Audit Report

Performance Audit and Asset Management Review

3607-86

Prepared for

BHP Nickel West Pty Ltd

11 July 2019

Cardno

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Executive Summary

General

BHP Billiton Nickel West Pty Ltd (NiW) holds an Electricity Distribution Licence (EDL2) and an Electricity Retail Licence (ERL2). NiW operates a small distribution network in the mining town of Leinster (the northern system) and a small non-contiguous network to five mining customers in the Kambalda region (the southern system). The sum total length of NiW's distribution lines is limited to 72 kilometres.

While more than one version of each licence has been issued since last audit, the revisions are considered to be immaterial. There have been no significant changes to the assets since the last audit.

Audit and review objectives

This audit has been conducted in order to assess:

1. NiW's level of compliance with the conditions of their electricity licences.
2. The effectiveness of NiW's asset management system.

This report outlines the findings of the audit and review of NiW to fulfil the above objectives, conducted on 13-15 May 2019. The audit and review covers the operating period of 1 April 2016 to 31 March 2019.

Operational Audit

Findings from the Previous Operational Audit

The previous audit identified a number of non-compliance and improvement recommendations that were included in the Post-Audit Implementation Plan. These were as follows:

A1/2016 - One of NiW's points of supply in its Northern System was identified as being outside its licenced operating area.

Resolved

A2/2016 – There was no procedure for notifying customers as soon as practicable if any metering non-compliance issues occurred.

Resolved

A3/2016 – Meters have not been tested for light loading in accordance with the requirements of AS1284.13.

Resolved

A4/2016 and A5/2016 - NiW did not have an Energy Data Verification Request Form or a procedure to ensure that it was used to respond to energy verification requests.

Resolved

A6/2016 – The PPAs that are in place with NiW's customer reference the old Australian Standard (AS2279)

Incomplete

A7/2016 – NiW did not have a breach register to monitor compliance with its obligations on an ongoing basis through the year.

Resolved

A8/2016 – NiW does not have a metrology procedure that has been approved by the ERA. Although this information is covered in the PPAs, NiW is technically non-compliant with any obligation that references the metrology procedure.

Incomplete

Findings from the Current Operational Audit

Issues identified during the current audit (with reference to the summary of recommendations in Section 6):

A1/2019 – Although each of the individual Power Purchase Agreements (PPAs) cover meter installation and accuracy and, as such, form NiW's metrology procedures, NiW does not have a dedicated, overall metrology procedure. Under Clauses 1.3 and 6.2 of the Metering Code, a metrology procedure must be submitted to and approved by the ERA. As NiW has not completed the actions required by the Code, and it does not have an approved procedure, it is not compliant with any of the obligations that refer to a metrology procedure.

The affected obligations where NiW is technically non-compliant are:

- Obligation 319 - Electricity Industry Metering Code clause 3.1
- Obligation 320 - Electricity Industry Metering Code clause 3.2(1)
- Obligation 321 - Electricity Industry Metering Code clause 3.3(1)
- Obligation 336 - Electricity Industry Metering Code clause 3.10
- Obligation 343 - Electricity Industry Metering Code clause 3.12(2)
- Obligation 415 - Electricity Industry Metering Code clause 5.21(4)
- Obligation 434 - Electricity Industry Metering Code clause 5.25
- Obligation 448A - Electricity Industry Metering Code, clause 6.2

It is recognised that from a practical point of view, there is no real benefit for NiW to develop and submit a metrology procedure to the ERA for approval other than being able to comply with the requirements of the Metering Code. NiW may wish to consider submitting a metrology procedure to the ERA for approval but it is accepted that the information included in the PPAs adequately covers the metering of NiW's customers' usage. As a result, there is no mandatory recommendation for this obligation although NiW will continue to be non-compliant against the requirements.

A2/2019 - We recommend that NiW looks to include information related to either a meter date of manufacture or an installation date in the Metering Standing Data Register. This recommendation relates to an administration issue rather than an actual non-compliance. (Obligation 364)

A3/2019 - As was observed in the previous audit report (Recommendation A6/2016), standards are agreed with NiW's retail customers in the PPAs and these specify the relevant standard that was in place at the time, AS 2279. However, although the most recent versions of the PPAs are dated 2014, they still refer to the now-replaced AS. The old Australian standard (AS2279) uses a different method for voltage flicker and less detail for harmonics. The old Australian standard also has a more demanding total harmonic level than the Code. The 2013 survey was completed to the current AS 61000 standard and we note that this recommendation relates to an administration issue rather than an actual non-compliance. (Obligation 462)

Performance Audit - Effectiveness of controls

With respect to the operation of the licenced services during the audit period, the Auditor conducted tests and assessed the control environment, the procedures, policies and performance of NiW and found that it had a good control environment to ensure that the majority of licence obligations are met and that it generally operates in accordance with the operating licence. For the non-compliances observed, we found that the controls were adequate. We did not observe any instances where we considered the controls in place to be inadequate.

Performance Audit - Overall compliance

The overall compliance of NiW with its licence is summarised in Section 4.2 of this report. All items were assessed as compliant, not applicable or not able to be rated. We observed that NiW has been non-compliant over the course of the audit period with a total of 8 of its obligations. All other items were assessed as compliant, not applicable or not able to be rated.

Asset Management System Review

Findings from the Previous Asset Management System Review

The asset management system review assessed the performance of NiW against the key asset management processes and effectiveness criteria set out in the ERA Guidelines.

The previous asset management system review identified the following recommendations:

R1/2016 - Asset Planning: Information included in NiW's Asset Management Plan was out-of-date at the time of the review

Resolved

R2/2016 – Asset Operations: A number of operational policies and procedures were identified as not being reviewed in accordance with the document's review schedule

Resolved

R3/2016 – Review of AMS: The AMP had not been reviewed in accordance with the schedule set up in 1SAP.

Resolved

Findings from the Asset Management System Review

The review of the NiW asset management system identified that all of the asset management processes were rated B2 or better. Where the licensee's asset management system components have not been rated as A1, this reflects that there are improvement opportunities to achieve what would be considered 'best practice' for those components.

Based on our asset management system review observations and findings, we consider that the adequacy and performance of the licensee's system meets a level appropriate for the licensee, given the size, asset base and risks associated with the services that it is licenced to provide.

Based on the findings from our site inspections, the assets appear to be in good condition and well-maintained.

The recommendations from this current review are provided in the following table.

Reference (no./year)	Asset Management System Component	Issue	Auditor's recommendation
R1/2019	B2 *Staff resources are adequate and staff receive training commensurate with their responsibilities*	Although the staff resourcing is generally considered appropriate for managing NiW assets, NiW noted that its on-call arrangements in the Southern System were managed on an ad hoc basis. NiW was looking to change the arrangement to utilise external resources.	We recommend that NiW looks to formalise on-call staff for out-of-hours attendance when required. At present the responsibility appears to lie wholly with the Electrical Supervisor which poses potential risks if they are not available to respond.
R2/2019	B1 *Regular inspections are undertaken of asset performance and condition*	NiW uses paper copies of its Equipment Work Procedures and these are completed in the field. These paper copies are kept on file but not scanned in and no data is entered back into 1SAP. Only Critical Control Executions (CCEs), which have a material risk, are scanned in electronically.	We recommend that NiW investigates moving to electronic data capture to improve the quality of maintenance information that can be easily retrieved and would enable improved analysis.
R3/2019	B1 *Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks*	NiW does not have a document that outlines the process/procedures for the emergency export of energy to the SWIS.	We recommend that a procedure is developed for future use that sets out the processes for contacting customers and making an assessment of assets to prioritise for shut down.

Asset Management System Review – Control Environment

We consider that NiW has adequate controls in place for its asset management functions that are appropriate to the nature and scale of its activities.

Asset Management System Review - Overall Effectiveness

A summary of our assessment of the effectiveness of NiW's Asset Management System is provided in Section 4.3. All elements but three were rated "A" for policy and procedures. All elements but one were rated "1" for performance.

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Appendices

Tables

1 Introduction

1.1 Background

The Economic Regulation Authority (ERA) is responsible for regulating the licensing schemes for gas, electricity and water services in Western Australia. The primary objective of regulation is to ensure the provision of a competitive and fair environment, particularly where businesses operate as natural monopolies.

BHP Billiton Nickel West Pty Ltd (NiW) holds an Electricity Distribution Licence (EDL2) and an Electricity Retail Licence (ERL2).

1.2 Overview of BHP Billiton Nickel West

NiW operates a small distribution network in the mining town of Leinster – the Northern Electrical System (NES) - and a small non-contiguous network to five mining customers in the Kambalda region - the Southern Electrical System (SES). The sum total length of NiW's distribution lines is limited to 72 kilometres.

In the southern system, the distribution system consists of off-takes from another licensee's distribution or transmission system and connections to customers.

The northern distribution system is the Leinster town site with less than 300 connections to consumers. However, these connections are not considered to be customers as electricity is not retailed to the consumer.

These distribution networks are not NiW's core business (or reason to be in business) but legacy networks of NiW mining infrastructure following the sale of mining tenements and supply to consumers in the town of Leinster. Leinster is a mine controlled town with accommodation only provided for people associated with the mines, or the local town/community support functions as approved and permitted by the mine management.

NiW retails electricity to the same five mining customers in the southern system and to one mining customer in the northern system where the radial distribution is carried out by another licensee.

NiW has confirmed that the points of supply for the Agnew Gold Mining Company (AGMC) contract, the one mining customer in the northern system, are in fact located outside the area designated within the retail operating licence area. This is thought to be a historical anomaly resulting from the buying and selling of the electricity assets and seems to be an oversight since inception of the Electricity Retail Licence in 2006. NiW consider that conceivably there was some confusion at the time because meters for AGMC are within the ERL2 area and the 66kV transmission line which extends out of the area is owned and operated by Southern Cross Energy. This issue will be assessed further and NiW will provide supporting information during the audit.

There is no retail in Leinster town site. The Leinster Supply Authority supplies approximately 300 houses, industrial and commercial premises and electricity is supplied without charge. NiW purchases all its electricity from a third party.

While the Licences cover Mt Keith, there are no distribution assets (other than the exempted self-supply) and no retail.

1.3 BHP Billiton Nickel West's Assets

The NiW owned electricity distribution assets relevant to the AMS are described below.

1.3.1 Northern Electrical System (NES)

The electrical infrastructure at the Leinster Township consists of 415V low voltage (LV) overhead line radial network. The total length of this LV network is approximately 12 km. The LV network is supplied by 19 transformers (33/0.415kV).

The 33kV high voltage (HV)network is also predominantly overhead lines and the total length is approximately 5 km. The supply to this network is from the SCE 33kV distribution network.

