

Paris Session 2022



Quality Assurance lessons learnt

SC B1 Insulated Cables – PS1-Q6

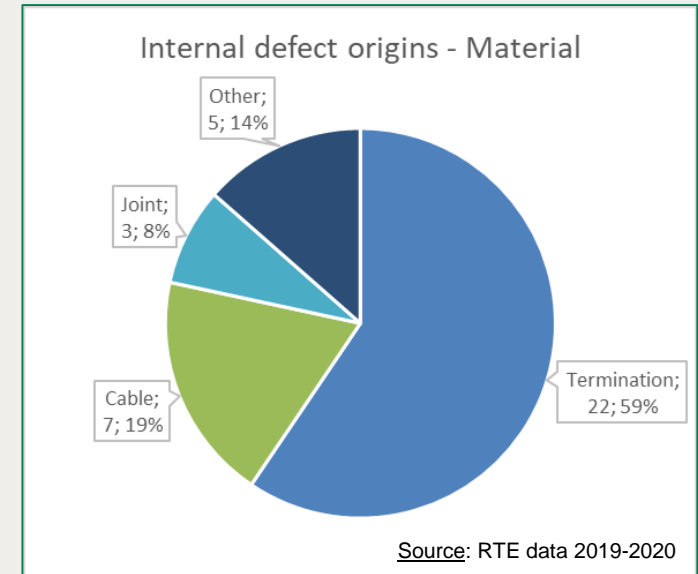
Florent PELLE – France



Le réseau
de transport
d'électricité

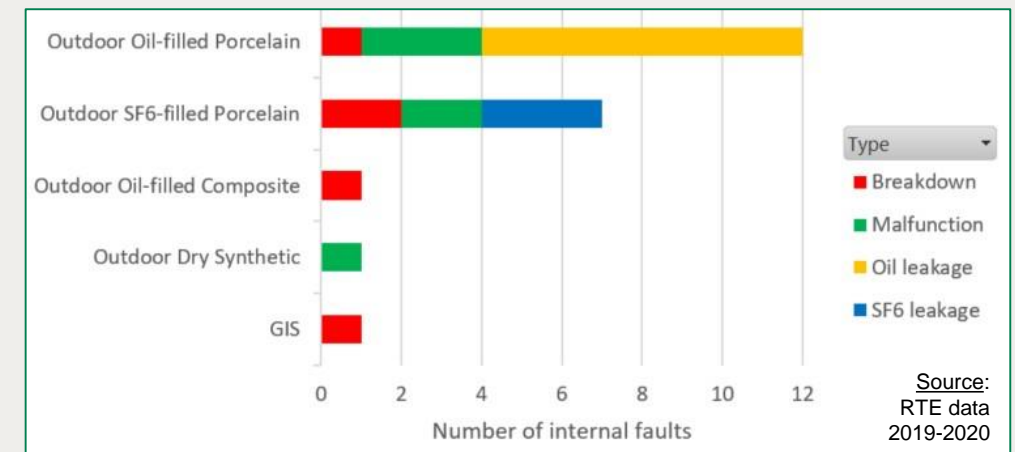
SC B1 – PS1-Q6

- Fault origins
 - External: works, vandalism, environment
 - Internal: production defects, bad installation
- Terminations: main origin of internal defects
 - 59% of the 37 internal defects are terminations
 - 50% are leakages (oil and SF6)
 - 50% are breakdowns and malfunctions



Source: French TSO's service experience data 2019-2020 (only polymeric insulated cables = 95% of French TSO's 's underground network asset)

Group Discussion Meeting



SC B1 – PS1-Q6

- Quality Assurance
 - Cable system quality management
 - Qualification/Production/Installation
 - Preventive maintenance
 - Visual inspection, technical visits...
 - Curative maintenance
- Weather effects on outdoor terminations
 - Application: terminations installed along the coast
 - Lifetime: about 25 years only (instead of 40 years e
 - Origins: corrosion, water tightness and chemical co
 - Introduction of a new pollution class “e-Very Heavy” in F
 - High equivalent salinity: $SES \geq 112 \text{ kg/m}^3$
 - Longer creepage distance: $USCD = 53.7 \text{ mm/kV}$

Group Discussion Meeting



Inter termination

SC B1 – PS1-Q6

- Curative maintenance
 - Main issue: asset downtime mitigation after faults
 - Reliable and quick deployment solution
 - 3 French TSO's jointer teams at national level
 - Trained and skilled in-house jointers
 - Training assured by cable manufacturers with their own products
 - Centralized warehouses at national level
 - Cables and accessories (joints, terminations, auxiliaries)
 - Internalized technical and logistics support to the maintenance teams
 - Externalized warehouse platform logistics



Repair joint installation