



ABN 20 009 454 111

Audit Report
Rottnest Island 2020 Network Quality
and Reliability of Supply Audit -
Operation of Compliance Monitoring Systems

September 2020



executive summary

Under the Electricity Industry (Network Quality and Reliability of Supply) Code 2005 (the Code), Division 3, Section 26, Rottneest Island Authority (RIA) is required to arrange for an independent audit of the operation of the systems that are in place to monitor its compliance with Part 2 of the Code or an instrument made under Section 14(3). In July 2020 the RIA commissioned Qualeng to carry out the audit in respect of the operation of the systems over the period 1 July 2017 to 30 June 2020.

The RIA's distribution system consists of an 11 kV distribution network (defined as the 11 kV HV Transmission System), both underground and above ground, a number of substations and a 415V LV distribution network comprising five underground feeders. The RIA has contracted Programmed Facility Management (PFM) to manage, operate and maintain the electricity assets and to be responsible for compliance with the Code.

The audit was conducted between August and September 2020 and included:

- review of the actions resulting from previous audit recommendations;
- review of supporting documentation;
- interviews of key personnel;
- examination of records, data, evidence and processes demonstrating the operation and performance of the systems.

No non-compliances were recorded in the previous audit.

The Code requires that RIA has systems in place to monitor compliance with requirements to:

- maintain the quality of electricity supply in respect of voltage fluctuations (flicker) and voltage harmonic distortion;
- disconnect customers' installations if there is likelihood of damage due to power quality;

- minimise interruptions of electricity supply to customers;
- where interruptions are planned, provide alternative power to businesses and special health needs customers; and
- provide notifications for planned interruptions and contain their duration below prescribed limits;
- remediate the supply reliability where duration and frequency of interruption is too high over a period of time;
- maintain long term standards for the reliability of supply.

The audit found that the RIA and PFM have maintained adequate systems to monitor compliance with the requirements of Part 2 of the Code. There are processes in place for monitoring compliance through:

- independent testing and analysis of electricity supply quality;
- use of independent testing and review, and internal test procedures for preventing damage to customer installation;
- maintaining registers, records and processes to monitor interruption of supply to individual customers;
- maintaining procedures and assets to enable appropriate emergency response including the use of mobile emergency generation to reduce or prevent the effect of interruptions;
- keeping registers and records to confirm outage notification activities;
- maintaining long term records of reliability performance and highlighting deviations from short term and long term targets through registers and reports.

No non-compliances were recorded in this audit. One Opportunity for Improvement was recorded in regard to the content of the "Planned Outage Notification Procedure" which needs to be updated to reflect the Code, section 11(4).

RIA identified results in excess of Code standards for:

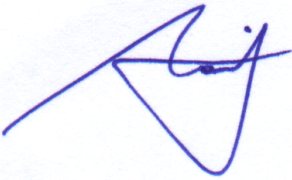
- electricity supply quality due to flicker (sec. 6 of Code) in 2018 and 2019, however there was compliance in 2020 and a program of asset replacement to strengthen the network and improve power quality is in progress; and
- reliability, in respect of the average total length of interruptions to customer premises (sec. 13 of Code); a number of improvement projects, some required to strengthen the network, contributed to the increase in outages and reliability figures.

Under both of these requirements the Code requires compliance "so far as is reasonably practicable" and there was sufficient evidence to show that, in accordance with subparagraphs 5(1) and 13(2), the RIA, so far as reasonably practicable, complied with the prescribed standards.

Based on the scope of the audit defined in section 26 of the Code Qualeng has found that Rottneast Island Authority has in place systems to monitor its compliance with the requirements of Part 2 of the Code, Quality and Reliability Standards.

This report is an accurate representation of the findings and opinions of the auditors following the assessment of the client's conformance to nominated Licence conditions. The report is reliant on evidence provided by other parties and is subject to limitations due to the nature of the evidence available to the auditor, the sampling process inherent in the audit process, the limitations of internal controls and the need to use judgement in the assessment of evidence. On this basis Qualeng shall not be liable for loss or damage to other parties due to their reliance on the information contained in this report or in its supporting documentation.

Approvals

Representation	Name	Signature	Position	Date
Auditor:	M Zammit		Lead Auditor	24/09/2020

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1 Objectives and Scope of Audit

1.1 INTRODUCTION

Rottneet Island Authority (RIA) has an Electricity Integrated Regional Licence (EIRL3) (the Licence) issued by the Economic Regulation Authority (the ERA) under Sections 7 and 15(2) of the Electricity Industry Act 2004 (WA) (the Act). Under the scope of the Licence RIA generates and distributes electricity to commercial customers.

Under the terms of the Act RIA is required to comply with the Electricity Industry (Network Quality and Reliability of Supply) Code 2005 (the Code). In accordance with Division 3 "Performance reporting", Section 26 "Annual report on monitoring systems" of the Code, RIA is required to arrange for an independent audit of the operation of the systems that are in place to monitor its compliance with Part 2 of the Code or an instrument under Section 14(3).

In July 2020 the RIA commissioned Qualeng to carry out the Performance Audit to cover the period 1 July 2017 to 30 June 2020. The audit has been conducted and this report prepared in accordance with the Code.

The RIA's distribution system consist of an 11 kV network (identified as the 11 kV HV Transmission System) comprising two feeders (number 2 and number 6), both underground and above ground, supplying the outlying areas, a number of substations and a 415V LV distribution network comprising five feeders (Feeders 1, 3, 4, 5 and 7) which supplies customers in the settlement area.

The RIA has placed the responsibility for managing the operation and maintenance of the licence assets on Programmed Facility Management (PFM) under a contractual agreement, the Facilities Utilities and Support Services (FUSS) agreement. Under the FUSS PFM is responsible for compliance with the licence conditions and with the Code.

1.2 AUDIT OBJECTIVES

The purpose of the Performance Audit is to assess and report on the operation of the systems implemented by the licensee to monitor its compliance with Part 2 of the Code or an instrument under section 14(3).