1.3.2 Southern Electrical System (SES)

The electricity supply to customers in the Kambalda area is provided by 5 substations. The distribution network consists of approximately 50 km of HV overhead line and negligible LV. These assets can be divided into 6 distinctive areas:

1.3.2.1 Substation PH-B2 (Long –Victor)

Two 11kV overhead lines supply a distribution network with connections to Lightning, Mincor, and St. Ives as customers. NiW owned assets involve HV overhead line, line-disconnectors, circuit breakers and metering installations.

1.3.2.2 Substation PH-B2 (Otter – Coronet)

Two 11kV overhead lines provide supply to Mincor Mining. The overhead lines are connected via a cable termination and underground cables to two circuit breakers at the 11kV switchboard. Supply to this switchboard is provided by SCE. Customer connection points are from poles OJM-34 and COR-34. Both outgoing feeders are equipped with energy meters.

1.3.2.3 Substation Lanfrachi

A single transformer (66/11kV) substation configuration with 66kV switchyard and 11kV switchgear in a small building. The incoming 66kV overhead line feeder is owned and operated by SCE. The outgoing 11kV overhead line supplies the Lanfranchi mining company, with the customer connection point being the first pole outside the station (LFM-01) on the outgoing feeder. Metering installation is part of 11kV switchboard.

1.3.2.4 Substation Widgiemooltha

A single transformer (66/11kV) substation configuration with 66kV switchyard and 11kV switchgear in a small building. The incoming 66kV overhead line feeder is owned and operated by SCE. Two outgoing 11kV overhead line feeders supply Mincor mining (Wannaway) and St. Ives Gold Mine (Borefield) with the customer connection point being the first pole outside the station (WN-2 and WD-2) on the outgoing feeders. Both 11kV outgoing feeders are metered.

1.3.2.5 Substation Miitel

A single transformer (66/11kV) substation configuration with 66kV switchyard and 11kV switchgear in a small building. The incoming 66kV overhead line feeder is owned and operated by SCE. One outgoing 11kV overhead line feeder supplies Mincor Mining with the customer connection point being the first pole outside the station (MIT-2) on the outgoing feeder. The incoming 11kV feeder is equipped with metering.

1.3.2.6 Substation Redross

A single transformer (66/11kV) substation configuration with 66kV switchyard and 11kV switchgear in a small building. The incoming 66kV overhead line feeder is owned and operated by SCE. The two outgoing 11kV overhead line feeders supply Mincor Mining at mine sites Redross and Mariners with the customer connection point being the second pole outside the station (RR-2 and MAR-2) on the outgoing feeders. Both 11kV outgoing feeders are metered.

1.4 Purpose of this report

As a condition of the licences, licensees are required to conduct a performance audit and asset management review that assesses the performance of the licensee against its obligations under the licenses.

The purpose of the performance audit was to assess the effectiveness of measures taken by the licensee to meet the conditions referred to in the licence including the legislative obligations called up by the licence. The scope of the audit report includes assessing the adequacy and effectiveness of performance against the requirements of the licensee by considering:

- process compliance
- outcome compliance
- output compliance
- integrity of reporting
- compliance with any individual license conditions.

The asset management system reviews covers:

- a description of the audit or review objectives and the methodology used to conduct the audit or review
- the interval of time covered by the audit or review and the previous audit or review, if applicable
- the period over which the audit or review has been performed
- details of the licensee's representatives participating in the audit or review
- details of key documents and other information sources examined by the auditor during the course of the audit or review
- details of the audit or review team members and hours utilised by each member
- any other information the auditor considers relevant to the audit or review scope of work.

The *Electricity Industry Act 2004 (WA)* obligate the licensee to provide the Authority with a performance audit conducted by an independent expert acceptable to the Authority not less than every 24 months period (or such longer period as the Authority allows) and provide the Authority with a report by an independent expert acceptable to the Authority as to the effectiveness of the asset management system not less than every 24 month period (or such longer period as the Authority allows).

Version 9 of EDL2 and version 9 of ERL2 were both issued on 1 July 2018. These two documents were amendments by substitution of the previous versions of each licence resulting from an ERA review of electricity licences in 2018. Version 8 of EDL2 and ERL2 were issued on 13 July 2017. Version 7 of EDL2 was issued on 5 September 2016, while version 7 of ERL2 was issued on 7 July 2016. Version 6 of EDL2 and version 6 of ERL2 were both issued on 1 July 2015.

A Performance Audit of both licences was last performed for the period 1 April 2013 to 31 March 2016. An Asset Management Review for EDL2 was last performed for the period 1 April 2013 to 31 March 2016. A Performance Audit of EDL2 and ERL2 and an Asset Management Review of EDL2 is now required to be undertaken for the period 1 April 2016 to 31 March 2019.

2 Audit/Review Scope

2.1 Audit/Review Objectives

The objectives of this audit were to:

1. Provide to the Authority an independent assessment of NiW's compliance with all of the relevant obligations under the licences
2. Provide to the Authority an independent assessment of the effectiveness of NiW's asset management system in relation to EDL2
3. Provide recommendations to address noncompliance.

2.2 Scope of Works

The audit encompassed an assessment of the following four key areas using a risk based approach (to ISO 31000:2009):

- Process compliance: assessment of the effectiveness of systems and procedures
- Outcome compliance: assessment of actual performance against the prescribed licence standards
- Output compliance: assessment of records to indicate procedures are followed and controls are maintained
- Integrity of reporting: assessment of the completeness and accuracy of the compliance and performance reports

The scope of works of this audit included:

- Interviews with key staff members from NiW to:
  - Assess findings from the last audit and review the actions taken to address the recommendations from the previous audit / review
  - Assess performance against licence conditions for EDL2 and ERL2
  - Assess performance against each asset management process for EDL2
- Reviews of documents, procedures and policy manuals in relation to financial management and planning, service performance standards, asset management, operations and maintenance functions and reporting
- Testing and assessment to determine whether the procedures and policies are followed and determine its effectiveness
- Preparation of an audit report in accordance with the format outlined in the ERA Audit and Review Guidelines: Electricity and Gas Licences (April 2014)

2.2.1 Performance Audit

The audit of the licences covered the entire licences, and contained the following key areas as outlined in Table 2-1.

Table 2-1 Licence Performance Audit Areas

Clause	Licence Requirements	EDL2	ERL2
3.7	Notices	✓	✓
3.8	Publishing information	✓	✓
3.9	Review of the Authority's Decisions	✓	✓
4.1	Compliance	✓	✓
4.2	Fees	✓	✓
4.3	Accounting Records	✓	✓
4.4	Reporting change in circumstances	✓	✓
4.5	Provision of information	✓	✓
5.1	Asset Management System	✓	Not used
5.2	Individual Performance Standards	✓	✓
5.3	Performance Audit	✓	✓
6.1	Approved Scheme	✓	✓
6.2	Determination of Default Supplier	✓	Not used
6.3	Marketers	Not used	✓
6.4	Customer Contracts	Not used	✓
6.5	Amending the Standard Form Contract	Not used	✓
6.6	Directions by the Authority	Not used	✓
6.7	Supplier of Last Resort	Not used	✓
6.8	Notification of Default Supply	Not used	✓
6.9	Priority Restoration Register	✓	Not used

2.2.2 Performance Audit Excluded Conditions

Some of the reporting obligations for retail have been excluded from the audit because they are not applicable to NiW. In particular, NIW has no small use customers, it is excluded from the electricity industry customer transfer code based on its current customer profile and it is not one of the businesses covered in the licensee specific conditions.

Table 2-2 Excluded conditions

2018 Compliance Manual Reference	Reference	Reason for exclusion
1-71	Electricity Industry Customer Transfer Code	No retail transfers are available; therefore the Customer Transfer Code does not apply.
72-77	Electricity Industry Customer Transfer Code	No small use customers
78-100	Electricity Industry Act	No small use customers
108-109	Electricity Industry Act: Section 54	No small use customers
110	Electricity Industry Act: Section 76	The Licensee is not a retailer of last resort

2018 Compliance Manual Reference	Reference	Reason for exclusion
111	Electricity Industry Act: Section 101	No small use customers
114-118	Electricity Industry Act: Section 11	No small use customers
120	Electricity Industry Act Section 115	There are no individual performance standards
129-316	Electricity Industry Act: Section 11	Code of conduct does not apply because there are no small use customers
317-318	Electricity Industry Act: Section 82	The retailer and distributor are the same organisation and there is no alternative retailer on the network
334	Electricity Industry Metering Code	NIW's customer consumes more than 750MWh/a
339	Electricity Industry Metering Code	The Licensee is the user and network operator and any notification would be to itself
350-354	Electricity Industry Metering Code	As the Licensee's network operator does not operate in the WEM conditions relevant to the market rules are not applicable
362-363	Electricity Industry Metering Code Clause 3.24A(1) and 3.24B(1)	Code of conduct does not apply because there are no small use customers
365	Electricity Industry Metering Code	The Licensee has not registered any metering installation providers and it is not obliged to.
393	Electricity Industry Metering Code	Code of conduct does not apply because there are no small use customers
394-396	Electricity Industry Metering Code	The Customer Transfer Code does not apply to the Licensee
416	Electricity Industry Metering Code	The Licensee's network is not part of the WEM and so the requirement is not applicable regarding the Code participant not being the Independent Market Operator (IMO).
418 – 421	Electricity Industry (Network Quality and Reliability of Supply) Code 2005 Clauses 18, 19 21(1), 21(2) and 21(3)	Electricity Corporation condition are not applicable
435	Electricity Industry Metering Code	The Licensee is the retailer and network operator and any requests would be to itself
436	Electricity Industry Metering Code	Electricity networks corporation is not the metering data agent
441-446	Electricity Industry Metering Code	No small use customers
467, 481-482	Electricity Industry Metering Code	Electricity networks corporation is not the metering data agent
472-476	Electricity Industry (Network Quality and Reliability of Supply) Code	Electricity Corporation conditions are not applicable
486-496	Electricity Industry (Network Quality and Reliability of Supply) Code	Electricity Corporation condition are not applicable

2.2.3 Asset Management System Review

The review of NiW's asset management system for EDL2 covered the following asset management elements:

- Asset planning
- Asset creation and acquisition
- Asset disposal
- Environmental analysis

- Asset operations
- Asset maintenance
- Asset management information system
- Risk management
- Contingency planning
- Financial planning
- Capital expenditure planning
- Review of AMS

2.3 Methodology and Approach

The audit was undertaken in accordance with ASAE3000. Our approach to the reporting work was to work closely with the licensee so that comments and challenges could be responded to and addressed before the audit report was finalised. The key areas of our approach included:

- A start-up discussion (by telephone) with NiW to:
  - Discuss the main issues to be addressed at audit
  - Identify any issues from the previous audit
  - Identify any new issues arising from changes to the Licence or operating environment requirements
  - Discuss the audit plan.
- Preparation of a draft audit plan for comment by the licensee. The audit plan identified the number and location of audits, the information to be addressed and the auditor responsible.
- Submission of the draft audit plan to the ERA for approval
- A start-up meeting on-site at the beginning of our audit work
- On site audit work comprising:
  - Face-to-face interviews with business staff responsible for the audit area
  - Demonstration of key systems
  - Sample testing for outcome compliance (assessing sample of documents to confirm procedures / policies are followed and implemented)
  - Review of any non-compliances and assess if any corrective action was undertaken and its effectiveness
  - Controls assessment on obligations that are found to be non-compliant
  - Site visit to Kambalda on 14 May 2019 to meet with the NiW operations staff responsible for operating and maintaining NiW's electrical infrastructure.
- Preliminary audit feedback at the audit close-out meeting
- Preparation of a draft report for NiW's review and comment;
- Preparation of a final report for submission to the ERA.

