Note: Distribution Network Meeting

10/04/2018

This document provides a summary of the Distribution Network Meeting

In attendance were:

- *Andrew Logie, Innogy*
- *Catherine Falconer, SSE Networks*
- *Chris McKaig, SSE Networks*
- *Catherine Wicks, ABO Wind*
- *David Tomb, Gilkes*
- *Hannah Smith, Scottish Renewables*
- *Joe Mitchell, Scottish Renewables*
- *Richard Haworth, Glen Hydro*
- *Stephen Hutt, Green Highland*
- *Stuart Matheson, Scottish Government*
- *Stephen McKellar, Scottish Government*

Summary of issue facing industry

As project economics become increasingly marginal, several Scottish Renewables members expressed concern over grid outages adversely affecting their operations.
SSEN met with SR members to discuss the below issues:

- Frequency and duration of outages
- Communication in advance of an outage
- Temporal alignment of works with technology generation profiles

Drivers of Network Outages/Constraints

Outages can be planned or unplanned. Unplanned outages occur principally in response to faults on the network. Planned outages occur for various reasons, including network maintenance.

Constraint requests are unique to generation customers (outages do not normally disconnect demand (at least for any lengthy period of time). The basis of the network operators response to the network is the current network planning security standard (P2/6) which is designed to protect the integrity of the network while ensuring sufficient capacity is available to meet the peak demand and that loss of supply is recovered within defined timeframes.

Constraints in the North of Scotland are due to the “radial” nature of transmission and distribution networks (single lines, single transformers, distribution filled to capacity). Issues and their treatment will vary across DNOs depending on the physical variants of the networks they operate.

For generators, outages curtailing or constraining generation, tend to have an impact on revenue. For longer works this can be significant.
Different generators have different preferences as to when works resulting on outages should occur (for hydro, summer is preferable. For solar, winter is the preference).
Generators often try to schedule O&M during an outage.

Response to Network Outages/Constraints

Industry expressed concern that current regulation prioritises demand customers on a network ahead of generation; and that this is contrary to wider policy objectives surrounding low-carbon energy development.

While unplanned outages will be inherent on a system like this, there was significant discussion around how DNOs could communicate planned outages in a way which may help generators, both in terms of business planning and in terms of scheduling O&M.

SSEN tend to schedule outages which have the biggest impact on generation in the summer, when electricity demand is typically lower. This is less based on safeguarding any one form of generation, and more on protecting the integrity of the network.

Outage communication is challenging across both Transmission and Distribution, and a number of external dependencies mean it is challenging for network operators to predict outages with accuracy.

SSEN are actively working on a new internal framework to communicate the timing of essential outage periods. Provisionally, this will include indicative outage information at year-ahead stage and then more specific information to individual customers 3 months out. It should be noted that this will be a collaborative process and SSEN will seek feedback from stakeholders at future events.

Outages as Networks Develop

As electricity generation and demand becomes more decentralised, the trend has been towards flexible and less firm connections. This will include generators that are already connected.
SSEN are keen for stakeholders understand and engage in the development of DSO services and infrastructure through the Open Networks Project.

Actions and AOB

Much of this topic is about developing a mutual understanding of considerations and processes surrounding outages – and various ongoing workstreams will have an impact, including Open Networks and the RIIO-2 price control framework.
Various stakeholder engagement events offer Scottish Renewables members a further good opportunity to get involved in the process.

ACTIONS

Topic	Action	Lead
Outages	Develop a new framework for notification of outages (SSEN to complete and send to SR for review)	**SSEN**
	Provide feedback to SSEN on outage framework	**SR and SR Members**