1.3 AUDIT SCOPE

Part 2 of the Code includes 4 Divisions:

1. Division 1 (sect. 4 to 8), "Quality Standards" for compliance with requirements for quality of supply at the point of connection to the customer, in regard to voltage fluctuations and harmonic distortion.
2. Division 2, "Standards for the interruption of supply to individual customers" provides for the maintenance of supply and management of interruptions to customers, both in terms of the duration and number of interruptions. It includes for:
 - 2.1. (Sect. 9) Provision of supply with the minimum number and duration of interruptions.
 - 2.2. (Sect. 10) Reducing the effect of any interruptions to the customer
 - 2.3. (Sect. 10) Considering the provision of alternative supply if the interruption is expected to be significant, its effect substantial or if the customer has special health needs that require continuous supply.
 - 2.4. (Sect. 11) Allowing planned interruptions for the purpose of maintaining or altering the transmitter's or distributor's network, if the customer is suitably notified within a stipulated time and the duration does not exceed 6 hours, or 4 hours for temperatures over 30 C or north of the 26th parallel.
 - 2.5. (Sect. 11A) Where the electricity is not supplied from the network, interrupting the supply of electricity to restore it from the network, provided the interruption duration complies with section 11.
 - 2.6. (Sect. 12) Requiring the distributor to remedy the causes of interruptions or enter into alternative arrangements if the supply has been interrupted more than 12 hours continuously or more than 16 times in the prescribed 12 months and the distributor considers that the prescribed standard (means supply without the specified interruptions for 9 years in every 10) is unlikely to be met for the customer.
3. Division 3, "Standards for the duration of interruptions of supply in particular areas" provides that the average length of interruptions to any customer premises should not exceed 290 minutes (calculated as the total annual interruption minutes per customer premises, calculated for each of the last 4 years and then averaged over the 4 years) in any area of the State (for areas that apply to Rottneest Island Authority).
4. Division 3A. "Temporary reliability standards for supply to particular areas" (from 1 October 2018 to 30 September 2023) provides for restoration and maintenance to essential services loads and the majority of small use customers of:
 - 4.1. 45 MW to Eastern Goldfields and
 - 4.2. 50 MW to North Countryas soon as is reasonably practicable following the occurrence of a planned or unplanned outage of a transmission element supplying the respective region.

5. Division 4, "Variations of obligations under this Part" provides for:
 - 5.1. review and approval by the Minister of alternative requirements and
 - 5.2. agreement between the transmitter/distributor and the customer of extensions and modifications to the standards.

The audit was carried out between August and September 2020.

The following representatives participated in the audit on RIA's behalf and/or contributed to sourcing the documentation and providing evidence to the audit:

- Mr Orrin Neale, Manager Compliance, PFM
- Ms Rebecca Gabbitus, Environment, Health and Compliance Coordinator, RIA
- Mr Roger Petit, Manager Electricity and Fuel Infrastructure, RIA.

The main auditor representative was Mr Mike Zammit, Lead Auditor.

1.4 AUDIT METHODOLOGY

The audit followed in part the methodology defined in the ERA's Audit and Review Guidelines: "Electricity and Gas Licences", April 2014, including:

- preparation of an audit plan and risk assessment for Qualeng internal control
- fieldwork
- reporting.

The audit proceeded through a documentation review, meetings, interviews and checks of processes. These were supported by additional queries to clarify aspects of policies and procedures.

1.5 LIMITATIONS AND QUALIFICATIONS

An audit provides a reasonable level of assurance on the effectiveness of control procedures, however there are limitations due to the nature of the evidence available to the auditor, the sampling process inherent in checking the evidence, the limitations of internal controls and the need to use judgement in the assessment of evidence.

1.6 ACRONYMS AND ABBREVIATIONS

Abbreviation	Description
CAIDI	Customer Average Interruption Duration Index
CAPEX	Capital Expenditure
CMMS	Computerised Maintenance Management System
Code	Electricity Industry (Network Quality and Reliability of Supply) Code 2005
ERA	Economic Regulation Authority
FUSS	Facilities Utilities and Support Services
HV	High Voltage
LV	Low Voltage
NA	Not Applicable
PFM	Programmed Facility Management
Plt	Long Term Flicker (as defined in the Code)
Pst	Short Term Flicker (as defined in the Code)
QoS	Quality of Supply (as defined in the Code)
RIA	Rottnest Island Authority
RMU	Ring Main Unit
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Frequency Duration Index
THD	Total Harmonic Distortion

2 Licensee's Response to Previous Audit Recommendations

2.1 SUMMARY

The previous quality and reliability of supply audit was completed in September 2017.

No recommendations were made in the 2017 audit.

Key Findings

3 SYSTEMS TO MANAGE COMPLIANCE WITH PART 2, DIVISION 1, QUALITY STANDARDS (SEC. 5 TO 8)

3.1 VOLTAGE FLUCTUATIONS (FLICKER) AND HARMONICS (SECTIONS 5 - 7)

Requirement: The Licensee is required to have systems in place to monitor:

- compliance at all times with, as far as reasonably practicable, quality of electricity supply requirements at the point of connection to the customer, both in terms of voltage fluctuations (flicker) and harmonic distortion.

3.1.1 Summary

Through review of documentation and interview of staff the audit found that:

- there was monitoring of the quality of electricity supply in each year of the audit period;
- voltage harmonics distortion levels were always in accordance with the Code requirements;
- there were one-off voltage fluctuations in excess of Code requirements during the audit period;
- voltage fluctuations in excess of Code requirements were experienced in 2018 and 2019, however there were no further breaches in 2020.

Change in operating conditions in 2020 have resulted in improvement in electricity supply quality. Improvement projects to strengthen the network in respect of power quality were included in CAPEX and in RIA's Strategic Asset Plan. The proposed program of improvement projects is in progress, with Generator 6 replaced in May 2020 and the replacement of several distribution transformers over the next financial years.

Under subsection 5(1) the Code requires compliance "so far as is reasonably practicable" with the prescribed limits and there was sufficient evidence to show that, in accordance with the Code, the RIA maintained compliance, as far as reasonably practicable, with the Code requirements.

Table 1: Systems to monitor compliance with requirements for quality of supply: Voltage Fluctuations (Flicker) and Harmonics Measurements (2nd order to nth and THD %)

Site	Flicker (Pst < 1.0; Plt < 0.8)		Harmonics (THD < 8%)	Customer's Complaints on Quality	Remedial Actions
	Pst	Plt	(Max %)		
10 sites	Some short term flicker measurements in excess of Code in 2018 and 2019. All complying in 2020.	Some long term flicker measurements in excess of Code in 2018 and 2019. All complying in 2020.	Complying	Nil	Nil

Findings:

The audit did not record any findings.
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3.1.2 Documentation

- PRO-RNI-I02-001 Independent Power Quality Monitoring and Evaluation Procedure
- Rottnest Island Power Quality Report March 2018 – Revision 01
- Rottnest Island Power Quality Report February 2018
- Rottnest Island Power Quality Report February 2019
- Rottnest Island Power Quality Report January 2020
- List Of Test Sites 2018-20-PowerView4 Dump File
- Power Quality Monitoring Reporting [xls]
- Abbott Street Tx 2019.PM4.

