

To: SP Transmission Plc ('SPT')

Direction under Special Condition 4.3 (Insulation and Interruption Gas emissions output delivery incentive)

1. The company to whom this direction is addressed is the holder of an electricity transmission licence ('the Licence') granted or treated as granted under section 6(1)(b) of the Electricity Act 1989.
2. On 10 October 2023, and in accordance with paragraph 4.3.14 of Special Condition 4.3 (Insulation and Interruption Gas emissions output delivery incentive) of the Licence, the Gas and Electricity Markets Authority¹ published on its website the text of the proposed direction it intended to issue. We stated that representations on our proposed direction must be made on or before 7 November 2023.²
3. We received two responses. One response, from an Electricity Transmission Operator (ETO), was in support of the decision. The other response, from an independent respondent, disagreed. Our consideration of the disagreement and subsequent decision is below.
4. The basis of the disagreement was that: *"The company installed the faulty design equipment..."* meaning *"the company is to blame and be penalised for excessive leakage."*
5. As acknowledged in our review of the incident, the design of the equipment involved was one of the contributing factors to the sulphur hexafluoride (SF6) gas leakage event at Hunterston Converter Station. The HUNE – HUCS No.2 red-phase termination suffered a disruptive failure at the cable to the gas-insulated switchgear (GIS) interface. This failure caused the oil filled end bell to rupture. Due to the design of the termination, the oil filled end bell and voltalit insulator were in direct contact with the pressurised SF6 gas within the GIS chamber. Thus, with the destructive mode of failure, it was not possible to mitigate the SF6 leakage, with all pressurised gas released immediately to the atmosphere.
6. To mitigate against the mode of failure detailed above at the asset design stage would be extremely difficult. Any asset design changes would be significant, with knock-on impacts to further operational logistics and questions surrounding feasibility.

¹ The "Authority", "Ofgem", "we" and "our" are used interchangeably in this document. The Office of Gas and Electricity Markets (Ofgem) supports the Authority in its day to day work.

² [Notice on SP Transmission's Interruption and Insulation Gas Exceptional Event claim | Ofgem](#)

7. It is unreasonable to penalise SPT for their use of the equipment as the event was exceptional. A contrary conclusion would have consequences for the network operators and manufacturers in terms of the cost of developing and rolling out design changes which would be disproportionate given the equipment's otherwise as expected performance in achieving network functionality.
8. Instead, the investigative behaviours demonstrated by SPT pre-and post-incident were deemed to be appropriate based on the insight and options available to them at the time. The Authority is satisfied that SPT followed procedures which we assessed to be well-reasoned from safety, cost-efficiency, and engineering perspectives.
9. The intention of the Insulation and Interruption Gas emissions output delivery incentive (IIG ODI-F) is not to punish transmission operators using insight only attained in retrospect. It is to encourage ETO behaviours that reduce SF6 leakage. Penalising SPT for this incident when the actions taken to prevent SF6 leakage were in line with the available evidence at the time could result in potentially uneconomic behaviours in the future which are not in the best interests of UK consumers.
10. We expect the event and surrounding investigation to expand industry understanding in this complex area and further develop leakage reduction best practice.
11. In conclusion, the Authority considers SPT to have submitted sufficient evidence to support the claim that the leak event meets the definition of an IIG Exceptional Event and that the leakage event was "beyond the reasonable control of the licensee", fitting with the conditions outlined in Special Condition 4.3 of the Licence when determining if an event is exceptional.
12. Additionally, the Authority is of the view that SPT successfully meets the criteria for a claim under Special Conditions 4.3.12 and 4.3.13 of the Licence.
13. This direction is our notice of reasons for the purposes of section 49A of the Electricity Act 1989.
14. Now the Authority, pursuant to the provisions of Special Condition 4.3 of the Licence, hereby directs an adjustment to the ALEt term by excluding 226kg SF6 for the purpose of calculating the Insulation and Interruption Gas emissions output delivery incentive revenue adjustment in the year 2023/24.
15. This direction will take effect on and from 29 November 2023.

David McCrone

Head of Quality of Service, Onshore Networks

Signed on behalf of the Authority and authorised for that purpose

29 November 2023