

ScottishPower SP Energy Networks

SF6 Management Philosophy & Future Challenges

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SF6 Management Philosophy



Management of installed fleet

- ☐ **Monitoring** Installing online density monitors
 - > Targeted intervention.
- Response Focus to repair leaks detected is as soon as possible
 - > OEM site support essential
- □ Targeted Repair and Replacement asset condition and leakage focused.
 - > Equipment 'reworks' where OEM can support
 - gaskets, seals, known failure points, etc.
- ☐ Leakage mitigation reviewing solutions which
 - > Reduce likelihood of leakage
 - > Mitigate impact of leaks detected
 - Effective Options for temp repairs

New Installations

□ Transmission

- > SF6 free equipment where technical requirements can be met and equipment is market available.
- > Exploring carbon lifecycle analysis tools.

Distribution

- Pilot install of Lucy Sabre EcoTec is now live.
- Schneider Ringmaster AirSet –Assessment & development ongoing.

Other Initiatives

- □ **Retrofill** of existing SF6 filled assets
 - > Exploring commercial solutions
 - "SF6 Retrofill" project for T155-3 model in collaboration with GE
 - Prototype testing before commercial development

☐ Lifecycle Management

- Possibility of recycling SF6 from decommissioning assets
- > Reuse of SF6 for top ups
- "Lifecycle Management of SF6"
 Innovation Project

Challenges for SPEN



In the next year

- · Different gas mixtures
 - Storage complexity
 - New equipment. (Gas carts, density monitors...)
- New technologies with new O&M requirements
 - Health & Safety considerations (PPE)
 - Staff training/familiarity
- Lack of SF6 alternatives for extensible secondary equipment

In the next 5/10 years

- Accelerating SF6 removal- early replacement?
 - New assessment tools required
- Regulatory uncertainty- still no UK Fgas regulations
- New challenge for network operators
 - Understanding of technology changes coupled with rapid growth
- Supply chain problems

In the long term

- · Long term behaviour of assets
 - Reliability and performance in the long term
 - OEM support if technology changes
- Future SF6 free asset base uncertain
 - Concerns over management of multiple gas mixtures