Our methodology for completing this audit assignment was based on:

- A risk assessment that determined the priority of each audit area, using the risk management framework in Appendix A.
- Our understanding of the licensee's business
- The experience of our audit team in undertaking regulatory audits which has been gained in several jurisdictions in Australia and in the United Kingdom
- The outcome of the previous audit completed of NiW

Our audit methodology, including the key documents required to be reviewed and the supporting systems that we would like to see demonstrated, is detailed in Table 2-3 and Table 2-4.

Table 2-3 Licence Audit Methodology

Audit Area	Priority	Approach	Systems	Key Documents
Licence Audit				
Notices (Clause 3.7)	4	▪ Confirm all notices are issued in writing	▪ Correspondence register	▪ Issued notices
Publishing Information (Clause 3.8)	4	▪ Check if any requests have been issued by the Authority to publish any information relating to the performance of the Licensee and correlating response	▪ Correspondence register	▪ Letters of notification / requests from the Authority ▪ Response to the Authority
Review of the Authority's Decisions (Clause 3.9)	4	▪ Confirm if any requests of a reviewable decision has been issued to the Authority and correlating response		▪ Requests for review of decision (Correspondence)
Compliance (Clause 4.1)	Various	▪ Review legislative requirements and confirm compliance ▪ Identify any corrective action applied to correct / prevent breaches of compliance	▪ Work scheduling system	▪ Performance standards ▪ Compliance Summary Reports (record of breaches)
Fees (Clause 4.2)	5	▪ Review invoices from Authority and receipts of payment		▪ Invoices and receipts
Accounting Records (Clause 4.3)	4	▪ Check that 2016/17 and 2017/18 financial statements are signed off as being to appropriate standards	▪ Finance system	▪ 2016/17 Financial statement ▪ 2017/18 Financial statement
Reporting change in circumstances (Clause 4.4)	5	▪ Review any correspondence with the Authority	▪ Correspondence register	▪ Correspondence with ERA
Provision of Information (Clause 4.5)	4	▪ Confirm that the licensee has provided the Authority with data required for performance monitoring purposes as set out in the Compliance Reporting Manual.	▪ Correspondence register	▪ Annual compliance reports ▪ Correspondence register
Asset Management System (Clause 5.1)	Various	▪ Confirm that the asset management policies and procedures meet legislative requirements.	▪ Enterprise Asset Management System ▪ Computerised Maintenance Management System	▪ Asset Management Policies ▪ Asset Management Plans ▪ Asset Management Systems and Procedures Manual ▪ Asset Register
Individual Performance Standards (Clause 5.2)	NA	▪ Confirm that it's not applicable		
Performance audit (Clause 5.3)	4	▪ Review information reported to the Authority ▪ Confirm methodology used to determine performance conforms to legislation and procedures.		▪ Performance Audit ▪ Annual Performance Reports ▪ Procedures / Policy Manual ▪ Post Implementation Audit Reports / Status since previous audit

Audit Area	Priority	Approach	Systems	Key Documents
				▪ Correspondence between NIW and Authority regarding review requirements
Approved Scheme (Clause 6.1)	NA	▪ Confirm that it's not applicable		
Marketers (Clause 6.3)	NA	▪ Confirm that it's not applicable		
Customer Contracts (Clause 6.4)	NA	▪ Confirm that it's not applicable		
Amending the Standard Form Contract (Clause 6.5)	NA	▪ Confirm that it's not applicable		
Directions by the Authority (Clause 6.6)	5	▪ Confirm that directions from the authority have been complied with.	▪ Correspondence register	▪ Correspondence with ERA
Supplier of Last Resort (Clause 6.7)	NA	▪ Confirm that it's not applicable		
Notification of Default Supply (Clause 6.8)	NA	▪ Confirm that it's not applicable		
Priority Restoration Register (Clause 6.9)	4	▪ Review Priority Restoration Register content and currency ▪ Identify and criteria determined by the Minister		Priority Restoration Register

Table 2-4 Asset Management Review Methodology

Audit Area	Effectiveness Criteria	Approach	Systems	Key Documents
Asset Management Review				
Asset planning	▪ Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning ▪ Service levels are defined ▪ Non-asset options (e.g., demand management) are considered ▪ Lifecycle costs of owning and operating assets are assessed ▪ Funding options are evaluated ▪ Costs are justified and cost drivers identified ▪ Likelihood and consequences of asset failure are predicted ▪ Plans are regularly reviewed and updated	▪ Review and assess the adequacy of asset planning processes ▪ Review and assess adequacy of asset management plans ▪ Assess if asset management plans are up to date ▪ Assess implementation of asset management plans (status) ▪ Assess whether the asset management plan clearly assigns responsibilities and if these have been applied in practice	▪ GIS ▪ Asset database / information system	▪ Overview of planning approach ▪ Population projections ▪ Infrastructure Planning Reports ▪ Asset management plans ▪ Service level agreements ▪ Business Case/project justification
Asset creation and acquisition	▪ Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions ▪ Evaluations include all life-cycle costs ▪ Projects reflect sound engineering and business decisions ▪ Commissioning tests are documented and completed ▪ Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	▪ Review adequacy of policies and procedures in relation to asset creation and acquisition ▪ Review examples of creations / acquisitions to check if policies and procedures were followed and check costs against estimates		▪ Policies and procedures for asset creating and acquisition. Accounting and engineering ▪ Overview of planning approach ▪ Business Case/project justification ▪ Asset management plans ▪ Commissioning certificates
Asset disposal	▪ Under-utilised and under-performing assets are identified as part of a regular systematic review process ▪ The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken ▪ Disposal alternatives are evaluated ▪ There is a replacement strategy for assets	▪ Review adequacy of policies and procedures in relation to asset disposal, asset replacement, identification of under-performing assets ▪ Determine if a review on the usefulness of assets are undertaken ▪ Review examples to check that policies and procedures are being followed		▪ Policies and procedures for asset disposal. Accounting and engineering ▪ Asset management plans ▪ Decommissioning certificates

Audit Area	Effectiveness Criteria	Approach	Systems	Key Documents
Environmental analysis	▪ Opportunities and threats in the system environment are assessed ▪ Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved ▪ Compliance with statutory and regulatory requirements ▪ Achievement of customer service levels	▪ Review performance and service standards over audit period ▪ Review performance / identify any breaches and non-compliances and corrective action taken ▪ Review adequacy of reporting and monitoring tools		▪ Relevant policies and procedures ▪ Planning reports ▪ Performance standards ▪ Compliance reports ▪ Strategic plans (if appropriate) ▪ Monthly KPI reports
Asset operations	▪ Operational policies and procedures are documented and linked to service levels required ▪ Risk management is applied to prioritise operations tasks ▪ Assets are documented in an Asset Register, including asset assessment of assets' physical, structural condition and accounting data ▪ Operational costs are measured and monitored ▪ Staff receive training commensurate with their responsibilities	▪ Review adequacy of policies and procedures in relation to asset operations ▪ Review staff skills / training and resources available ▪ Check that operations procedures are being followed including testing of the asset register, observation of operational procedures and analysis of costs ▪ Identify any operational events and corrective actions	▪ Asset information system ▪ SCADA ▪ Finance system ▪ Works management system ▪ HR system	▪ Asset register ▪ Operations procedures ▪ Operational costs ▪ Daily / weekly / monthly check sheets ▪ Staff skills / resourcing structure ▪ Asset management plan ▪ Incident register
Asset maintenance	▪ Maintenance policies and procedures are documented and linked to service levels required ▪ Regular inspections are undertaken of asset performance and condition ▪ Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule ▪ Failures are analysed and operational / maintenance plans adjusted where necessary ▪ Risk management is applied to prioritise maintenance tasks ▪ Maintenance costs are measured and monitored	▪ Review adequacy of policies and procedures in relation to asset maintenance / maintenance functions ▪ Check that policies and procedures have been followed including testing of maintenance schedules, analysis of costs, ▪ Review maintenance schedules / plans ▪ Identify any maintenance events and corrective actions	▪ Asset information system ▪ Works management system	▪ Maintenance procedures and schedules ▪ Record of maintenance ▪ Maintenance costs

Audit Area	Effectiveness Criteria	Approach	Systems	Key Documents
Asset Management Information System	▪ Adequate system documentation for users and IT operators ▪ Input controls include appropriate verification and validation of data entered into the system ▪ Logical security access controls appear adequate, such as passwords and that appropriate system access and functionality is provided to users ▪ Physical security access controls appear adequate ▪ Data backup procedures appear adequate ▪ Key computations related to licensee performance reporting are materially accurate ▪ Management reports appear adequate for the licensee to monitor licence obligations	▪ Review adequacy of asset information system: – Asset coverage – Functionality – Data coverage – Security – User functionality granted is appropriate ▪ Review outputs / reports generated by systems and assess suitability for reporting against performance standards / licence obligations	▪ Asset Management Information system	▪ Asset Management Information System manual ▪ AMIS data coverage and quality report ▪ Asset reports
Risk management	▪ Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system ▪ Risks are documented in a risk register and treatment plans are actioned and monitored ▪ The probability and consequence of risk failure are regularly assessed	▪ Review risk assessment coverage ▪ Review sample of risk mitigation to check policies and procedures are followed ▪ Assess staff understanding of risk management and adequacy of risk management training for staff		▪ Corporate Risk management framework ▪ Risk assessment ▪ Risk Register
Contingency Planning	▪ Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	▪ Review adequacy / relevance and currency of contingency plans ▪ Review if plans have been tested and report on findings ▪ Identify any improvements that have been actioned as a result of testing of the contingency plans		▪ Contingency plans
Financial Planning	▪ The financial plan states the financial objectives and strategies and actions to achieve the objectives	▪ Review adequacy and effectiveness of financial planning and reporting processes		▪ Financial Plan

Audit Area	Effectiveness Criteria	Approach	Systems	Key Documents
	▪ The financial plan identifies the source of funds for capital expenditure and recurrent costs ▪ The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets) ▪ The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period ▪ The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services ▪ Significant variances in actual / budget income and expenses are identified and corrective action taken where necessary	▪ Review current financial plan and assess whether the process is being followed		
Capital expenditure planning	▪ There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates ▪ The plan provides reasons for capital expenditure and timing of expenditure ▪ The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan ▪ There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	▪ Review adequacy and effectiveness of capital planning processes through examination of application of process and example documents	▪ Spreadsheets for capital planning and prioritisation	▪ Capital expenditure planning process outline ▪ Value engineering documents ▪ Risk management applied to investment planning ▪ Program management documents ▪ Review of capex estimate v outturn
Asset management plan	▪ A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current ▪ Independent reviews (e.g. internal audit) are performed of the asset management system	▪ Review adequacy and currency of Asset Management Plan ▪ Assess when the Asset Management Plan was last updated / reviewed ▪ Assess outcomes of independent review of AMPs ▪ Identify if AMP needs to be updated	▪ Asset management system	▪ Asset management plans

2.4 Time Period Covered by the Audit/Review

This audit covers the period from 1 April 2016 to 31 March 2019.

