9:00 am

## 8. Task Assignment

Clauses 1-3 ‘*Scope, Normative references, Terms and definitions*’ are assigned to SGCC and CSPG.

Clause 4 ‘*Selection of neutral-grounding reactors for HVDC converter transformers*’ is assigned to SWJTU, UESTC, NCUT, BJTU and XJTU.

Clauses 5-7 ‘*Service conditions, Technical requirements and Tests for the neutral grounding reactor*’ is assigned to TBEA Hengyang Transformer Co.Ltd and Shenyang Transformer Research Institute Co. Ltd.

## **9. Date and Place of the Next Meeting**

WG members agreed to have the second WG meeting in conjunction with IEEE transformers committee fall 2019 meeting in Columbus, Ohio, USA from October 27 to 31, 2019. Most members have already acquired a one-year U.S. visa.

## **9. Unfinished business**

Information of the WG will be sent to PCS and later posted on the PCS webpage.

## **10. New Business**

- No new business was brought before the WG.
- *Motion #5*  
*Move to adjourn the meeting.*  
*Moved: Yang Yan, Southwest Jiaotong University*  
*Seconded: Li Ying, TBEA Hengyang Transformer Co.Ltd*  
*(Procedural, required  $\geq 50\%$ )*  
*Motion passed by voice vote without opposition.*

The WG adjourned at 11:00 am.

Respectively submitted by  
Chair Zhang Hua