3.1.3 Observations: Quality of Supply (sections 5 - 7)

Through discussion with the Manager Compliance and review of documentation the audit found that there are systems in place for monitoring compliance with the Code quality standards including:

- the procedure “PRO-RNI-I02-001 Independent Power Quality Monitoring and Evaluation Procedure” is in place to manage power quality monitoring for compliance with the Code; it applies to both planned and reactive testing and includes corrective actions and identification and

proposal of projects to rectify breaches of Code power quality limits;

- the Rottneest Island operator, Programmed Facility Management (PFM), employs a Computerised Maintenance Management System (CMMS) database (Maximo) to store the Preventative Maintenance schedule which includes the task for testing the electricity supply; a Work Order is generated to initiate the task and is assigned to the electrical team annually;
- an external contractor is engaged to conduct the annual monitoring, analysis and reporting;
- reports were available for each year of the audit period;
- all reports are reviewed by the independent contractor and by the Rottneest Island operator PFM.

The audit found that:

- a total of 10 sites were monitored at different times during the audit period;
- all harmonic measurements were found to be in compliance;
- some of the short and long term flicker readings were in excess of Code requirements in 2018 and 2019, however all were within requirements in 2020.

High flicker readings in 2018 and 2019 were assessed to be due to operation of diesel generators at low load or idling. Changes of control settings were not effective however an increase in demand and consequently load, and the use of three generators at higher loads has resulted in a better regulated power supply.

Further projects were identified in CAPEX and in the RIA's Strategic Asset Plan to strengthen the network in respect of power quality, including:

- the replacement of Generator 6 in May 2020, which contributed to instability at times of low loads, when renewable generation was high, resulting in long term flicker events;
- the replacement of aging distribution transformers at Abbott Street, due FY 2020-21 or 2021-22 and at Geordie Bay (now Parker Point), due in FY 2021-22;
- a total of 7 ground mounted transformers are due to be replaced over a 5 year period from FY2021-22.

3.2 DUTY TO DISCONNECT IF QUALITY OF SUPPLY MAY LEAD TO DAMAGE (SECTION 8)

Requirement: The licensee is required to have systems in place to monitor compliance with, so far as reasonably practicable, requirement to disconnect a customer where there is a possibility of damage to the customer installation due to the transmitter or distributor inability to comply with quality of supply standards (as per sections 5 - 7).

3.2.1 Summary

Through review of documentation and interview of staff the audit found that:

- there was monitoring of quality of electricity supply in each year of the audit period; and
- while voltage fluctuations in excess of Code requirements were experienced, independent analysis did not determine that there was likelihood of damage to customers' installations.

On the basis of the observations made the audit found that the licensee maintained compliance, as far as reasonably practicable, with the Code requirements.

Findings:

The audit did not record any findings.

3.2.2 Documentation

- PRO-RNI-I02-001 Independent Power Quality Monitoring and Evaluation Procedure

3.2.3 Observations

Through discussion with the Manager Compliance and review of documentation the audit found that there are systems in place for monitoring compliance with the requirement to disconnect a customer where there is a possibility of damage to the customer installation due to the inability of the transmitter/distributor to maintain power quality to the Code standard:

- the procedure "PRO-RNI-I02-001 Independent Power Quality Monitoring and Evaluation Procedure" provides instructions for the disconnection of power to customers' electrical installations where the quality of electricity supply may result in damage to the customer installation;
- an external contractor conducts the annual monitoring of power quality of supply and provides an analysis of results and reporting;
- overall the independent contractor did not find that the power quality results were likely to damage the customers' installations.

4 SYSTEMS TO MANAGE COMPLIANCE WITH PART 2, DIVISION 2, STANDARDS FOR INTERRUPTION OF SUPPLY (SEC. 9-12)

The licensee must establish systems to monitor compliance with requirements to minimise interruptions to customers, both in term of the duration and number of interruptions. The requirements are for the licensee to:

- maintain the supply with the minimum number and duration of interruptions (Sec. 9);
- reduce the effects of interruptions; consider providing alternative supply if the proposed interruption is expected to be significant, its effect substantial on a business or if the customer has special health needs that require continuous supply (Sec. 10);
- ensure that where interruptions are planned, where practicable, the customer is notified within a suitable time and the duration does not exceed 6 hours, or 4 hours for temperatures over 30 C or north of the 26th parallel (Sec. 11);
- ensure that when the customer is supplied by alternative means, where interruptions are planned and supply has to be restored from the network, interruption duration does not exceed 6 hours, or 4 hours for temperatures over 30 C or north of the 26th parallel and notifications for planned interruption is provided (Sec. 11A);
- remedy the causes of interruptions or enter into alternative arrangements if the supply has been interrupted more than 12 hours continuously or more than 16 times in the prescribed 12 months and it is considered that the prescribed standard is unlikely to be met for the customer (Sec. 12).

4.1 DUTY TO MAINTAIN THE SUPPLY WITH A MINIMUM NUMBER AND DURATION OF INTERRUPTIONS (SEC. 9)

Requirement: The licensee must establish systems to monitor compliance with the requirement to ensure, so far as is reasonably practicable, that:

- the supply of electricity to a customer is maintained; and
- the occurrence and duration of interruptions is kept to a minimum.

4.1.1 Summary

The operator has in place a system to monitor compliance with the requirement that the supply of electricity to a customer is maintained and the occurrence and duration of any interruptions is kept to a minimum.

Table 2: Systems to monitor compliance with requirement to maintain supply and the occurrence and duration of interruptions to a minimum

Site	Procedures dealing with outages and monitoring of interruptions	Processes monitoring performance
All	Yes	Yes

Findings:

The audit did not record any findings.

4.1.2 Documentation

- PFM PL-RNI-B12b-005-4 Electrical - Service Recovery and Contingency Plan, March 2019
- PFM GDE-RNI-B12b-001-5 Emergency Generator Installation
- PFM PRO-RNI-I03-034-1 Planned Outage Notification Procedure
- PFM System Performance Measures SAIDI SAIFI CAIDI Procedure
- RIA Utilities Customer Complaints Procedure, 2020
- Electrical Customer Complaints Reporting Register
- “SAIDI figures” spreadsheets
- Incident Reports
- Utilities Customer Complaints Procedure, 2020
- FUSS service Reports, November 2017, March 2018, August 2018, February 2019, November 2019, January 2020.

4.1.3 Observations

Through discussion with the Manager Compliance and review of documentation the audit found that there are systems in place for minimising the frequency and length of interruptions including:

- the “ Electrical - Service Recovery and Contingency Plan” provides response plans to mitigate interruptions; the response plans include restoration of electricity supply in case of failures in the:
 - transmission and distribution systems
 - main powerhouse distribution board
 - substations
 - generation equipment including diesel, wind and solar generators

- fuel supply system;
- there is capacity to isolate failed equipment and restore supply from alternative feeders;
- the “Electrical - Service Recovery and Contingency Plan” notes that 3 large trailer mounted emergency standby generators (2 x 225kVA, 1 x 135kVA) are permanently available on the island to be used in case of interruptions;
- the “Emergency Generator Installation” procedure includes a consumer priority and a power restoration priority schedule to minimise interruptions to critical customers and areas;
- tests of contingency response are carried out quarterly by PFM to assess the effectiveness of emergency response procedures; records of tests showed a high level of proficiency.