Scottish Renewables/SSEN

April 2018

Catherine Falconer

Commercial Contracts and ICE

Chris McKaig

Outage & Emergency Planning

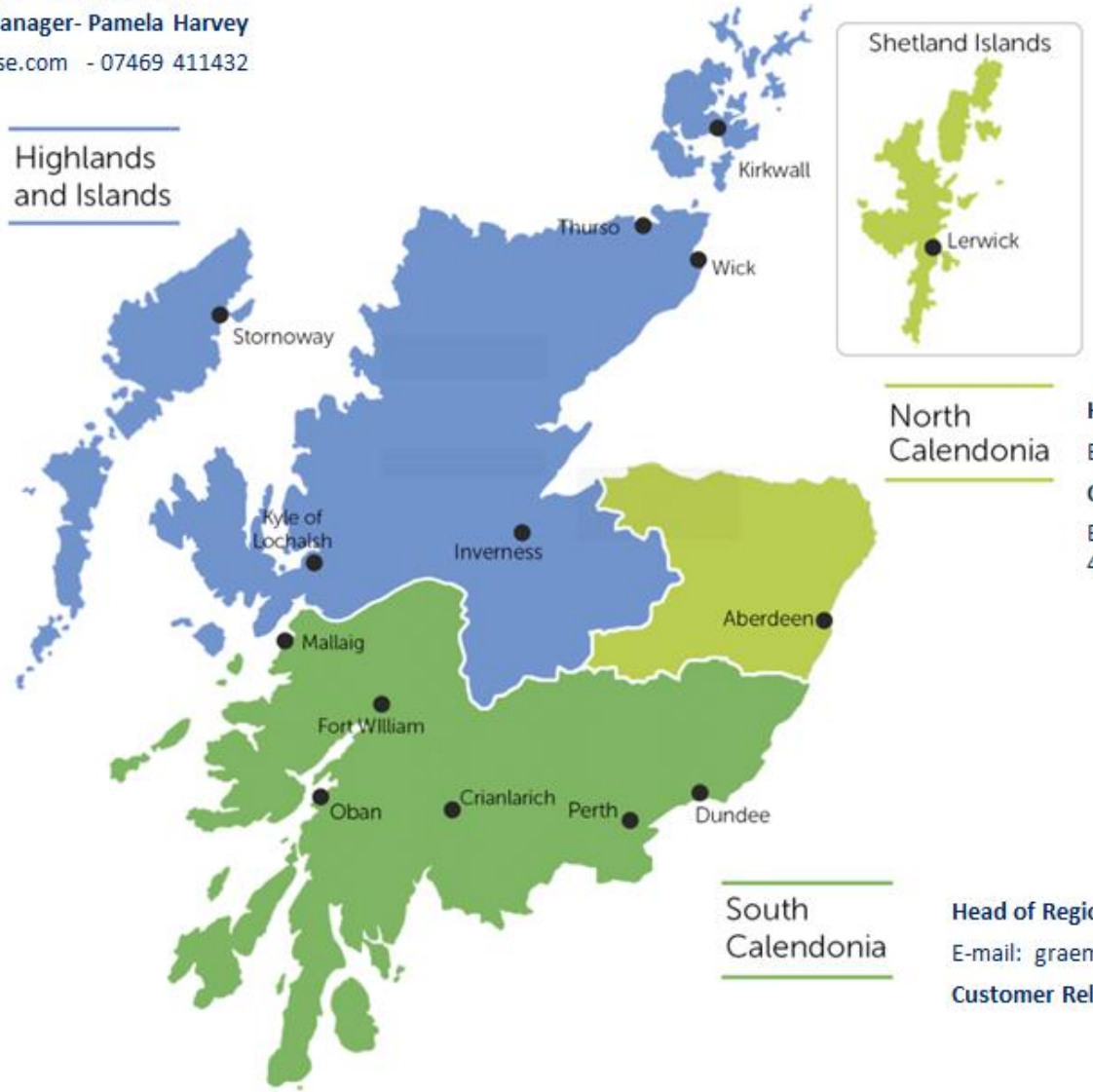
Scottish & Southern Electricity Networks

Head of Region - Colin Pirie

E-mail: colin.pirie@sse.com - 07767 852305

Customer Relationship Manager- Pamela Harvey

E-mail: pamela.harvey@sse.com - 07469 411432



Head of Region - Neil Wilson

E-mail: neil.wilson@sse.com - 07767 852098

Customer Relationship Manager- Shona Horne

E-mail: pamela.harvey@sse.com - 07469 411432

Head of Region - Graeme Stewart

E-mail: graeme.stewart@sse.com - 07825 843868

Customer Relationship Manager- TBC

North Networks Leadership Team*

Colin Nicol
Managing Director Networks

Andy Huthwaite
Director of Commercial and Connections

Andrew Scott
Head of Commercial Policy, Quality and Performance

Catherine Falconer
Commercial Contracts and ICE

Dale Cargill
Director of Customer Operations (SHEPD)

