

A debrief on the system operator's 8 June 2016 'Core grid restoration desktop exercise'

7 June 2016

Background

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

The effectiveness of industry arrangements for black start services and core grid restoration will have a major impact on reliability whenever those arrangements might be called upon.

The SRC has received a paper, *Arrangements for Power System Restoration, including Black Start*, at its 20 March 2015 meeting that initiated SRC discussion on these arrangements. The SRC agreed that there was value in an industry exercise to test readiness and asked the system operator to set a date for that exercise.

The system operator subsequently confirmed that the exercise would occur on 8 June 2016 and have its primary focus on the restoration of the core grid. The readiness of generators providing black start services is tested annually.

The system operator has planned and run the core grid restoration exercise

The system operator prepared the attached Powerpoint slides in mid-March for inclusion in the pack of papers to the SRC's 21 June 2016 meeting. The system operator will attend the discussion of this agenda item and will initiate that discussion with a high-level presentation of the attached slides but also include an update on how the exercise actually ran on 8 June 2016.

The SRC may wish to consider the following questions.

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| <p>Q1. Does the SRC agree with the next steps as set out by the system operator? Does the SRC wish to be involved as an interested party in any of those steps?</p> <p>Q2. What further information, if any, does the SRC wish to have provided to it by the secretariat?</p> <p>Q3. What advice, if any, does the SRC wish to provide to the Authority?</p> |
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Core Grid Restoration Exercise

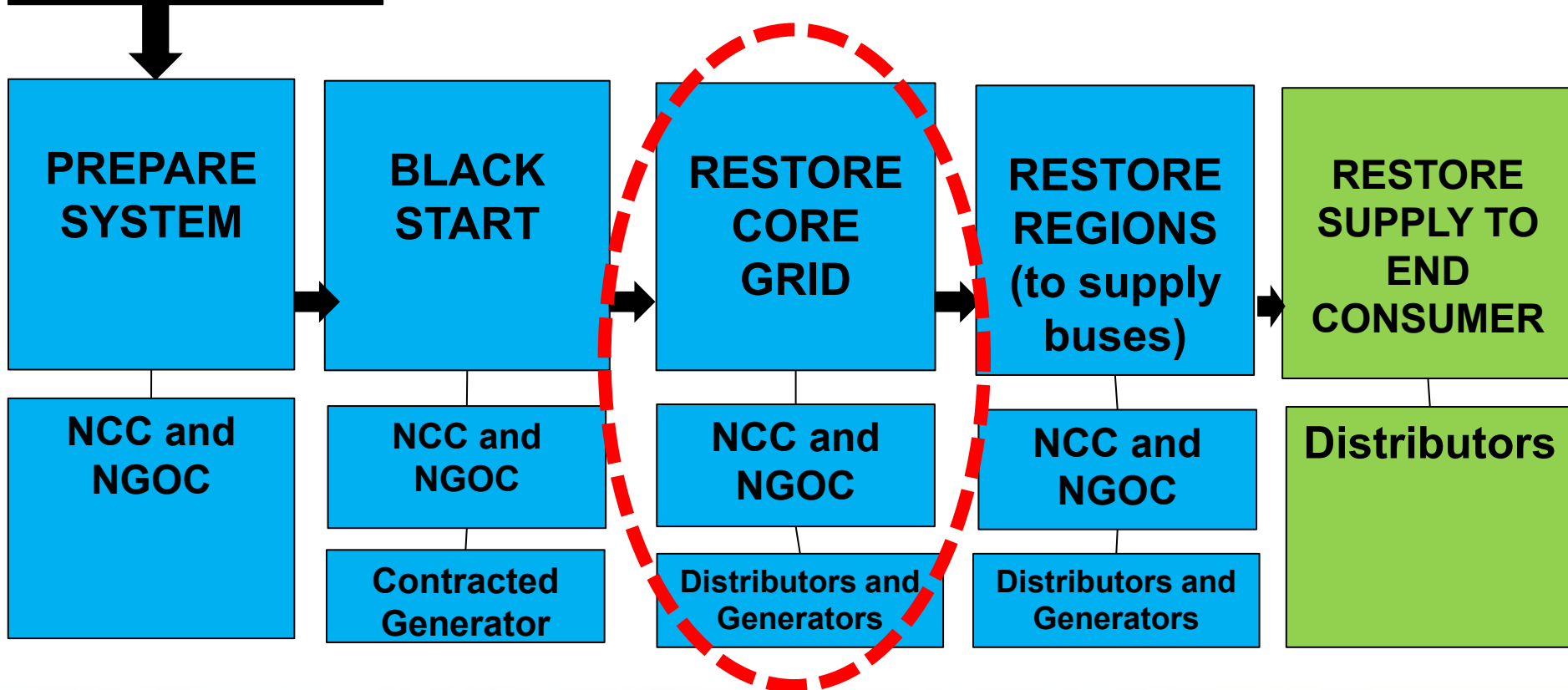
Understanding industry
capability to help restore the
North Island Core Grid after a
black-out

Presentation to Security and Reliability Council
21 June 2016



North Island Restoration Process

**SYSTEM EVENT :
ISLAND WIDE
BLACK OUT**



Planning for Restoration

TRANSPOWER

System Operations

- Develop and maintain Contingency Plans
 - Core Grid
 - Regional
- Conduct co-ordinator simulator training
- Contract and test Black Start Providers

Grid

- Ensure alignment between SO plans and grid capability to keep comms, SCADA and protection systems available
- NGOC confirms switching sequences

INDUSTRY

Generators and distributors

- Ensure assets and resources will be ready and available to respond to Transpower requests during a restoration



Objectives of Exercise

- **Collaborate**
 - understand collective capability
 - build trust and motivation for future actions
- **Learn**
 - what are Transpower's restoration plans and what does industry need to do to assist?
- **Check**
 - assumptions - can industry do what we need them to?
 - timeframe estimates
 - confidence levels
- **Improve**
 - can we do it better?



Exercise Details

- 8th June 2016 at FMG Stadium in Hamilton
- Pre-exercise preparation - briefings and worksheets
- On the day - desktop walk-through of core grid restoration plans; role-plays, exercises; facilitated discussions
- Senior operational staff from North Island generators and distributors involved in a black start and core grid restoration



Next steps

- First step in a broader programme of work
- ***Short term (1-2 months):***
 - record learnings and report back to participants and other interested parties
- ***Mid term (3-12 months):***
 - address any identified issues
 - plan for NI regional smaller scale workshops
- ***Longer term (12 months onwards):***
 - develop strategy for future planning/exercises (eg South Island)