Monitoring compliance with the Code interruption requirements is achieved through a range of processes:

- the “System Performance Measures SAIDI SAIFI CAIDI Procedure” provides the process for recording and monitoring interruptions;
- monthly “FUSS Service Reports MMMM YYYY” report on maintenance, incidents, interruptions and remedial actions for review both by the operator and the RIA;
- the “20YY-20YY” spreadsheets records interruptions each financial period (planned and unplanned outages) and identifies duration in excess of Code requirements through colour coding;
- monitoring of significant interruptions (>12 h or > 16 /y for small use customer) over 10 years are recorded and monitored through an outage list within the “20YY-20YY” spreadsheet
- monitoring of interruptions, for compliance with the requirement to maintain the duration of average customer interruption to less than 290 minutes per year over 4 years, is provided by a SAIDI report (where SAIDI represents the average total duration of outages for each customer served in one year);
- power outage reports relay unscheduled outage details including extent and duration, analyse the root causes and identify corrective actions, for example:
 - report “Power Outage - 1 February 2020 - All Island UFLS”, for an unscheduled outage of 20 minutes;
 - report “Power Outage - 28 May 2018 - All Island” for a forced outage of 5 minutes;
 - report “Power Outage - 28 December 2019 - All Island UFLS” for a forced outage of 20 minutes;
- the RIA “Utilities Customer Complaints Procedure” addresses the management of customer complaints that, among others, may relate to electricity supply interruptions.

The audit found that, over the audit period, there was satisfactory control of the duration and frequency of interruptions. The number of interruptions varied from year to year:

- in the 2017-2018 period there were 2 planned and 7 Operational (forced or unplanned) interruptions;
- in the 2018-2019 period there were 8 planned and 7 unplanned interruptions;
- in the 2019 -2020 period there were 14 Planned and 7 unplanned outages.

No interruption exceeded the duration limits prescribed in other sections of the Code.

4.2 DUTY TO REDUCE THE EFFECTS OF INTERRUPTIONS AND PROVISION OF ALTERNATIVE SUPPLIES FOR PROPOSED INTERRUPTIONS (SEC. 10)

Requirement: The licensee must establish systems to monitor compliance with its duty to:

- so far as is reasonably practicable, reduce the effect of any interruptions; and
- without limiting the above, the licensee must consider providing alternative supply for proposed interruptions if the proposed interruption is:
 - ⦿ greater than 4 or 6 hours;
 - ⦿ the effect on a business is likely to be substantial; or
 - ⦿ there are special health needs customers.

Summary

As reported at section 4.1 Rottneest Island Authority has systems and procedures in place to monitor that:

- the effect of any interruptions is kept to a minimum; and
- alternative supply is considered when the duration of a planned interruption is greater than 4 or 6 hours (depending on the temperature) and there are special health needs customers of the effect on a business is likely to be substantial.

Table 3: Systems to monitor compliance with duty to reduce the effect of interruptions and provide alternative supply for planned interruptions

	Monitoring...		
Site	Reduction of Effect of Interruptions	Alternative Supply	Substantial Effect on Business and Special Health Needs Customers
All	Yes	Yes	Identified

Findings:

The audit did not record any findings.

4.2.1 Reduce the effect of any interruptions (SSec 10(1))

Requirement: The licensee must establish systems for monitoring its compliance with the requirement that:

- the licensee must, so far as reasonably practicable, reduce the effect of any interruptions.

Documentation

- PL-RNI-B12b-005-4 Electrical - Service Recovery and Contingency Plan, March 2019
- GDE-RNI-B12b-001-5 Emergency Generator Installation
- PRO-RNI-I03-034-1 Planned Outage Notification Procedure
- System Performance Measures SAIDI SAIFI CAIDI Procedure
- 2017-2018, 2018-2019 and 2019-2020 spreadsheets covering Operational (unplanned) Outages, Planned Outages, Notices, Affected areas over 10 years, Connections and metering points
- Electrical Customer Complaints Reporting Register
- SAIDI figures spreadsheets
- Incident Reports
- FUSS service Reports, November 2017, March 2018, August 2018, February 2019, November 2019, January 2020.
- RIA Utilities Customer Complaints Procedure, 2020.

Observations

Through discussion with the Manager Compliance and the Environment, Health and Compliance Coordinator, review of documentation and examination of evidence the audit found that there are systems in place for monitoring compliance with the Code requirement to reduce the effect of any interruption:

- the “System Performance Measures SAIDI SAIFI CAIDI Procedure” provides the instructions for the entry of outage data in the “20YY-20YY” spreadsheet for the purpose of monitoring the interruption performance;
- the “Operational [unplanned] Outages Rottneest Island 20YY-20YY” and the “Planned Outages

Rottneest Island 20YY-20YY” registers within the “20YY-20YY” spreadsheet are used to record all outage data and calculate the duration of outages; excessive durations are highlighted through colour coding;

- the “Affected Areas 10 Years” register within the “20YY-20YY” spreadsheet highlights high interruption frequencies over 10 years of operation;
- the “Electrical - Service Recovery and Contingency Plan” provides response plans for the isolation of distribution feeders and the connection of mobile generator sets to allow restoration of electricity supply in case of failures;
- the “Emergency Generator Installation” procedure provides instruction for the installation of emergency generators to provide alternate power in the case of loss of supply in any of the island electricity distribution systems;
- outage registers and the “Affected Areas 10 Years” registers for the 2017-2018, 2018-2019 and 2019-2020 periods were examined and showed adequate monitoring and controls on the duration and frequency of outages.

4.2.2 Provision of Alternative Supply for Proposed Interruptions, Special Health Needs Customers and Commercially Sensitive Loads (SSec 10(2))

Requirement: The licensee must establish systems for monitoring its compliance with:

- without limiting the requirement to reduce, so far as reasonably practicable, the effect of any interruptions, the licensee must consider providing alternative supply for proposed interruptions if the interruption is:
 - greater than 4 or 6 hours;
 - the effect on a business is likely to be substantial; or
 - there are special health needs customers.