2.5 Time Period of the Audit/Review Process

The audit/review commenced in January 2019 with preparation of the draft Audit Plan. Interviews with NiW staff were carried out on 13 and 15 May 2019 at NiW's office in Perth, WA and on 14 May 2019 at Nickel West's concentrator plant in Kambalda, WA.

2.6 Details of the Licensee Representatives Participating in the Audit/Review

Details of representatives from NiW who participated in the audit and review process are provided in Table 2-5.

Table 2-5 Details of Licensee

Name	Organisation	Role
Essie Croukamp	Nickel West	Principal Energy & Production Integration
Mike Nuttall	Nickel West	Principal Electrical Engineer
Daniel Martindale	Nickel West	Superintendent Integrated Planning & Analysis
Ken Stringer	Nickel West	Manager Engineering
Edwin Raj	Nickel West	Superintendent Electrical
Dave King	Nickel West	Operations Superintendent
Steve Dymmott	Nickel West	Project Engineer
Paul Smith	Nickel West	Electrical Supervisor

2.7 Details of Key Documents and Other Information Sources

A list of key documentation that was reviewed in the process of conducting the performance audit and asset management effectiveness review is provided in Appendix C.

2.8 Details of Auditors Participating in the Audit/Review and Hours Utilised

The audit/review team comprised three staff members from Cardno.

Details of their roles and hours utilised in the audit/review process are provided in the table below.

Table 2-6 Details of Audit / Review Team Members

Name	Organisation	Role	Summary of Task	Hours Utilised
Simon Martin	Cardno	Auditor/Reviewer	▪ Audit preparation ▪ Audit ▪ Preparation of Report	35
Justin Edwards	Cardno	Auditor/Reviewer	▪ Audit preparation ▪ Audit ▪ Preparation of Report	130
Patrick Lamb	Cardno	Project Manager	▪ Project Management ▪ Audit Plan	16

3 Licensee's Response to Previous Audit and Review Recommendations

In the previous operating licence audit and asset management review, a series of actions were recommended or suggested to improve the existing controls.

3.1 Previous Audit Non-Compliances and Recommendations

Details of the actions completed by the NiW against each of the previous operational licence audit non-compliance and recommendations are presented in Table 3-1.

Table 3-1 Previous Audit Non-compliances and Recommendations

A. Resolved before end of previous audit period				
Reference (no./year)	**(Compliance rating/ Legislative obligation / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**

B. Resolved during current Audit period				
Reference (no./year)	**(Compliance rating/ Legislative obligation / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**
A1/2016	*B2* *Electricity Industry Act section 7.4* *A person must not sell electricity to customers except under the authority of a retail licence or an integrated regional licence.* During the course of the audit process, it was identified that the point of supply to the Agnew Gold Mining Company (AGMC) from NiW's northern system is outside NiW's licenced operating area. The original PPA which was executed in 2001 and had a termination date in 2014, showed the point of supply at the Leinster	*We recommend that NiW formally notifies the ERA to explain the current situation and seeks to amend the licence area in accordance with the ERA's processes for amending licences.* The ERA approved the requested amendment to NiW's electricity retail license ERL2 on 7 July 2016.	July 2016	No further action required

B. Resolved during current Audit period				
Reference (no./year)	**(Compliance rating/ Legislative obligation / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**
	end of the Southern Cross Energy-owned 66kV line to Agnew and, as such, the point of supply was inside the licence area. A fresh contract was executed in 2014 and the new PPA changed the point of supply to the Agnew end, therefore putting the point of supply outside of NiW's licenced area of operation. NiW should have amended the retail licence area in 2014 when the new PPA was executed, however this was overlooked. As a result, NiW is non-compliant with regard to clause 2.1 of its retail licence, which states that 'The licensee is granted a licence for the licence area to sell electricity to customers in accordance with the terms and conditions of this licence'. NiW's retail licence details are set out in Schedule 1 of its retail licence, with the licence area information provided in section 1.1 of the Schedule. The non-compliance does not apply to the distribution licence as the distribution that associated with the non-compliant retail area is carried out by Transalta.			
A2/2016	*B2* *Electricity Industry Metering Code clause 3.5(9)* *If a network operator becomes aware that a metering installation does not comply with the Code, the network operator must advise affected parties of the non-compliance and arrange for the non-compliance to be corrected as soon as practicable.*	*NiW to review its current processes, and revise them if identified as being required, to ensure that customers are notified as soon as practicable.* We confirmed that NiW has updated its Electrical Management Group (EMG) End of Month Procedure to include a procedure for notifying customers as soon as practicable if any metering non-compliance issues occur.	March 2017	No further action required

B. Resolved during current Audit period				
Reference (no./year)	**(Compliance rating/ Legislative obligation / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**
	NiW has reported non-compliances against this obligation in both its 2013/14 and 2014/15 Compliance Reports to the ERA. In each case, the metering installation did not comply with the Code after a failure of a component and the affected customer not being appropriately notified they were being under-metered.			
A3/2016	*B2* *Electricity Industry Metering Code clause 3.11A(1)* *A network operator must ensure that the meters on its network are systematically sampled and tested for accuracy in accordance with AS 1284.13.* NiW has reported a non-compliance against this obligation in both the 2013/14 and 2014/15 Compliance Reports it has submitted to the ERA during the audit period. This is as a result of not testing at light load as required by the Standard. The meters were last tested in November 2015, with light load testing carried out, making NiW compliant for the 2015/16 period.	*NiW to continue to ensure that light load testing is carried out during the annual meter testing.* NiW rectified the non-compliance during the last audit period. Maintenance plans for testing are scheduled in 1SAP maintenance to ensure that it can continue to be compliant against the obligation.	August 2016	No further action required
A4/2016	*B2* *Electricity Industry Metering Code clause 5.20(2)* *An Energy Data Verification Request Form must require a Code participant to provide the information prescribed.*	*We recommend that NiW ensures that any energy data verification requests are undertaken using the Energy Data Verification Request Form.* NiW has not received any requests for energy data verification during the audit period. As such, this obligation has not been rated. NiW has an Energy Data Verification Request Form that can be used for future requests and it has updated the EMG End of	October 2016	No further action required

B. Resolved during current Audit period				
Reference (no./year)	**(Compliance rating/ Legislative obligation / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**
	NiW's energy data verification request form contains the required information to be provided in accordance with this obligation. However, although NiW has an Energy Data Verification Request Form it has never been used. Generally any requests for data verification are submitted by email to NiW. Given the requirement that an Energy Data Verification Request Form must require a Code participant to provide the information prescribed, NiW is technically non-compliant against Clause 5.20(2) of the Code (obligation reference 412), even though it has a very small customer based that facilitates any energy data verification requests. It is the distribution licensee's responsibility to ensure that the process outlined in Clause 5.20 of the Code is followed.	Month Procedure to include the requirements for data verification requests.		
A5/2016	*B2* *Electricity Industry Metering Code clause 5.20(4)* *If a Code participant requests verification of energy data under subclause 5.20(3), the network operator must, in accordance with the metrology procedure, subject to subclause 5.20(5), use reasonable endeavours to verify energy data and inform the requesting Code participant of the result of the verification and provide the verified energy data within the timeframes prescribed.* NiW has received requests for energy data verification during the audit period but no	*As above, we recommend that NiW ensures that any energy data verification requests are undertaken using the Energy Data Verification Request Form and the verification is completed using the process set-out in Clause 5.20 of the Code.* NiW has not received any requests for energy data verification during the audit period. As such, this obligation has not been rated. NiW has an Energy Data Verification Request Form that can be used for future requests and it has updated the EMG End of Month Procedure to include the requirements for data verification requests.	October 2016	No further action required

B. Resolved during current Audit period				
Reference (no./year)	**(Compliance rating/ Legislative obligation / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**
	requests have been made using the Energy Data Verification Request Form process. Generally any requests for data verification are submitted by email to NiW. NiW is able to manage the process easily via as it has such a small number of customers. Given the requirement for Code participants to provide the information in accordance with Clause 5.20(2) of the Code, NiW is also technically non-compliant against clause 5.20(4) of the Code (obligation reference 413). Although NiW has not received any requests under this section of the Code, it is NiW's responsibility to ensure that that the process is followed			
A6/2016	*A1* *Electricity Industry (Network Quality and Reliability of Supply) Code 2005 clause 5(1)* *A distributor or transmitter must, as far as reasonably practicable, ensure that electricity supply to a customer's electrical installations complies with prescribed standards.* NIW has as far as is reasonably practicable, ensured that the electricity supply to its customers' electrical installations has complied with the prescribed standards during the audit period. The power quality survey completed during the audit period show compliance with the voltage fluctuation and harmonic requirements included in Clauses 6 and 7 of the Code. As was observed in the previous audit report, standards are agreed with NiW's	*We recommend that NiW reviews and updates the references to AS 2279 when the PPAs are next updated.* NiW's PPAs have not been renewed during the audit period. Therefore, there has not been an opportunity to update the out-of-date references to the previous Australian Standard.	Incomplete	We recommend that NiW reviews and updates the references to AS 2279 when the PPAs are next updated.