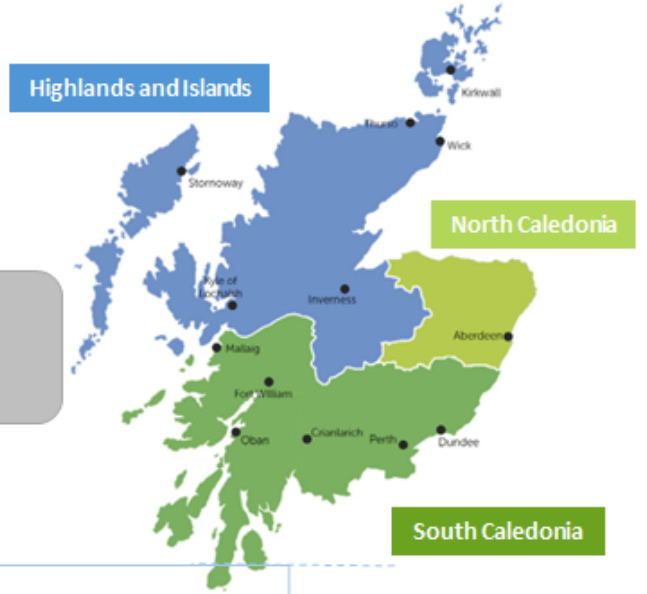
Neil Wilson
(One of 3) x Head of Region

David Colthart
Head of Distribution Control Centre

Chris McKaig
Outage & Emergency Planning

Heather Fleming
Head of Embedded Generation

Regional Structure



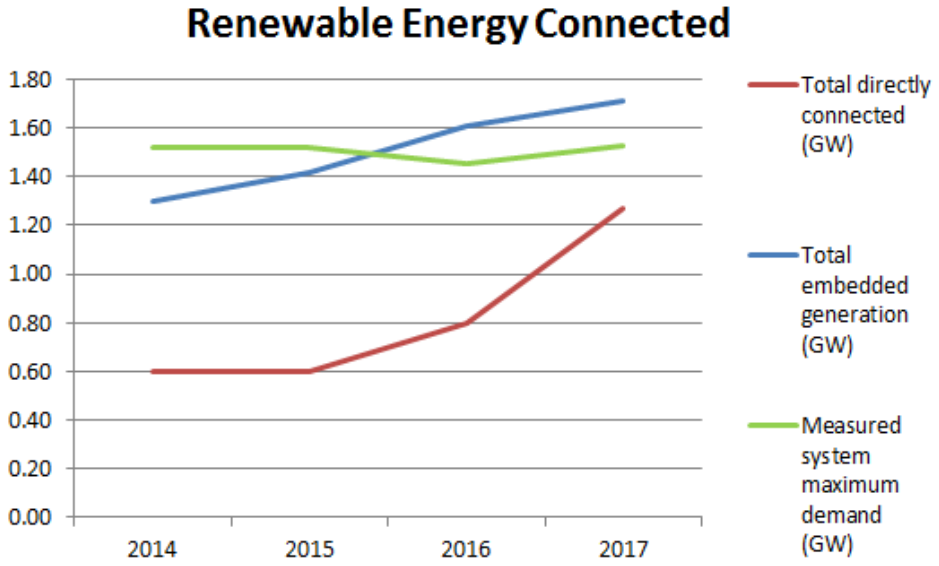
* simplified, see Contact brochure and web

Scottish & Southern Electricity Networks

Connecting Distributed Generation

Scottish & Southern Electricity Networks

Growth of Renewable Generation Connections



- **111% increase in connected Renewable generation capacity on the Transmission network**
- **31.5% increase in connected Renewable generation capacity on the Distribution network**