Documentation

- PL-RNI-B12b-005-4 Electrical - Service Recovery and Contingency Plan, March 2019
- GDE-RNI-B12b-001-5 Emergency Generator Installation
- System Performance Measures SAIDI SAIFI CAIDI Procedure (previously the “PRO-ROT-ELEC-39.01” Procedure)
- PRO-RNI-I03-034-1 Planned Outage Notification Procedure
- 2017-2018, 2018-2019 and 2019-2020 spreadsheets covering Operational (unplanned) and Planned Outages, Notices, Affected areas [over] 10 years
- Electrical Customer Complaints Reporting Register

- Incident Reports
- Communications to customers
- FUSS service Reports, November 2017, March 2018, August 2018, February 2019, November 2019, January 2020.
- RIA Utilities Customer Complaints Procedure, 2020.

Observations

Through discussion with the Manager Compliance and the Environment, Health and Compliance Coordinator, and review of documentation the audit found that there are systems in place for monitoring compliance with the Code interruption requirements of section 10(2):

- monthly “FUSS Service Reports MMMM YYYY” report on maintenance activities, incidents, interruptions and remedial actions for review both by the operator and the RIA;
- the “Planned Outages Rottnest Island 20YY-20YY” register, contained within the “20YY-20YY” spreadsheets is used to record all the planned outage data, including start, completion and notification times; the register auto calculates the duration of outages and highlights durations in excess of Code requirements through colour coding;
- the “Notices – Planned Outages Rottnest Island” register records notification times and highlights the notification period compliance status;
- ‘Critical customers’ are identified in the “Emergency Generator Installation” procedure;
- the “Electrical Customer Complaints Register” records customer complaints (which may be connected with failures in notification or excessive outage duration); there were no customer complaints in the audit period; registers were available for 2017-18 and 2018-19, reports for 2019-20 were provided by the accommodation property manager;
- there were no special health needs customers at Rottnest Island in the audit period.

Procedures in place for implementing the Code requirement include:

- the “Electrical - Service Recovery and Contingency Plan” which provides response plans for the isolation of distribution feeders and the connection of mobile generator sets to allow restoration of electricity supply in case of failures in transmission and distribution assets, substations, generators, including diesel, wind and solar generators and the fuel supply system;
- there is capacity to isolate failed equipment and restore supply from alternative feeders;
- the “Electrical - Service Recovery and Contingency Plan” notes that 3 large trailer mounted emergency standby generators (2 x 225kVA, 1 x 135kVA) are permanently available on the island to be used in case of interruptions;
- the “Emergency Generator Installation” procedure cover the detailed procedures for the installation

of alternative mobile generator to restore electricity supply and includes a consumer priority and a power restoration priority schedule to minimise interruptions to critical customers and areas.

Evidence was available in the registers and communication records of availability and use of emergency generators.

All planned outage durations were within the prescribed limits.

4.3 PLANNED INTERRUPTIONS: ACCEPTABLE IF LESS THAN 4 OR 6 HOURS AND IF NOTIFIED (SEC. 11)

Requirement: The licensee must establish systems to monitor compliance with the requirement to, so far as is reasonably practicable:

- maintain planned interruptions to a duration not exceeding 4 or 6 hours; and
- providing notifications at least 72 hours before each planned outage for eligible persons (customers using no more than 50 MWh per year).

4.3.1 Summary

The audit found that there was evidence to show that a system and processes are in place to monitor the compliance with the Code planned outage duration:

- there is evidence to show that the licensee has systems in place to monitor that the duration of planned interruptions, as far as reasonably practicable, is maintained within Code limits;
- there is evidence to show that, as far as reasonably practicable, notifications were provided in accordance with the Code requirements.

Table 4: Systems to monitor compliance with planned outages not exceeding 4 or 6 hours and providing notifications at least 72 hours before each planned outage

Site	Systems to monitor duration of interruptions (\leq 4 or 6h)	Systems to monitor notifications \geq 72 hours prior to outage
All	Yes	Yes

Findings:

The audit found an ‘Opportunity for Improvement’ (OFI) in regard to the notification procedure:

- ▶ The audit found that the “PRO-RNI-I03-034-1 Planned Outage Notification Procedure” states that “Notification must be done via email, memo and/or phone call to customers...”. The instruction needs to be updated to reflect the change in the Code, section 11(4) which states “For the purposes of subsection (3)(ab), a notice cannot be given by telephone...”.

It is noted that while telephone calls are effective in providing customer awareness and interaction, another means of formal notification, including electronic means, post or other means as per clause 11(3) of the Code, is required for compliance.

The audit noted that e-mail notification is already the default process used by the operator and no non-compliances were found.

4.3.2 Documentation

- System Performance Measures SAIDI SAIFI CAIDI Procedure (previously the “PRO-ROT-ELEC-39.01” Procedure)
- PRO-RNI-I03-034-1 Planned Outage Notification Procedure
- 2017-2018, 2018-2019 and 2019-2020 spreadsheets covering Planned Outages, Notices, Affected areas [over] 10 years
- NQRS reports for the 2017-18, 2018-19 and 2019-20 (draft) periods
- Electrical Customer Complaints Reporting Register
- Reports by property manager on customer complaints
- FUSS service Reports, November 2017, March 2018, August 2018, February 2019, November 2019, January 2020
- RIA Utilities Customer Complaints Procedure, 2020
- Planned power outage notifications:
 - ⦿ “EM180416-QN-Rottnest Island 11KV overhead powerline works - 18th June 2018”
 - ⦿ “EM200622-ON-[Rottnest Island] Notice of Electrical Works – Tues 23 June 2020”
 - ⦿ “EM181212-ON-Power Outage- Rottnest Island 11KV overhead power line- 17th - 19th December 2018”
 - ⦿ “EM180806-ON-Planned Power Outage, 01-00am-03-00am Friday 10th August 2018, Rottnest Island”
 - ⦿ “EM200212-ON-Scheduled power outage for Thomson Bay precinct - Tuesday 18th February 2020”

- ④ “EM190630-ON-Rottnest Island 11KV overhead power line works - Tuesday 4th June 2019 (10 Days)”
- ④ “EM180730-ON-Planned Power Outage, 01-00am-02-00am Friday 3rd August 2018, Rottnest Island”.

4.3.3 Observations

Planned Outages Not Exceeding 4 or 6 Hours

Through interviews and discussions with the Manager Compliance and review of documentation and evidence, the audit found that:

- the procedure “System Performance Measures SAIDI SAIFI CAIDI Procedure” provides instructions for the entry of data in reporting systems and clarifies the significance of outage data and Code requirements;
- the above procedure requires the entry of planned outage data in registers:
 - ④ the “20YY-20YY” spreadsheet includes:
 - the “Planned Outages Rottnest Island 20YY-20YY” register which is used to record all the planned outage data, including start, completion and notification times, auto-calculates the duration of outages and highlights durations in excess of Code requirements;
 - the “Notices – Planned Outages Rottnest Island” register which records notification times and highlights the notification period compliance status;
- the “2017-2018”, “2018-2019” and “2019-2020” spreadsheets were examined against published reports;
- the “System Performance Measures SAIDI SAIFI CAIDI Procedure” requires that outage data be part of the monthly ‘FMOG’ operational meetings between the operational staff of PFM and the RIA’s staff;
- there were no customer complaints during the audit period.

