Security and Reliability Council

# Comparing the SRC with international counterparts

7 June 2016

**Note:** This paper has been prepared for the purpose of the Security and Reliability Council (SRC). Content should not be interpreted as representing the views or policy of the Electricity Authority.

## Background

The Security and Reliability Council (SRC) functions under the Electricity Industry Act 2010 (Act) include providing advice to the Electricity Authority (Authority) on security of supply matters.

Each year the Authority asks members of the SRC to participate in a survey about the operation of the SRC in the previous year and the support that the SRC receives from the Authority. The SRC Chair undertook the 2015 survey through a series of phone conversations with SRC members, and the collated results were discussed at the SRC's July 2015 meeting.

The collated survey results included a section on "things that could be better". One of these was an observation that the SRC is not a unique body internationally, and that it would be useful for the Authority to explore if there are any lessons the SRC can learn from the best practice of other relevant bodies.

## The secretariat has compared the SRC's functions against three jurisdictions

As an initial step in response to this SRC feedback, the secretariat has explored three jurisdictions for possible parallels with the SRC: Australia, the United Kingdom and North America.

The secretariat has summarised the key findings in the attached document. Although set out as a series of Powerpoint slides, the secretariat does not intend to verbally present that material at the meeting. Rather, the SRC is invited to discuss the material and decide what further research or actions it might like the secretariat to undertake.

The three jurisdictions clearly have different histories, different present-day arrangements and different pressures steering their future arrangements. As such, it is not surprising that the secretariat could not find any organisation that was a very close match for the SRC. However, there are aspects of the SRC's activities that do have close analogies within these jurisdictions. Some examples are:

- post-event reviews by Australia's Reliability Panel and the North American Electric Reliability Corporation (NERC)
- triaging issues of strategic importance to power system reliability by NERC's Reliability Issues Steering Committee (RISC)
- annually assessing the adequacy and reliability of the power system by NERC.

The SRC may wish to consider the following questions.

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| **Q1.** | Does the SRC consider that the secretariat should broaden its search of overseas jurisdictions? Are there any other particular jurisdictions or organisations that the SRC would like its functions compared against? |
| **Q2.** | Does the SRC consider that the secretariat should investigate how the comparable organisations in the three jurisdictions perform the activities that they have in common with the SRC? |
| **Q3.** | What further information, if any, does the SRC wish to have provided to it by the secretariat? |
| **Q4.** | What advice, if any, does the SRC wish to provide to the Authority? |

## Useful links

### Australia

http://www.aemc.gov.au/About-Us/Panels-committees/Reliability-panel
http://www.aemo.com.au/About-the-Industry/Legislation/National-Electricity-Rules

### North America

https://en.wikipedia.org/wiki/North_American_Electric_Reliability_Corporation
www.nerc.com [note that this is a protected site, not readily accessible from outside the USA]

### United Kingdom

https://www.ofgem.gov.uk/electricity
https://www.ofgem.gov.uk/electricity/wholesale-market/electricity-security-supply
http://www2.nationalgrid.com/uk/our-company/electricity/
http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/System-Security-and-Quality-of-Supply-Standards/

# SECURITY & RELIABILITY COUNCIL

## Exploring SRC parallels in other jurisdictions

Information document

21 June 2016

COMPETITION • RELIABILITY • EFFICIENCY

# Reliability Panel in Australian electricity arrangements

Reliability Panel forms part of Australian Energy Market Commission (AEMC) institutional arrangements that support the national electricity system

- key responsibilities are set out in National Electricity Law (Section 38)
- more detailed provisions set out in National Electricity Rules (Part E)

Functions and powers in law:

- monitor, review and report on the safety, security and reliability of the national electricity system
- at request of AEMC, provide advice in relation to safety, security and reliability of national electricity system
- any other functions and powers conferred under the law and rules

Focus is generally on determining standards and guidelines which are part of framework for maintaining a secure and reliable power system:

- most of the guidelines are developed to assist Australian Energy Market Operator (AEMO) perform its power system security and reliability functions
- standards also specify information to market participants, eg. requirements for connecting to, and operating under, the electricity system (performance standards, operating frequencies etc)

Market reviews and advice form part of periodic and ongoing obligations under the rules:

- purpose of reviews is to ensure the market continues to meet needs of market, participants and consumers in an efficient manner and in line with national electricity objective
- requirements under rules to review market parameters for power system security and reliability
- may be directed by AEMC to review or provide advice on a specific matter relating to safety, security and reliability

# Reliability Panel in Australia (continued)

Rules set out more detail of role and largely drive the work programme, including:

- monitor, review and report on performance of the market in terms of power system reliability
- review and make recommendations on reliability standard and reliability settings
- review and, on advice from AEMO, determine power system security standards
- develop and publish principles and guidelines that determine how AEMO should maintain power system security while taking into account costs and benefits to the extent practicable