B. Resolved during current Audit period				
Reference (no./year)	**(Compliance rating/ Legislative obligation / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**
	retail customers in the PPAs and these specify the relevant standard that was in place at the time, AS 2279). However, although the most recent versions of the PPAs are dated 2014, they still refer to the now-replaced AS. The old Australian standard (AS2279) uses a different method for voltage flicker and less detail for harmonics. The old Australian standard also has a more demanding total harmonic level than the Code. The 2013 survey was completed to the current AS 61000 standard and we note that this recommendation relates to an administration issue rather than an actual non-compliance.			
A7/2016	*C3* *Electricity Industry Act Section 11 - Distribution Licence condition 16.1, Retail Licence condition 16.1* *The licensee must provide to the Authority any information that the Authority may require in connection with its functions under the Act in the time, manner and form specified by the Authority.* NiW considers that it has provided the required information to the Authority. NiW completes the Compliance Report submitted to ERA annually. Previously the approach used by NIW was to complete quarterly reviews, however this was changed in order to not dictate a timeframe for this. Any issues/ concerns with compliance are noted and pencilled in on the	*We recommend that NiW develops a breach register so that it can comply with the requirement and ensure that its compliance reports are prepared in accordance with the register.* We confirmed that NiW has developed a breach register. The monthly register is updated as issues occur during the month.	March 2017	No further action required

B. Resolved during current Audit period				
Reference (no./year)	**(Compliance rating/ Legislative obligation / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**
	compliance report during the year. The final report is then submitted to the ERA. Therefore, does not have a formal Breach Register, as such, and instead uses more informal working documents. Under section 9.3.2.3 of the Audit and Review Guidelines, the ERA expects NiW to maintain a compliance (or breach) register. As NiW has not developed such a register, this obligation has been rated with a C3 grading.			
A8/2016	*A2* *Electricity Industry Metering Code clause 3.1* *A network operator must ensure that its meters meet the requirements specified in the applicable metrology procedure and also comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the National Measurement Act.* *A2* *Electricity Industry Metering Code clause 3.2(1)* *An accumulation meter must at least conform to the requirements specified in the applicable metrology procedure and display, or permit access to a display of the measurements specified in subclauses 3.2(1)(a)(b) using dials, a cyclometer, an illuminated display panel or some other visual means.* *A2*	*As noted, there is no mandatory recommendation for this obligation although NiW will continue to be technically non-compliant against the requirements of these obligations* *NiW may wish to consider submitting a metrology procedure to the ERA for approval but it is accepted that in practice the information included in the PPAs adequately covers the metering of NiW's customers' usage.* NiW has not completed the recommendation. As a result, the above text remains valid for this audit.	Incomplete	As noted in the previous audit report, there is no mandatory recommendation for this obligation although NiW will continue to be technically non-compliant against the requirements of these obligations NiW may wish to consider submitting a metrology procedure to the ERA for approval but it is accepted that in practice the information included in the PPAs adequately covers the metering of NiW's customers' usage.

B. Resolved during current Audit period				
Reference (no./year)	**(Compliance rating/ Legislative obligation / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**
	Electricity Industry Metering Code clause 3.3(1) *An interval meter must at least have an interface to allow the interval energy data to be downloaded in the manner prescribed using an interface compatible with the requirements specified in the applicable metrology procedure.* *A2* *Electricity Industry Metering Code clause 3.10* *A network operator must ensure that any programmable settings within any of its metering installations, data loggers or peripheral devices, that may affect the resolution of displayed or stored data, meet the relevant requirements specified in the applicable metrology procedure and comply with any applicable specifications or guidelines specified by the National Measurement Institute under the National Measurement Act.* *A2* *Electricity Industry Metering Code clause 3.12(2)* *A network operator must ensure that instrument transformers in its metering installations comply with the relevant requirements of any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the National Measurement Act and any*			

B. Resolved during current Audit period				
Reference (no./year)	**(Compliance rating/ Legislative obligation / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**
	requirements specified in the applicable metrology procedure. *A2* *Electricity Industry Metering Code clause 3.12(2)* *A network operator must ensure that instrument transformers in its metering installations comply with the relevant requirements of any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the National Measurement Act and any requirements specified in the applicable metrology procedure.* *B2* *Electricity Industry Metering Code clause 5.20(4)* *If a Code participant requests verification of energy data under subclause 5.20(3), the network operator must, in accordance with the metrology procedure, subject to subclause 5.20(5), use reasonable endeavours to verify energy data and inform the requesting Code participant of the result of the verification and provide the verified energy data within the timeframes prescribed.* *A2* *Electricity Industry Metering Code clause 5.21(4)*			

B. Resolved during current Audit period				
Reference (no./year)	**(Compliance rating/ Legislative obligation / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**
	A test or audit under subclause 5.21(1) is to be conducted in accordance with the metrology procedure and the applicable service level agreement. *A2* *Electricity Industry Metering Code clause 5.25* *A network operator must ensure the accuracy of estimated energy data in accordance with the methods in its metrology procedure and ensure that any transformation or processing of data preserves its accuracy in accordance with the metrology procedure.* NiW does not have a dedicated, overall metrology procedure. However, each of the individual Power Purchase Agreements (PPAs) cover meter installation and accuracy and, as such, form NiW's metrology procedures. However, under Clauses 1.3 and 6.2 of the Metering Code, a metrology procedure must be submitted to and approved by the ERA. As NiW has not completed the actions required by the Code, and it does not have an approved procedure, it is not compliant with any of the obligations listed above that refer to a metrology procedure. It is recognised that from a practical point of view, there is no real benefit for NiW to develop and submit a metrology procedure to the ERA for approval other than being able to comply with the requirements of the			

B. Resolved during current Audit period				
Reference (no./year)	**(Compliance rating/ Legislative obligation / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**
	Metering Code. NiW may wish to consider submitting a metrology procedure to the ERA for approval but it is accepted that the information included in the PPAs adequately covers the metering of NiW's customers' usage. As a result, there is no mandatory recommendation for this obligation although NiW will continue to be non-compliant against the requirements.			

C. Unresolved at end of current Audit period				
Reference (no./year)	**(Compliance rating/ Legislative obligation / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**
	Nil			

3.2 Previous Review Ineffective Components and Recommendations

Details of the actions completed by NiW against each of the previous asset management system review recommendations are presented in Table 3-2 below.

Table 3-2 Previous Review Ineffective Components and Recommendations

A. Resolved before end of previous review period				
Reference (no./year)	**(Asset management effectiveness rating / Asset Management System Component & Criteria / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**

B. Resolved during current review period				
Reference (no./year)	**(Asset management effectiveness rating / Asset Management System Component & Criteria / details of the issue)**	**Auditor's recommendation or action undertaken**	**Date resolved**	**Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable**
R1/2016	*B2* *Asset Planning - Plans are regularly reviewed and updated* NiW's Asset Management Plan covers the period 2010-2016 (although the financial predictions finished in 2014/15). As such, the document ends at the end of the current financial year (with some information already being out-of-date). We also note that a number of items (e.g. the capital planning) were completed earlier than planned but the Plan not updated to take account of the changes.	▪ *Complete a new AMP for the licenced assets for the next 5 year period or develop a higher document that provides links/references to the NiW documentation that covers the asset management requirements.* We confirmed that NiW updated the AMP after the pervious audit. NiW is also in the process of completing a new update of the document based on an external review of the AMP that was carried out at the end of 2017. NiW has made the AMP a	June 2017	No further action required

B. Resolved during current review period				
		controllable document and included an annual review and update.		
R2/2016	*A2* *Asset Operations - Operational policies and procedures are documented and linked to service levels required* During the course of the review we observed that although NiW has well-established policy and procedural documentation, a number of documents that were scheduled to be reviewed during the review period had not been reviewed/updated.	▪ Ensure that policy and procedural documentation is reviewed when due. ▪ NiW should create a schedule for a formal review in 1SAP on an annual basis. ▪ NiW could also implement a reminder system in Outlook or so that automated notifications are issued when documentation is required to be reviewed in accordance with NiW's quality management requirements. ▪ NiW should maintain records/update document control information to confirm that the review has taken place and to summarise any changes. We confirmed that NiW has added reminders into its electronic document management system (EDOCS) that are sent to document owners when controlled documents are approaching their review dates. If the documents are uncontrolled and are categorised as 'local' documents, reminders are sent to the document owners through Outlook and LandAssist, NiW's system for managing property and legal requirements.	March 2017	No further action required
R3/2016	*B2* *Review of AMS - Independent reviews (e.g., internal audit) are performed of the asset management system* NiW has a requirement to review its Asset Management System every year as part of its planned activities, with the document being updated where deemed necessary as a part of the review. However, although this action is scheduled in SAP, NiW were unable to provide any evidence that the AMP had been reviewed during the audit period.	▪ NiW to ensure that the annual reviews take place and are documented to confirm that they have taken place and summarise any changes made. Refer to R2/2016. We confirmed that the AMP has been reviewed since the previous audit and is currently going through another review and update. The AMS reviews are scheduled in LandAssist.	August 2016	No further action required

C. Unresolved at end of current Review period

Reference (no./year)	(Asset management effectiveness rating / Asset Management System Component & Criteria / details of the issue)	Auditor's recommendation or action undertaken	Date resolved	Further action required (Yes/No/Not applicable) & details of further action required including current recommendation reference if applicable

4 Performance Summary

The findings of the performance audit are summarised in a table with adequacy of control and compliance rating. The table includes all applicable compliance reporting items and are numbered according to the Electricity Compliance Reporting Manual 2018. Description of the rating scale and outcomes of the performance audit is provided in the following sections.

4.1 Assessment Rating Scales

In accordance with the Audit Guidelines, an assessment of the performance of NiW was completed using the rating scale in Table 4-1 and asset management system effectiveness using the rating scales in Table 4-2 and Table 4-3.

Table 4-1 Audit Compliance and Controls Rating Scales

Adequacy of Controls Rating		Compliance Rating	
Rating	Description	Rating	Description
A	Adequate controls - no improvement needed	1	Compliant
B	Generally adequate controls - improvement needed	2	Non-compliant – minor impact on customers or third parties
C	Inadequate controls – significant improvement required	3	Non-compliant – moderate impact on customers or third parties
D	No controls evident	4	Non-compliant – major impact on customers or third parties

Table 4-2 Asset Management Process and Policy Definition Adequacy Rating

Rating	Description	Criteria
A	Adequately defined	▪ Processes and policies are documented. ▪ Processes and policies adequately document the required performance of the assets. ▪ Processes and policies are subject to regular reviews, and updated where necessary. ▪ The asset management information system(s) are adequate in relation to the assets that are being managed.
B	Requires some improvement	▪ Process and policy documentation requires improvement. ▪ Processes and policies do not adequately document the required performance of the assets. ▪ Reviews of processes and policies are not conducted regularly enough. ▪ The asset management information system(s) require minor improvements (taking into consideration the assets that are being managed).
C	Requires significant improvement	▪ Process and policy documentation is incomplete or requires significant improvement. ▪ Processes and policies do not document the required performance of the assets. ▪ Processes and policies are significantly out of date. ▪ The asset management information system(s) require significant improvements (taking into consideration the assets that are being managed).
D	Inadequate	▪ Processes and policies are not documented. ▪ The asset management information system(s) is not fit for purpose (taking into consideration the assets that are being managed).