All planned outage durations were within the prescribed limits.

Planned Outage Notifications

The audit found that a system and processes are in place for monitoring the notification activities:

- the procedure “Planned Outage Notification Procedure” is in place to control the notification process;
- the above procedure requires that a copy of the notification e-mail is saved in the data management system;

- the “System Performance Measures SAIDI SAIFI CAIDI Procedure” provides instructions for the entry of notification data in the “20YY-20YY” spreadsheets which contain the “Planned Outages” register;
- the “Planned Outages Rottnest Island 20YY-20YY” register within the “20YY-20YY” spreadsheet is used to record all planned outage data including the notification time and the start of the outage; the register auto calculates the notification period for planned outages and highlights periods in excess of Code requirements;
- sample records of e-mail notifications were examined by the auditor;
- the “Planned Outages Rottnest Island” registers for the 2017-2018, 2018-2019 and 2019-2020 periods were examined and showed compliance with the Code requirements; the audit noted that the following notifications were not made before the 72 hours period prescribed in the Code:
 - one notification was due to emergency works in the period ending in 2018;
 - two notifications were for disconnections to the Old Hotel Sewer Pump Station (SPS) in 2019; sufficient evidence was available to show that, as far as reasonably practicable, the notification process was in accordance with the Code requirements.

The audit found an ‘Opportunity for Improvement’ (OFI) in regard to the notification procedure:

- ▶ The audit found that the “PRO-RNI-I03-034-1 Planned Outage Notification Procedure” states that “Notification must be done via email, memo and/or phone call to customers...”. The instruction needs to be updated to reflect the change in the Code, section 11(4) which states “For the purposes of subsection (3)(ab), a notice cannot be given by telephone...”.

It is noted that while telephone calls are effective in providing customer awareness and interaction, another means of formal notification, including electronic means, post or other means, as per clause 11(3) of the Code, is required for compliance.

The audit noted that e-mail notification is already the default process used by the operator and no non-compliances were found.

4.4 INTERRUPTIONS TO RESTORE SUPPLY FROM NETWORK (SEC. 11A)

Requirement: Where the customer (up to 50 MWh of electricity per year) is supplied from alternative power because it is unable to receive supply from the network and the licensee interrupts the supply of electricity for the purpose of restoring the supply of electricity to the customer from the network, the licensee must establish systems to monitor compliance with the requirement to:

- as far as reasonably practicable, ensure that the interruption does not exceed 4 or 6 hours

and

- the licensee has used its best endeavours to give notice to the customer.

4.4.1 Summary

Through interviews and discussions with the Manager Compliance and review of documentation and evidence, the audit found that Rottnest Island Authority has a system for monitoring compliance with the requirements to monitor that interruptions do not exceed 4 or 6 hours and the customer is provided notifications of the outage where the customer supply from alternate power has to be interrupted to restore it from the network.

Findings:

The audit did not record any findings.

4.4.2 Documentation

- PRO-RNI-I03-034-1 Planned Outage Notification Procedure
- 2017-2018, 2018-2019 and 2019-2020 spreadsheets covering Planned Outages and Notices
- communications of July 2019 on Lodge interruption.

4.4.3 Observations

The audit found that:

- the procedure “PRO-RNI-I03-034-1 Planned Outage Notification Procedure” provides the instructions for the provision and recording of notifications to customers;
- there was evidence of records being maintained and of review of performance;
- an outage in July 2019 was in regard to the removal of emergency generation to restore supply to the customer from the network (feeder 5), the audit noted:
 - monitoring records of the outage and notification were maintained;
 - the outage duration was less than the prescribed limit;
 - there was evidence of the notification and the notification was given in accordance with the Code.

4.5 SIGNIFICANT INTERRUPTIONS (OVER 12 HOURS DURATION OR MORE THAN 16 IN A YEAR) TO SMALL USE CUSTOMERS (SEC.12)

Requirement: The transmitter / distributor must establish systems to monitor compliance with the requirement to remedy the causes of interruptions or make alternative arrangements where:

- significant interruption (duration over 12 hours or more than 16 interruptions in the preceding year) occurred for small use customers (up to 160 MWh per year); and
- where the licensee considers that the prescribed standard (no significant interruptions in 9 years out of 10) is unlikely to be met.

4.5.1 Summary

Through discussion with the Manager Compliance, review of documentation and records, the audit found that there is a system monitoring interruptions which exceed 12 hours or affect small use customers more than 16 times in a year.

The results of the monitoring show the licensee is in compliance with the Code both in terms of the duration and frequency of interruptions and that no remedial action is necessary.

Table 5: Systems for monitoring compliance with interruption duration not to exceed 12 hours

Site	# interruptions > 12 hours 2020	9 Years out of 10 (> 12 hours)	Causes of Interruption Remedied / Alternative Arrangements
All	0 No small use customer affected	Complying between 2010 and 2020 (only one year interruption > 12 h (2011-12))	No action necessary.
MONITORING			
All	Yes	Yes	NA

Table 6: Systems for monitoring compliance with interruption frequency not to exceed 16 per customer per period

Site	2018 - 2020 # interruptions > 16 per period	9 Years out of 10 (# interruptions > 16)	Causes of Interruption Remedied / Alternative Arrangements
All	No instance of interruptions over prescribed limit per customer	Complying between 2010 and 2020 (only one year > 16 interruptions, FY2016-17)	No action necessary.
MONITORING			
All	Yes	Yes	NA

Note: it is noted that the Code and criteria have changed over the 10 year period.

Findings:

The audit did not record any findings.
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4.5.2 Documentation

- System Performance Measures SAIDI SAIFI CAIDI Procedure (previously the “PRO-ROT-ELEC-39.01” Procedure)
- PRO-RNI-I03-034-1 Planned Outage Notification Procedure
- 2017-2018, 2018-2019 and 2019-2020 spreadsheets covering Operational (unplanned) Outages, Planned Outages, Notices, Affected areas over 10 years, Connections and metering points
- Electrical Customer Complaints Reporting Register
- Reports by property manager.

