

Paris Session 2022



Design of switchgear and equipment with Clean Air insulation

A3 PS 2

SF₆ alternatives - Q11

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Group Discussion Meeting

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Q11:

Report 10848 states that a double break 420 kV C4-FN based circuit breaker, including grading capacitor has similar bay-width size as a single-break SF6 breaker of that rating. How would a compressed air-insulated 420 kV VCB (envisaged in 11068) compare with that?

Design of switchgear and equipment with Clean Air insulation

- The use of Clean Air (dry synthetic air) with GWP = 0 is a long-term proven technology and future-proof for any kind of regulations.
- A basic study for circuit breakers with series-connected VIUs and voltage levels ≥ 420 kV is given in paper 11068.
- For live-tank circuit breakers for 420 kV:
 - **Filling pressure (~ 8 bar) comparable to SF₆ equipment.**
 - **Dimensional footprint is equal to SF₆ equipment.**