Table 4-3 Asset Management Performance Ratings

Rating	Description	Criteria
1	Performing effectively	▪ The performance of the process meets or exceeds the required levels of performance. ▪ Process effectiveness is regularly assessed, and corrective action taken where necessary.
2	Opportunity for improvement	▪ The performance of the process requires some improvement to meet the required level. ▪ Process effectiveness reviews are not performed regularly enough. ▪ Process improvement opportunities are not actioned.
3	Corrective action required	▪ The performance of the process requires significant improvement to meet the required level. ▪ Process effectiveness reviews are performed irregularly, or not at all. ▪ Process improvement opportunities are not actioned.
4	Serious action required	▪ Process is not performed, or the performance is so poor that the process is considered to be ineffective.

4.2 Performance Audit Compliance Summary

Table 4-4 provides a summary of NiW's compliance rating against each licence obligation, and an adequacy of controls rating where the item has been found to be non-compliant.

Na = Not applicable - Determined during the audit that the compliance obligation does not apply to the Licensee's business operations

Nr = Not rated - No relevant activity took place during the audit period, therefore it is not possible to assess compliance.

Table 4-4 Audit Obligation Ratings

2018 Compliance Obligation Ref No.	Licence Reference	Condition	Audit Priority applied [rated 1 (Highest) to 5 (Lowest)]	Adequacy of Controls Rating					Compliance Rating					
				A	B	C	D	NP	1	2	3	4	Na	Nr
Electricity Industry Act														
101	5.3.1	13(1)	4	✓					✓					
102	5.1.1	14(1)(a)	5	✓					✓					
103	5.1.2 and 5.1.3	14(1)(b)	4					✓						✓
104	5.1.4	14(1)(c)	5	✓					✓					
105	5.1.4	17(1)	5	✓					✓					
106	4.1.1	31(3)	5	✓					✓					
107	4.1.1	41(6)	4					✓						✓
119	4.3.1	11	4	✓					✓					
121	5.3.2	11	4	✓					✓					
122	5.1.5	11	5	✓					✓					
123	4.4.1	11	5					✓						✓
124	4.5.1	11	1	✓					✓					
125	3.8.1 and 3.8.2	11	4					✓						✓
126	3.7.1	11	4	✓					✓					
127	6.9.1	11	4	✓					✓					
128	6.9.3	11	4					✓						✓
Electricity Industry Metering Code														
319	4.1.1	3.1	3	✓						✓				
320	4.1.1	3.2(1)	3	✓						✓				
321	4.1.1	3.3(1)	3	✓						✓				
322	4.1.1	3.3(3)	4					✓					✓	
323	4.1.1	3.3A(1)	5					✓					✓	
324	4.1.1	3.3B	4					✓						✓
325	4.1.1	3.3C	5					✓					✓	
326	4.1.1	3.5(1) and (2)	4					✓					✓	
327	4.1.1	3.5(3)	4					✓						✓
328	4.1.1	3.5(4)	4	✓					✓					
329	4.1.1	3.5(6)	4					✓						✓
330	4.1.1	3.5(9)	2					✓						✓

2018 Compliance Obligation Ref No.	Licence Reference	Condition	Audit Priority applied [rated 1 (Highest) to 5 (Lowest)]	Adequacy of Controls Rating					Compliance Rating					
				A	B	C	D	NP	1	2	3	4	Na	Nr
331	4.1.1	3.7	4					✓						✓
332	4.1.1	3.8	4	✓					✓					
333	4.1.1	3.9(3)	4					✓						✓
335	4.1.1	3.9(9)	4					✓						✓
336	4.1.1	3.10	3	✓						✓				
337	4.1.1	3.11(1)	4	✓					✓					
338	4.1.1	3.11(2)	4					✓						✓
340	4.1.1	3.11A(1)	3	✓					✓					
341	4.1.1	3.11A(2)	4					✓						✓
342	4.1.1	3.12(1)	4	✓					✓					
343	4.1.1	3.12(2)	3	✓						✓				
344	4.1.1	3.12(3)	4					✓						✓
345	4.1.1	3.12(4)	4	✓					✓					
346	4.1.1	3.13(1)	4	✓					✓					
347	4.1.1	3.13(3)(c)	4	✓					✓					
348	4.1.1	3.13(4)	4	✓					✓					
349	4.1.1	3.14(3)	4	✓					✓					
355	4.1.1	3.20(1)	4					✓						✓
356	4.1.1	3.20(3)	4					✓						✓
357	4.1.1	3.21(1)	4					✓						✓
358	4.1.1	3.21(2)	4					✓						✓
359	4.1.1	3.22	4					✓						✓
360	4.1.1	3.23(a)	4					✓						✓
361	4.1.1	3.23(b)	4					✓						✓
364	4.1.1	3.27	4					✓						✓
366	4.1.1	4.1(1)	4	✓					✓					
367	4.1.1	4.1(2)	4	✓					✓					
368	4.1.1	4.1(3)	4	✓					✓					
369	4.1.1	4.2(1)	4	✓					✓					
370	4.1.1	4.3(1)	5	✓					✓					
371	4.1.1	4.4(1)	5					✓						✓
372	4.1.1	4.5(1)	4	✓					✓					
373	4.1.1	4.5(2)	5					✓						✓
374	4.1.1	4.6(1)	4					✓						✓
375	4.1.1	4.6(2)	4					✓						✓
376	4.1.1	4.7(1)	4					✓						✓
377	4.1.1	4.8(3)	4					✓					✓	
378	4.1.1	4.8(3A)	4					✓					✓	

2018 Compliance Obligation Ref No.	Licence Reference	Condition	Audit Priority applied [rated 1 (Highest) to 5 (Lowest)]	Adequacy of Controls Rating					Compliance Rating					
				A	B	C	D	NP	1	2	3	4	Na	Nr
379	4.1.1	4.8(4)(a)	4	✓					✓					
380	4.1.1	4.8(4)(b)	4	✓					✓					
381	4.1.1	4.8(5)	4	✓					✓					
382	4.1.1	4.9	4	✓					✓					
383	4.1.1	5.1 (1)	5					✓						✓
384	4.1.1	5.1(2)	5					✓						✓
385	4.1.1	5.3	4	✓					✓					
386	4.1.1	5.4(1)	5	✓					✓					
387	4.1.1	5.4(1A)	5	✓					✓					
388	4.1.1	5.4(2)	5					✓						✓
389	4.1.1	5.5(2)	4					✓						✓
390	4.1.1	5.5(2A)	4					✓						✓
391	4.1.1	5.6(1)	4					✓					✓	
392	4.1.1	5.7	4					✓					✓	
397	4.1.1	5.12(1)	4					✓						✓
398	4.1.1	5.13	4					✓						✓
399	4.1.1	5.14(3)	4					✓						✓
400	4.1.1	5.15	4	✓					✓					
401	4.1.1	5.16	4					✓						✓
402	4.1.1	5.17(1)	4	✓					✓					
403	4.1.1	5.17A(1)	5	✓					✓					
404	4.1.1	5.17A(3)	5	✓					✓					
405	4.1.1	5.18	4	✓					✓					
406	4.1.1	5.19(1)	5					✓						✓
407	4.1.1	5.19(2)	5	✓					✓					
408	4.1.1	5.19(3)	4					✓						✓
409	4.1.1	5.19(5)	4					✓						✓
410	4.1.1	5.19(6)	5					✓						✓
411	4.1.1	5.20(1)	4	✓					✓					
412	4.1.1	5.20(2)	3					✓						✓
413	4.1.1	5.20(4)	3					✓						✓
414	4.1.1	5.21(2)	4					✓						✓
415	4.1.1	5.21(4)	3	✓						✓				
417	4.1.1	5.21(6)	4					✓						✓
422	4.1.1	5.22(1)	4	✓					✓					
423	4.1.1	5.22(2)	4					✓						✓
424	4.1.1	5.22(3)	4					✓						✓
425	4.1.1	5.22(4)	4					✓						✓

2018 Compliance Obligation Ref No.	Licence Reference	Condition	Audit Priority applied [rated 1 (Highest) to 5 (Lowest)]	Adequacy of Controls Rating					Compliance Rating					
				A	B	C	D	NP	1	2	3	4	Na	Nr
426	4.1.1	5.22(5)	4					✓						✓
427	4.1.1	5.22(6)	4					✓						✓
428	4.1.1	5.23(1)	4					✓						✓
429	4.1.1	5.23(3)	4					✓						✓
430	4.1.1	5.24(1)	4					✓						✓
431	4.1.1	5.24(2)	4					✓						✓
432	4.1.1	5.24(3)	4					✓						✓
433	4.1.1	5.24(4)	4					✓						✓
434	4.1.1	5.25	3	✓						✓				
437	4.1.1	5.30(1)	4					✓						✓
438	4.1.1	5.31(1)	4					✓						✓
439	4.1.1	5.31(2)	4					✓						✓
440	4.1.1	5.34(2)	4					✓						✓
447	4.1.1	6.1(1)	3	✓					✓					
448	4.1.1	6.1(2)	4	✓					✓					
448A	4.1.1	6.2	4	✓						✓				
448B	4.1.1	6.18	5					✓						✓
448C	4.1.1	6.19A(1)	5					✓					✓	
448D	4.1.1	6.19B(1)	4					✓					✓	
449	4.1.1	6.20(4)	5					✓						✓
450	4.1.1	6.20(5)	5					✓						✓
451	4.1.1	7.2(1)	4	✓					✓					
452	4.1.1	7.2(2)	4					✓						✓
453	4.1.1	7.2(4)	4					✓						✓
454	4.1.1	7.2(5)	4					✓						✓
455	4.1.1	7.5	4					✓						✓
456	4.1.1	7.6(1)	5					✓						✓
457	4.1.1	8.1(1)	5					✓						✓
458	4.1.1	8.1(2)	5					✓						✓
459	4.1.1	8.1(3)	4					✓						✓
460	4.1.1	8.1(4)	5					✓						✓
461	4.1.1	8.3(2)	4					✓						✓
Electricity Industry (Network Quality and Reliability of Supply) Code 2005														
462	4.1.1	5(1)	5	✓					✓					
463	4.1.1	8	5					✓						✓
464	4.1.1	9	5	✓					✓					
465	4.1.1	10(1)	5	✓					✓					
466	4.1.1	10(2)	5					✓						✓

2018 Compliance Obligation Ref No.	Licence Reference	Condition	Audit Priority applied [rated 1 (Highest) to 5 (Lowest)]	Adequacy of Controls Rating					Compliance Rating					
				A	B	C	D	NP	1	2	3	4	Na	Nr
468	4.1.1	13(2)	5	✓					✓					
469	4.1.1	13(3)	4	✓					✓					
470	4.1.1	14(8)	4					✓						✓
471	4.1.1	15(2)	4					✓						✓
477	4.1.1	23(1)	5	✓					✓					
478	4.1.1	23(2)	4	✓					✓					
479	4.1.1	24(3)	4					✓						✓
480	4.1.1	24(4)	4					✓						✓
483	4.1.1	26(1) and 26(2)	4					✓					✓	
483A	4.1.1	26(3) and 26(4)	5					✓					✓	
483B	4.1.1	26(5)	5					✓					✓	
484	4.1.1	27(1)	4					✓					✓	
485	4.1.1	27(3)	5					✓					✓	

4.3 Asset Management Review Effectiveness Summary

The asset management system review assessed the effectiveness of the asset management system in delivering the services as required under the operating licence.