4.5.3 Observations

Through discussion with the Manager Compliance, review of documentation and examination of evidence the audit found that there are systems in place for monitoring compliance with the Code:

- the “System Performance Measures SAIDI SAIFI CAIDI Procedure” provides the instructions for the entry of outage data in the “20YY-20YY” spreadsheet;
- the “2017-2018”, “2018-2019” and “2019-2020” spreadsheets record outage data in the planned and operational (unplanned) outage registers, including start and completion times, location and

area. Both registers auto calculate the outage duration for all outages and highlight times in excess of Code requirements;

- the “Planned Outages Rottnest Island 20YY-20YY” register within the “20YY-20YY” spreadsheet is used to record all planned outage data;
- the “Operational Outages Rottnest Island 20YY-20YY” register within the “20YY-20YY” spreadsheet is used to record all unplanned outage data;
- the “Affected Areas 10 Years” register maintain the data for the duration in excess of 12 hours and frequency of outages in each area from 2006-07;
- records show that interruptions over 12 hours occurred only once in the 10 year period, in the 2011-12 reporting year;
- the prescribed frequency of interruptions was exceeded only once in the 10 years period and occurred during the 2016-2017 reporting year.

As this performance is in compliance with the Code, there was no obligation under the Code for the RIA to take any actions under this section.

5 SYSTEMS TO MANAGE COMPLIANCE WITH PART 2, DIVISION 3 – STANDARDS FOR THE DURATION OF INTERRUPTION OF SUPPLY IN PARTICULAR AREAS

5.1 STANDARDS PRESCRIBED FOR PARTICULAR AREAS (SEC. 13)

Requirement: The transmitter or distributor must establish systems to monitor compliance with the Code requirement to ensure that, so far as is reasonably practicable, the average total length of interruptions to customer premises in an area, during each year, for the four years up to the current year, for areas other than the Perth CBD, does not exceed 160 minutes in urban areas and 290 minutes in any other area of the State.
(For Rottnest Island the standard is 290 minutes)

5.1.1 Summary

Through discussion with the Manager Compliance and review of documentation the audit found that:

- there are systems in place for monitoring compliance with the Code requirement that the average of the total length of interruptions per year to customer premises at Rottnest Island, for the four years up to the current year does not exceed 290 minutes;
- for the audit period ending in 2020 the system reported a 4 year average of 629.75 minutes which represents an increase from the previous figure of 386.4 minutes in 2017.

The standard was not maintained for this audit period, however the figures were influenced by:

- outages required for:
 - installations of RMUs, requested by Energy Safety;
 - installation of new solar farm; and
 - opportunity maintenance and outages during restrictions due to COVID19;
- the number of customer premises included in the customer connections, which include assets such as street lights, the wind generator, borefields etc which are licensee's assets.

In conclusion, the systems were found to be, as far as reasonably practicable, operating in compliance.

It is noted that the figures used for 'customer premises' at Rottnest Island are connection points which are not strictly 'premises' and include, among others, street lights, a desalination plant and bores, which are part of the licensee assets, the Wind Turbine generator, which is part of the generation assets, and accommodation units for which, seasonally, there may be high vacancy rates and therefore, no actual customers.

It is also noted that the interruption data include generation failures which are outside the control of a transmitter/ distributor, however the licensee has in integrated regional licence which includes responsibility for generation.

Table 7: Systems to monitor compliance with requirement for interruption not to exceed 290 minutes average per customer over 4 years.

Site	Average of Total Length of Interruptions per year per Customer				4 Year Average (Avg over 4 years ≤ 290 min)
	2017	2018	2019	2020	
All	1077.14	58.52	519.82	864.14	629.75 using distribution connections

Note: Definitions of customer numbers and connections were changed in 2011-2012. Calculations are based on 527 connections (which includes accommodation units) whilst previously 191 connections were used.

Findings:

The audit did not record any findings.

5.1.2 Documentation

- System Performance Measures SAIDI SAIFI CAIDI Procedure
- SAIDI Figures spreadsheet
- Planned Outages Rottnest Island register
- Operational Outages Rottnest Island register.

5.1.3 Observations

Through discussion with the Manager Compliance and review of documentation the audit found that there are systems in place for monitoring compliance with the Code:

- the “System Performance Measures SAIDI SAIFI CAIDI Procedure” provides instructions for the entry of outage data in the “20YY-20YY (Planned)” register, including start and completion times, location and area. This register auto calculates the outage duration for all outages and highlights times in excess of Code requirements;
- the “Planned Outages Rottnest Island 20YY-20YY” register within the “20YY-20YY” spreadsheet is used to record all planned outage data;

- the “Operational Outages Rottnest Island 20YY-20YY” register within the “20YY-20YY” spreadsheet is used to record all unplanned outage data;
- the “SAIDI Figures” spreadsheet calculates the outage data annually and the average over 4 years, and includes outage records from 2008-09 to the current period;
- spreadsheets for the periods 2017-2018, 2018-2019 and 2019-2020 were available and were consistent with the information entered into the other registers.

The results showed:

- at the end of the audit period the average length of annual interruptions to customer premises for the four years up to the current year was 629.75 minutes, which is in excess of the Code prescribed limit.

Through discussions with the Manager Compliance it was found that a number of activities and events had contributed to the high number of interruptions:

- the replacement of Ring Man Units (RMU) under instruction from Energy Safety, required interruptions to most connections on the island;
- the installation of a 600 kW solar farm, commissioned at the end of January 2017, required outages both during construction and in the initial operation;
- the closure of island during COVID19 restrictions in the first part of 2020 resulted in the absence of customers and provided an opportunity to carry out widespread maintenance, resulting in significant outages.

It is noted that Rottnest Island uses the number of connection points as ‘customer premises’ for this calculation irrespective of the fact that those are not strictly ‘premises’. The Code definition for “customer premises” is:

“customer premises means premises on which electrical installations are connected to a transmission or distribution system for the purpose of receiving supply”.

The figures used for ‘customer premises’ at Rottnest Island are connection points which include, among others, street lights, a desalination plant and bores, which are part of the licensee assets, the Wind Turbine generator, which is part of the generation assets, and accommodation units for which, seasonally, there may be high vacancy rates and therefore, no supply and actual customers.

For example the last planned outage in the 2019-2020 period was at the powerhouse and affected the Powerhouse RMU. The outage duration was 357 minutes, it affected 319 connections which had 0 customers and a figure of 113883 connection-minutes was entered in the SAIDI calculations.

5.2 PROVISIONS MAY BE EXCLUDED OR MODIFIED BY AGREEMENT WITH CUSTOMERS (SEC 15)

Requirement: A customer and a transmitter or a distributor may agree in writing that a provision of this Part is excluded or modified in relation to the supply of electricity by the transmitter or distributor to the customer and the agreement must set out the matters that the parties consider are the advantages and disadvantages.

There are no agreements in place to exclude or modify provisions of this Part of the code.

6 Audit Summary and Recommendations

Under Section 26 "Annual report on monitoring systems" of the Code, Rottneast Island Authority is required to arrange for an independent audit of the operation of the systems that are in place to monitor its compliance with Part 2 of the Code or an instrument under Section 14(3).

