Updating the Communications Standard

GCDF

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Background

- EDL / EDT solution providers are developing technology to run hosted services, which may be more attractive to some BM Participants
- We want to update the Communications Standard to allow for these developments

- The original setup of EDL would be a dual redundant communications routes from NGESO's Control Centre to the Generator's Control Point, i.e. a secure path from one secure site to another secure site

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High Level Schematics

Example 1: EDL MPLS Circuit with ISDN Back-up – Control Point
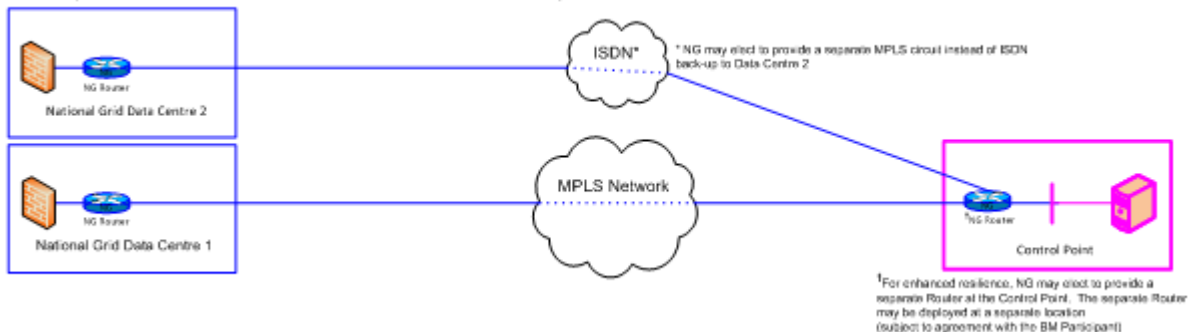
Example 2: EDL MPLS Circuit with ISDN Back-up – Agreed Alternative location

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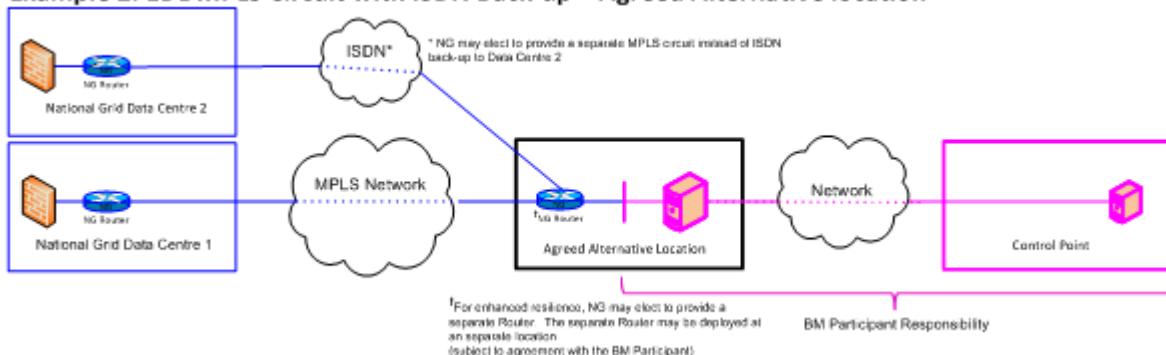
Our Aims

- Ensure we do not introduce unbounded systemic risks
- Ensure there is resilience in comms routes to give high EDL availability
- Ensure NGESO has the comms routes necessary so we can recover the electricity system in black start situations
- Ensure communication links are secure
- Implement proportionate standards, lowering costs and barriers to entry
- Ensure there is a level playing field for solution providers

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Governance notes / other changes

Governance…

- By updating the Communications Standard, the obligation to ensure resilient communications is shared with those BM Participants who choose to use this technology, with National Grid responsible up to the interface point, and the BM Participant responsible for onward communication arrangements

In this issue of the Comms Standard…

- We've included clarification of timescales appropriate for data submitted via EDT (>4hrs) and data submitted via EDL (<4hrs)

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Security / Resilience (1)

1. Protect data in transit using a product or service certified under the UK's National Cyber Security Centre (NCSC), 'Foundation Grade' assurance scheme.

2. The means of communication should be either of the following:
   a. Use a dedicated circuit replicating the current EDL leased line;
   b. If using an internet based connection:
      i. IpSec VPN to
      ii. Minimum of, cryptographic algorithm based on:
         1. Key length 128 bit;
         2. Symmetric key algorithm: CAST AES-128;
         3. Hashing algorithm SHA-256
      iii. Security event and alarm monitoring, making National Grid aware of significant breaches;

3. The Provider shall ensure that penetration tests and vulnerability assessments are carried out on the hosted environment at least annually, based upon HMG National Cyber Security Centre Cyber Essentials (https://www.cyberessentials.ncsc.gov.uk/)

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Security / Resilience (2)

4. The following table shows the fix times, availability and redundancy requirements for the EDL communication system

MW thresholds	No. of BM Units[i]	Fix Time within	Availability	Redundancy	Mains Independence[ii, iii]
0 – 100MW	n/a	12 hrs business days only	< 12 hrs downtime pa	Not specified	Not specified
100MW – 3 GW	1 - 20	12 hrs 24/7	< 4 hrs downtime pa	Dual redundancy on communication links	24 hrs
> 3 GW	>20	12 hrs 24/7	< 1 hr downtime pa	Dual Redundancy throughout system (no single fault will remove service)	48 hrs

i. The number of BM Units column only applies if more than 1 GW of generation is affected

ii. Subject to the Emergency Restoration Code which, if applicable, takes precedence over these requirements

iii. If the Control Point includes generators that have black start contracts with National Grid, then the entire communication system must have mains independence for a minimum of 48 hours

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Security / Resilience (3)

4. …/ contd

    a. National Grid may review the individual arrangements on a case by case basis to ensure that this standard is met and that the risks have been mitigated sufficiently, and if necessary, may revert to standard EDL arrangements to the Control Point

    b. Where National Grid has a communication link to the Control Point and to the EDL Managed Service Provider, then National Grid may use this to provide additional redundancy

5. The health of the communications route through to the Control Point must be indicated back to National Grid to ensure National Grid's Control Room knows whether electronic instructions will get to the Control Point in question

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