The review was conducted utilising the asset management adequacy and performance ratings as outlined in the Audit Guidelines. A summary of the outcomes of the review is provided in Table 4-5.

Table 4-5 Asset Management Review Effectiveness Summary

Asset Management System Component	Asset management process and policy definition adequacy rating	Asset management performance rating
Asset planning	**A**	**1**
▪ Asset management plan covers key requirements	A	1
▪ Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	A	1
▪ Service levels are defined	A	1
▪ Non-asset options (e.g. demand management) are considered	A	1
▪ Lifecycle costs of owning and operating assets are assessed	A	1
▪ Funding options are evaluated	A	1
▪ Costs are justified and cost drivers identified	A	1
▪ Likelihood and consequences of asset failure are predicted	A	1
▪ Plans are regularly reviewed and updated	A	1
Asset creation/acquisition	**A**	**NR**

Asset Management System Component	Asset management process and policy definition adequacy rating	Asset management performance rating
▪ Full project evaluations are undertaken for new assets	A	NR
▪ Evaluations include all life-cycle costs	A	NR
▪ Projects reflect sound engineering and business decisions	A	NR
▪ Commissioning tests are documented and completed	A	NR
▪ Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	A	NR
Asset disposal	**A**	**NR**
▪ Under-utilised and under-performing assets are identified as part of a regular systematic review process	A	NR
▪ The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	A	NR
▪ Disposal alternatives are evaluated	A	NR
▪ There is a replacement strategy for assets	A	NR
Environmental analysis	**A**	**1**
▪ Opportunities and threats in the system environment are assessed	A	1
▪ Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	A	1
▪ Compliance with statutory and regulatory requirements	A	1
▪ Achievement of customer service levels	A	1
Asset operations	**A**	**2**
▪ Operational policies and procedures are documented and linked to service levels required	A	2
▪ Risk management is applied to prioritise operations tasks	A	1
▪ Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition and accounting data	A	1
▪ Operational costs are measured and monitored	A	1
▪ Staff resources are adequate and staff receive training commensurate with their responsibilities	B	2
Asset maintenance	**A**	**1**

Asset Management System Component	Asset management process and policy definition adequacy rating	Asset management performance rating
▪ Maintenance policies and procedures are documented and linked to service levels required	A	1
▪ Regular inspections are undertaken of asset performance and condition	B	1
▪ Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	A	1
▪ Failures are analysed and operational / maintenance plans adjusted where necessary	A	1
▪ Risk management is applied to prioritise maintenance tasks	A	1
▪ Maintenance costs are measured and monitored	A	1
Asset management information system	**A**	**1**
▪ Adequate system documentation for users and IT operators	A	1
▪ Input controls include appropriate verification and validation of data entered into the system	A	1
▪ Logical security access controls appear adequate, such as passwords	A	1
▪ Physical security access controls appear adequate	A	1
▪ Data backup procedures appear adequate and backups are tested	A	1
▪ Key computations related to licensee performance reporting are materially accurate	A	1
▪ Management reports appear adequate for the licensee to monitor licence obligations	A	1
Risk management	**A**	**1**
▪ Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system	A	1
▪ Risks are documented in a risk register and treatment plans are actioned and monitored	A	1
▪ The probability and consequence of risk failure are regularly assessed	A	1
Contingency planning	**B**	**1**
▪ Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	B	1
Financial planning	**A**	**1**

Asset Management System Component	Asset management process and policy definition adequacy rating	Asset management performance rating
▪ The financial plan states the financial objectives and strategies and actions to achieve the objectives	A	1
▪ The financial plan identifies the source of funds for capital expenditure and recurrent costs	A	1
▪ The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	A	1
▪ The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period	A	1
▪ The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	A	1
▪ Significant variances in actual / budget income and expenses are identified and corrective action taken where necessary	A	1
Capital expenditure planning	**A**	**1**
▪ There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates	A	1
▪ The plan provides reasons for capital expenditure and timing of expenditure	A	1
▪ The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	A	1
▪ There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	A	1
Review of AMS	**A**	**1**
▪ A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current	A	1
▪ Independent reviews (e.g., internal audit) are performed of the asset management system	A	1

5 Observations and Recommendations

5.1 Performance Audit

Table 5-1 Performance Audit Observations

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
Electricity Industry Act						
101	Distribution Licence, condition 5.3.1 Retail Licence, condition 5.3.1	Electricity Industry Act, section 13(1)	A licensee must provide the ERA with a performance audit conducted by an independent expert acceptable to the ERA, not less than once every 24 months.	▪ NiW is currently subject to performance audits at 36 month intervals. This was confirmed by the Authority in writing on 13 October 2010. ▪ The last performance audit was undertaken in 2016 by Cardno (final report prepared in August 2016) which covered a 36 month period from 1 April 2013 to 31 March 2016. ▪ The next performance audit (this audit) covers the period from 1 April 2016 to 31 March 2019. ▪ NiW sought approval for Cardno to undertake the performance audit in writing in January 2019. ▪ Approval was granted by the ERA in writing on 14 January 2019.	▪ Interviews with NiW staff ▪ Cardno – Audit Report – Performance Audit and Asset Management Review, v4, August 2016 ▪ Correspondence with ERA	1
102	Distribution Licence, condition 5.1.1	Electricity Industry Act, section 14(1)(a)	A licensee must provide for an asset management system.	▪ NiW have provided for an effective asset management system to support their physical assets. ▪ A copy of the current Asset Management Plan has been reviewed and operations and maintenance systems have been confirmed during site visits to NiW's assets. These include maintenance planning modules in 1SAP supported by spreadsheets. ▪ The asset management system includes time based and conditioned based	▪ Interviews with NiW staff ▪ Nickel West, Asset Management System Manual, June 2017 ▪ NiW, 1SAP Basic Procurement Guide, June 2015 ▪ NiW Environmental Management Plan, December 2017 ▪ Metering Standing Data Register	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				maintenance. The review examined the efficacy of the asset management system. ▪ Since internal review by Powerplan at the end of 2017, NiW are reviewing the Asset Management System Manual and the organisational structure. NiW considers that it has completed 90% of the identified updates that were identified in the review.	▪ EMG End of Month Procedure ▪ Power Quality Survey Reports ▪ NiW Risk Register ▪ NiW Risk Management Plan ▪ Meter drawings/network plans ▪ NiW Financial Context Statement, FY2020 to 2024	
103	Distribution Licence, condition 5.1.2 and 5.1.3	Electricity Industry Act, section 14(1)(b)	A licensee must notify details of the asset management system and any substantial changes to it to the ERA.	▪ The asset management system was previously provided to the ERA as part of a previous performance audit. ▪ NiW advised that there have been no such substantial changes to the AMS within the audit period.	▪ Interviews with NiW staff	NR
104	Distribution Licence, condition 5.1.4	Electricity Industry Act, section 14(1)(c)	A licensee must provide the ERA with a report by an independent expert about the effectiveness of its asset management system every 24 months, or such longer period as determined by the ERA.	▪ NiW is currently subject to asset management system reviews at 36 month intervals. This was confirmed by the Authority in writing on 13 October 2010. ▪ The last asset management system review was undertaken in 2016 by Cardno (final report prepared in August 2016) which covered a 36 month period from 1 April 2013 to 31 March 2016. ▪ The next performance review (this review) covers the period from 1 April 2016 to 31 March 2019. ▪ NiW sought approval for Cardno to undertake the asset management system reviews in writing in January 2019. ▪ Approval was granted by the ERA in writing on 14 January 2019.	▪ Interviews with NiW staff ▪ Cardno – Audit Report – Performance Audit and Asset Management Review, v4, August 2016 ▪ Correspondence with ERA	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
105	Distribution Licence, condition 4.2.1 Retail Licence, condition 4.2.1	Electricity Industry Act, section 17(1) Economic Regulation Authority (Licensing Funding) Regulations 2014	A licensee must pay the prescribed licence fees to the ERA according to clauses 6, 7 and 8 of the *Economic Regulation Authority (Licensing Funding) Regulations 2014*.	▪ We confirmed that NiW's licence fee payments were paid within the required timeframes in 2017, 2018 and 2019. ▪ The 2017/18 invoices for NiW's two licences were provided from the ERA on 13/03/2017. We confirmed from NiW's finance system that these were paid on 19/03/2017. ▪ The 2018/19 invoices were received from ERA on 12/03/2019. We confirmed from NiW's finance system that the invoices were paid on 20/03/2018. ▪ The 2019/20 invoices were received from ERA on 13/03/2019. We confirmed from NiW's finance system that the invoices were submitted for payment on 18/03/2019. ▪ Although payment is set up in 1SAP, the process requires a purchase order and this is not known until the invoice is received. If there is no purchase order, the invoice the invoice is not forwarded to the correct member of staff for processing. As a result, NiW has reported some non-compliances against this obligation prior to the current audit period. ▪ NiW has added the payment requirement to a calendar to act as an additional prompt and prevent payments being missed.	▪ Interviews with NiW staff ▪ Electricity Licence Invoices, receipts, interest payment receipts, standing orders for 2017, 2018, 2019.	1
106	Distribution Licence, condition 4.1.1 Retail Licence, condition 4.1.1	Electricity Industry Act, section 31(3)	A licensee must take reasonable steps to minimise the extent, or duration, of any interruption, suspension or restriction of the supply of electricity due to an accident, emergency,	▪ NiW have taken reasonable steps to minimise the extent or duration of any unavoidable interruption, suspension or restriction of electricity. ▪ NiW records every interruption of supply and investigates if required. In all cases the interruption is minimised.	▪ Interviews with NiW staff ▪ Interruptions register	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			potential danger or other unavoidable cause.	▪ Personnel are on call with access to a callout vehicle. An agreement is in place for additional support in the northern system and contractors are available in the southern area through an Agreement with TransAlta. ▪ There are PPA financial penalties imposed for any interruptions to supply. The PPAs describe how costs are shared in various circumstances. ▪ During the 4 year reporting period, as set out in Schedule 1, cl 13 of the *Network Quality and Reliability Code 2005*, the northern system had 33 interruptions, and the southern system had 15 interruptions. Of these 36 were caused by loss of generation outside the control of the Licensee or by lightning or other issues outside the control of the licensee. ▪ The interruptions have been minor and response is in line with service levels expected for the number and size of customers and network. There is a requirement for mine production to keep interruptions to a minimum.		
107	Distribution Licence, condition 4.1.1 Retail Licence, condition 4.1.1	Electricity Industry Act, section 41(6)	A licensee must pay the costs of taking an interest in land or an easement over land.	▪ There have been no interests/easements taken in land during the audit period. ▪ All assets are on mining leases and no payments are made for interests or easements in land.	▪ Interviews with NiW staff	NR
Electricity Licenses						
119	Electricity Industry Act, section 11	Distribution Licence, condition 4.3.1 Retail Licence, condition 4.3.1	A licensee and any related body corporate must maintain accounting records that comply with the Australian Accounting Standards Board Standards or equivalent	▪ Nickel West does not publish separate audited accounts but is audited as part of BHP Billiton. ▪ The BHP Billiton annual reports published during the audit period show compliance with accounting standards.	▪ Interviews with NiW staff ▪ BHP Billiton Annual Report 2016 ▪ BHP Billiton Annual Report 2017 ▪ BHP Billiton Annual Report 2018	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			International Accounting Standards.			
121	Electricity Industry Act, section 11	Distribution Licence, condition 5.3.2 Retail Licence, condition 5.3.2	A licensee must comply, and require its auditor to comply, with the ERA's standard audit guidelines for a performance audit.	▪ NiW has previously complied with, and continues to comply with the Authority's standard audit guidelines dealing with the performance audit. ▪ The previous performance audit was reported on in August 2016 and the subsequent audit is currently being undertaken (this audit). ▪ The audit plan prepared by Cardno for the current performance audit was approved by the ERA in writing on 7 March 2019.	▪ Interviews with NiW staff ▪ Cardno – Audit Report – Performance Audit and Asset Management Review, v4, August 2016 ▪ Correspondence with ERA	1
122	Electricity Industry Act, section 11	Distribution Licence, condition 5.1.5	A licensee must comply, and must require the licensee's expert to comply, with the relevant aspects of the ERA's standard audit guidelines for an asset management system review.	▪ NiW is complying with the relevant aspects of the Authority's standard guidelines by undertaking the asset management system review. ▪ The previous asset management system review was reported on in August 2016 and the subsequent audit is currently being undertaken (this audit).	▪ Interviews with NiW staff ▪ Cardno Audit Plan - Performance Audit and Asset Management Review, Prepared for BHP Nickel West Pty Ltd, 20 February 2016	1
123	Electricity Industry Act, section 11	Distribution Licence, condition 4.4.1 Retail Licence, condition 4.4.1	In the manner prescribed, a licensee must notify the ERA, if it is under external administration or if there is a significant change in the circumstances that the licence was granted which may affect the licensee's ability to meet its obligations.	▪ NiW has not reported a change in their circumstances. ▪ NiW has not been under external administration.	▪ Interviews with NiW staff	NR
124	Electricity Industry Act, section 11	Distribution Licence, condition 4.5.1 Retail Licence,	A licensee must provide the ERA, in the manner prescribed, with any information that the ERA requires in connection with its functions under the Electricity Industry Act.	▪ NiW considers that it has provided the required information to the Authority. ▪ NiW completes the Compliance Report submitted to ERA annually. Previously the approach used by NiW was to note any issues/ concerns with compliance and pencil them in on the compliance	▪ Interviews with NiW staff ▪ Correspondence with ERA. ▪ NiW Annual Compliance Reports 2016/17, 2017/18 and 2018/19 ▪ NiW Breach Register	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
		condition 4.5.1		report during the year. The final report was then submitted to the ERA. ▪ However, based on a non-compliance against this obligation that was reported in the previous audit report, NiW developed a Breach Register template that used to record compliance issues as they occur each month. The information recorded is compiled to form the annual compliance report submitted to the ERA.		
125	Electricity Industry Act, section 11	Distribution Licence, condition 3.8.1 and 3.8.2 Retail Licence, condition 3.8.1 and 3.8.2	A licensee must publish any information as directed by the ERA to publish, within the timeframes specified.	▪ NiW has not been directed by the Authority to publish any such information.	▪ Interviews with NiW staff ▪ Correspondence with ERA	NR
126	Electricity Industry Act, section 11	Distribution Licence, condition 3.7.1 Retail Licence, condition 3.7.1	All notices must be in writing, unless otherwise specified.	▪ NiW has provided the ERA with information as requested. ▪ No notices have been required by the Authority. ▪ All material communication with the Authority is in writing.	▪ Interviews with NiW staff ▪ Correspondence with ERA	1
127	Electricity Industry Act, section 11	Distribution Licence, condition 6.9.1	A distributor must create and maintain a Priority Restoration Register.	▪ The obligation is only required under the obligations for NiW's distribution licence. For distribution lines where only one customer is supplied, the Register would not be required, and this is what happens in NiW's northern system. In the southern system, NiW also has some lines that only supply a single customer but also has some that supply more than one customer.	▪ Interviews with NiW staff ▪ NiW Priority Restoration Register memo ▪ PPAs	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				▪ The priority of restorations after an unplanned outage is set out in the Power Purchase Agreements. ▪ NiW developed a Priority Restoration Register memo in August 2013 in response to the findings and recommendations from a previous performance audit. The memo (or its replacement) will remain in force while the Priority Restoration Register is a requirement under this licence condition. ▪ The memo takes into account health and safety issues associated with the customers it supplies. ▪ The memo also sets out the operating constraints and limited ability to influence most power restorations to NiW's customers. ▪ The memo outlines the considerations that need to be taken in account when prioritising restoration actions. ▪ The considerations allow a sequence to restore supply to be activated. ▪ Based on our review of the Priority Restoration Register memo, we consider that it meets the requirements of the obligation.		
128	Electricity Industry Act, section 11	Distribution Licence, condition 6.9.3	The Priority Restoration Register must comply with any criteria determined by the Minister.	▪ The Minister has not determined any criteria that NiW's Priority Restoration Register has to comply with during the audit period.	▪ Interviews with NiW staff ▪ NiW Priority Restoration Register memo ▪ PPAs	NR
Electricity Industry Metering Code						
319	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.1	A network operator must ensure that its meters meet the requirements specified in the applicable metrology procedure and also comply with any applicable	▪ All of NiW's meter installations have been confirmed as predating the licence and, therefore, will be grandfathered as compliant (refer Meter Code 3.14(1). ▪ The meters are tested annually and the results from the last three years of testing	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings	2