The audit has found that Rottneast Island has in place systems which monitor compliance with Part 2 of the Code and performance is in general compliance with the requirements of the Code.

There were no recommendation and no Opportunity for Improvement (OFI) arising from the 2016 - 2017 audit.

At the conclusion of the audit it was noted that there were two instances where the prescribed standards had been exceeded:

- in respect of the electricity supply quality for voltage fluctuations (flicker) (sec. 6 of Code), in 2018 and 2019, however there was no occurrence in 2020; and
- reliability in respect of the average total length of interruptions to customer premises (sec 13 of Code); a number of improvement projects, some required to strengthen the network, contributed to the increase in outages and reliability figures.

Under both of these requirements the Code requires compliance "so far as is reasonably practicable" and there was sufficient evidence to show that, in accordance with subparagraphs 5(1) and 13(2), RIA, so far as reasonably practicable, complied with the prescribed standards.

No findings were made in this audit. There was one Opportunity for Improvement in regard to section 11, regarding the notification procedure:

- ▶ The audit found that the "PRO-RNI-I03-034-1 Planned Outage Notification Procedure" states that "Notification must be done via email, memo and/or phone call to customers...". The instruction needs to be updated to reflect the change in the Code, section 11(4), which states "For the purposes of subsection (3)(ab), a notice cannot be given by telephone...".

It is noted that while telephone calls are effective in providing customer awareness and interaction, another means of formal notification, including electronic means, post or other means, as per clause 11(3) of the Code, is required for compliance.

The audit noted that e-mail notification is already the default process used by the operator and no non-compliances were found.

The audit and recommendations summary is provided in the next table. The table summarises the findings and recommendations of the report in regard to the system operation and compliance.

The table rates the various element as complying (✓), not in compliance (✘), or as actions in progress, observations or opportunities for improvement (OFI).

Based on the scope of the audit defined in section 26 of the Code, Qualeng has found that the system and processes within RIA and PFM are in compliance with the requirements of Part 2 of the Code, "Quality and Reliability Standards".

Table 8: Systems Compliance Summary

Code Division, Section	Code Requirement	Evidence of System	Evidence of Process	Findings / Comments	Recommended Corrective Actions / Opportunities for Improvement (OFI)
	<p>General System</p> <p>System to monitor compliance with requirements of the Code.</p>			<p>Operation of the systems which monitor Rottneest Island Authority's compliance with the Code complies with the Code requirements.</p>	
<p>Div 1, Sec. 5 - 7</p>	<p>System to monitor compliance with quality standards: voltage fluctuations (flicker) harmonics.</p>	<p>✓</p>	<p>✓</p>	<p>Measurements are systematic, initiated from the CMMS work management system and are carried out annually at peak demand time.</p> <p>There were no complaints from customers on quality of supply.</p>	
				<p>There were one-off spikes in short and long term fluctuations in 2018 and 2019. However there were no continuous instances of spikes in excess of compatibility limits.</p> <p>All measurements were in compliance in 2020. A change in operating conditions occurred in 2020.</p> <p>Projects were identified to improve the performance.</p> <p>Systems were found to be, as far as reasonably practicable, operating in compliance.</p>	
				<p>Total Harmonic Distortion was measured and was in compliance.</p>	

Code Division, Section	Code Requirement	Evidence of System	Evidence of Process	Findings / Comments	Recommended Corrective Actions / Opportunities for Improvement (OFI)
Div 1, Sec. 8	System to monitor compliance with duty to disconnect if damage may result due to electricity supply quality.	✓	✓	Complies	
Div 2, Sec. 9	System to monitor compliance with maintaining the supply with a minimum number and duration of interruptions.	✓	✓	Complies	
Div 2, Sec. 10	System to monitor compliance with reduction of effects of interruptions or provision for alternative supplies for proposed interruptions where it affects business or special health needs customers	✓	✓	Complies	

Code Division, Section	Code Requirement	Evidence of System	Evidence of Process	Findings / Comments	Recommended Corrective Actions / Opportunities for Improvement (OFI)
Div 2, Sec. 11	System to monitor compliance with interruption duration (less than 4 or 6 hours) and notifications for planned interruptions (over 72 hours prior to interruption).	✓	✓	<p>Complies, as far as reasonably practicable.</p> <ul style="list-style-type: none"> ▶ The audit found that the “PRO-RNI-I03-034-1 Planned Outage Notification Procedure” states that “Notification must be done via email, memo and/or phone call to customers...”. The instruction needs to be updated to comply with the change in the Code, section 11(4) which states “For the purposes of subsection (3)(ab), a notice cannot be given by telephone...”. <p>It is noted that while telephone calls are effective in providing customer awareness and interaction, another means of formal notification, including electronic means, post or other means, as per clause 11(3) of the Code, is required for compliance.</p> <p>The audit noted that e-mail notification is already the default process used by the operator and no non-compliances were found.</p>	<p>1/2020. (OFI) The instruction “Notification must be done via email, memo and/or phone call to customers...” in the “PRO-RNI-I03-034-1 Planned Outage Notification Procedure” needs to be updated to reflect the change in the Code, section 11(4) which states “For the purposes of subsection (3)(ab), a notice cannot be given by telephone...”.</p>

Code Division, Section	Code Requirement	Evidence of System	Evidence of Process	Findings / Comments	Recommended Corrective Actions / Opportunities for Improvement (OFI)
Div 2, Sec. 11A	System to monitor compliance with interruption duration (less than 4 or 6 hours) when the customer is supplied by alternative means and supply is lost and has to be restored from the network, and notifications for planned interruption is provided.	✓	✓	Complies	
Div 2, Sec. 12	System to monitor compliance with limiting significant interruptions to small use customers (≤ 16 times or ≤ 12 Hours) and to provide remedial action where breaches occur.	✓	✓	Complies	



Code Division, Section	Code Requirement	Evidence of System	Evidence of Process	Findings / Comments	Recommended Corrective Actions / Opportunities for Improvement (OFI)
Div 3, Sec. 13	System to monitor compliance with standards for the duration of interruption of supply in particular areas (30, 160, 290 min)	✓	✓	<p>Figures are monitored. Licensee has systems in place to monitor and improve the interruption performance.</p> <p>▶ The standard was not maintained for this audit period, however the figures were influenced by:</p> <ul style="list-style-type: none"> • outages required for installations of RMUs, requested by Energy Safety, installation of new solar farm and opportunity maintenance and outages during restrictions due to COVID19; • the number of customer premises including assets such as street lights, the wind generator, borefields etc which are all licensee's assets. <p>Systems were found to be, as far as reasonably practicable, operating in compliance.</p>	