Reliability Panel is chaired by an AEMC Commissioner and made up of:

- CEO or delegate of AEMO
- representatives (5-8) appointed by AEMC for each of:
  - generators
  - market customers
  - transmission network service providers
  - distribution network service providers
  - end-users

The Reliability Panel meets ~8 times a year, with about half of meetings being teleconferences

Australian Reliability Panel has some powers and functions that in NZ are the responsibility of the system operator and/or the Electricity Authority

# UK: key roles in security of supply and quality

UK government, the regulator (Ofgem) and the system operator (National Grid) all have key roles…

Government:

- sets overall policy objectives for security of supply in legislation
- sets target level for generation adequacy electricity supplies in the context of the recently introduced capacity market
- can use emergency powers in certain circumstances to act reactively

Ofgem, the regulator:

- ensures market arrangements are sufficiently designed to encourage security of supply, monitors the market and provides policy advice
- approves introduction of balancing services and regulates these indirectly through cost recovery mechanisms to ensure any service procured is in interests of consumers
- approves security and quality of supply standard for planning and operation of national electricity transmission system
- provides information to participants and policy makers, including an independent assessment of the risks to security of supply and hosting forums to discuss the supply and demand outlook

National Grid, the system operator:

- responsible for balancing the electricity system by ensuring generation on the national grid matches demand
- achieved by buying and selling energy and procuring associated balancing services
- provides information to participants including an annual Electricity Capacity Report and Future Energy Scenarios

# UK: SQSS Review Panel

UK transmission Licensees (National Grid, Scottish Power Transmission and Scottish Hydro Electric Transmission) are required to plan, develop and operate their systems in accordance with the National Electricity Transmission System Security and Quality of Supply Standard (SQSS)

The SQSS is approved by Ofgem, and includes:

- generation and demand connection criteria
- minimum transmission capacity requirements (system security)
- transmission design and operation requirements

The SQSS Governance Framework governs the industry-led process for reviewing and recommending SQSS amendments to Ofgem, including establishment of the SQSS Review Panel

The SQSS Review Panel is responsible for:

- keeping the SQSS under review
- evaluating and administering modifications to the SQSS
- submitting any proposed changes to Ofgem for a decision

The SQSS Review Panel:

- comprises members from across the industry
- typically meets every two months, with extra ad-hoc meetings when required

The UK's SQSS Review Panel is an advisory body with some parallels with NZ's SRC

# North America: key roles in security and reliability

NERC, the North American Electric Reliability Corporation, is a not-for-profit entity whose mission is to ensure the reliability of the North America bulk power system (most of US and Canada, part of Mexico)

NERC:

- is an Energy Reliability Organisation (ERO) certified by FERC (the US Federal Energy Regulatory Commission)
- develops, implements and enforces mandatory Reliability Standards for the bulk power system in accordance with the Federal Power Act (requires users, owners and operators of US bulk power system to be subject to NERC reliability standards approved by FERC)
- has a similar role in Canada and is subject to oversight by government authority in Canada
- annually assesses adequacy and reliability (seasonal and long-term) of the North American bulk power system
- analyses bulk power system events for lessons learned
- monitors the North American bulk power system through system awareness
- co-ordinates physical security and cybersecurity needs
- identifies reliability trends and potential reliability issues
- educates, trains and certifies industry personal

NERC roles span various aspects of NZ's Government, Electricity Authority, grid owner and system operator

# North America: key roles in security and reliability (cont)

NERC operates numerous committees, subcommittees, task forces, working groups and standards drafting teams, with members and industry experts providing time and expertise

NERC's Reliability Issues Steering Committee (RISC) has parallels with NZ's SRC. RISC:

- is an advisory committee reporting directly to NERC Board
- triages and provides front-end high-level leadership and accountability for nominated issues of strategic importance to bulk power system reliability
- assists NERC Board, standing committees, regulators, regional entities and stakeholders by establishing a common understanding of the scope, priority and goals for addressing strategic issues identified
- provides a framework for steering, developing, formalising and organising recommendations to NERC to assist NERC and industry focus resources on critical reliability issues
- offers high-level stakeholder leadership engagement and input on issues relating to reliability solutions and to new or revised reliability standards

RISC's triage of strategically important reliability issues is similar to what the SRC is looking to achieve with the development of a risk management framework

# North America: key roles in security and reliability (cont)

NERC regional entities:

- FRCC: Florida Reliability Coordinating Council
- NPCC: Northeast Power Coordinating Council
- TRE: Texas Reliability Entity
- MRO: Midwest Reliability Organisation
- SERC: SERC Reliability Corporation (southeast states)
- RFC: Reliability*First* Corporation
- SPP: Southwest Power Pool
- WECC: Western Electricity Coordinating Council
- ASCC: Alaska Systems Coordinating Council