Scottish & Southern Electricity Networks

Generation Security – P2/6

Engineering Recommendation P2/6 – Security of Supply

Group DEMAND up to 1MW – no requirement for second circuit security

Group DEMAND 1MW-12MW – restoration within 3 hours, second circuit security

GENERATION Connections (<60MW) are NOT provided with this level of security

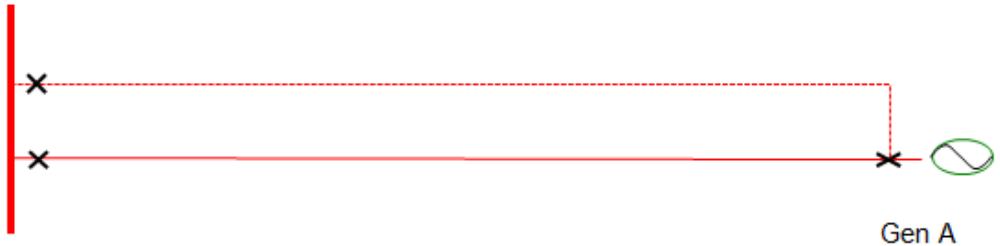
Minimises up-front connection costs for Generation Customer.

Maximises utilisation of network during normal network conditions

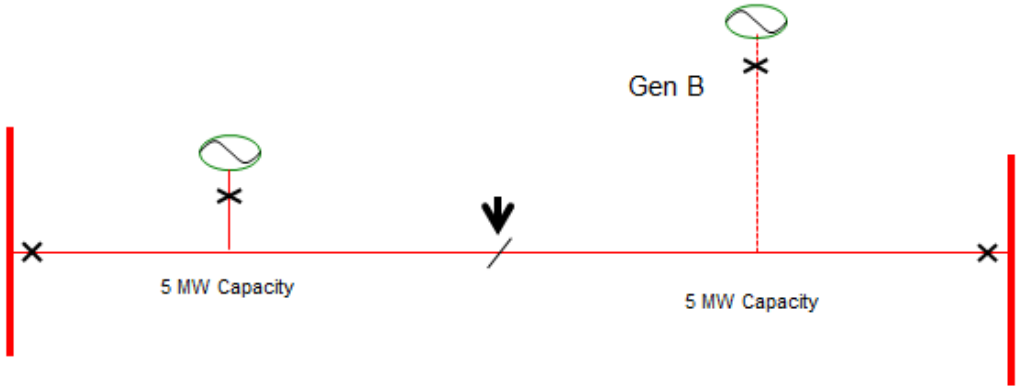
Scottish & Southern Electricity Networks

Generators get security of Demand?

Impact on Connection Costs



Greater up-front Connections Costs:
Gen A would require to fund an alternative feed



Reduced Utilisation of Network:
There would be no capacity available for Gen B to connect

Scottish & Southern Electricity Networks

Network Outages – keeping you informed

Scottish & Southern Electricity Networks

What drives Network Outages/Constraints?

Most work does not trigger Network Outages. Outages do not normally disconnect Demand customers. Constraint requests are unique to Generation customers

- Major Transmission Projects (3-5 year visibility)
- Major Distribution Projects (1-3 year visibility)
- Minor Distribution Projects (3-6 months visibility)
- New Connections (1 – 12 week visibility)
- Faults

Scottish & Southern Electricity Networks

Developing a Collaborative Approach

A new approach to keeping you informed. A balance between accuracy, obligations and efficiency with learning built in (*actual DNO obligation is 48 hour notice*).

- Indicative outage information at year ahead stage
- Specific information to individual customers 3 months out
  - Timescales may still vary
  - Committed to keeping you informed*
- Minimised impact through co-ordinated planning and discussion with customers
- 50kW curtailment, facilitated negotiation between customers

* Your views. What should the rules be?

Scottish & Southern Electricity Networks

Working Together – Grudie Bridge Planned Work

Works driven by Safety and Security Issues

Rescheduled works – originally planned for January, now May

Deployed additional resource to reduce outage by approx 10 days

Scottish & Southern Electricity Networks

How we meet our Obligations

In a Regulated environment…

- Our allowed revenue is dictated by our price control settlement .
- This is set based on an agreed level of costs, security and service levels
- These are commensurate with providing an efficient, coordinated and economical system

…In addition there are wider issues

- Wider Operational requirements
- Alternative Customer drivers e.g. hydro vs solar
- Other legislation and obligations ?
  - Working time directive
  - Requirement to be efficient
  - Potential impact on wider works

All these feature in future DSO Services and the Open Networks Project

Scottish & Southern Electricity Networks

Questions?

Scottish & Southern Electricity Networks