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			specifications or guidelines, including any transitional arrangements, specified by the National Measurement Institute under the National Measurement Act.	shows only one meter showed an overall error outside the 1.5% limit. ▪ NiW does not have a dedicated, overall metrology procedure. However, each of the individual Power Purchase Agreements (PPAs) cover meter installation and accuracy and, as such, form NiW's metrology procedures. ▪ However, under Clauses 1.3 and 6.2 of the Metering Code, a metrology procedure must be submitted to and approved by the ERA. As NiW has not completed the actions required by the Code, and it does not have an approved procedure, it is not compliant with any of the obligations that refer to a metrology procedure. ▪ The meters cannot meet the requirements of the National Measurement Institute as the specifications apply to measurement class CTs and where protection class CTs are allowed under the Code (3.14(4)). Additionally, the metering is often at the substation and the customer is paying for line losses which are much more significant than any excesses of metering accuracy requirements. ▪ Meter clocks are not used and not considered to be relevant by NiW. Instead time stamps from each meter us recorded every 30 minutes using the clock on the SCADA system that records the data electronically. **Recommendation A1/2019** ▪ As was noted in the last audit report, it is recognised that from a practical point of view, there is no real benefit for NiW to develop and submit a metrology procedure	▪ NiW Metering Standing Data Register ▪ Power Quality Monitoring (PQM) Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				to the ERA for approval other than being able to comply with the requirements of the Metering Code. NiW may wish to consider submitting a metrology procedure to the ERA for approval but it is accepted that the information included in the PPAs adequately covers the metering of NiW's customers' usage. As a result, there is no mandatory recommendation for this obligation although NiW will continue to be non-compliant against the requirements.		
320	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.2(1)	An accumulation meter must at least conform to the requirements specified in the applicable metrology procedure and display, or permit access to a display of the measurements that are specified in subclauses 3.2(1)(a)(b) using dials, a cyclometer, an illuminated display panel or some other visual means.	▪ NiW has accumulation meters with display panels. However, generally this function is not used on the individual meters and accumulation is carried out electronically through the SCADA system. Where meter reads are manually taken (e.g. on remote meter sites), the data is recorded back into SCADA. ▪ As noted previously, although each of the individual Power Purchase Agreements (PPAs) cover meter installation and accuracy and, as such, form NiW's metrology procedures, NiW has not submitted a metrology procedure to the ERA for approval, in accordance with the requirements of Clauses 1.3 and 6.2 of the Metering Code. As NiW has not completed the actions required by the Code, and does not have an approved procedure, it is not compliant with any of the obligations that refer to a metrology procedure. ▪ Refer to Recommendation A1/2019 (Obligation 319)	▪ Interviews with NiW staff ▪ Metering Standing Data Register ▪ Description of Metering document	2
321	Distribution Licence, condition 4.1.1	Electricity Industry Metering	An interval meter must at least have an interface to allow the interval energy data to be downloaded in the manner	▪ The meters have interfaces to download data. NiW use Babelfish to download the data on a 30 minute interval basis from its meters	▪ Interviews with NiW staff ▪ Metering Standing Data Register	2

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
		Code, clause 3.3(1)	prescribed using an interface compatible with the requirements specified in the applicable metrology procedure.	▪ There are no interval meters in the Leinster town site. While there are some old meters, none are read for raising charges for electricity. NiW does not meter the town for consumption charging purposes. ▪ As noted previously, although each of the individual Power Purchase Agreements (PPAs) cover meter installation and accuracy and, as such, form NiW's metrology procedures, NiW has not submitted a metrology procedure to the ERA for approval, in accordance with the requirements of Clauses 1.3 and 6.2 of the Metering Code. ▪ As NiW has not completed the actions required by the Code, and does not have an approved procedure, it is not compliant with any of the obligations that refer to a metrology procedure. ▪ In the event of a new customer requiring access, NiW would establish the metrology in the new PPA that would be created for the new customer. The basis of this information would be the metrology information included in NiW's existing PPAs. ▪ NiW has not had any new customers requiring access during the audit period and has not been required to develop any new metrology procedures. However, in order to be compliant with the obligation, NiW should have an approved metrology procedure regardless of whether it has not has not had any new customers during the audit period. ▪ Refer to Recommendation A1/2019 (Obligation 319)	▪ Description of Metering document	

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
322	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.3(3)	If a metering installation is required to include a communications link, the link must, where necessary, include a modem and isolation device approved under the relevant telecommunications regulations that allows the interval energy data to be downloaded in the manner prescribed.	▪ NiW's metering installation communications links are all on internal communication systems and not rely on open public (Telstra) communications links. Therefore, NiW's meters do not have to comply with the relevant telecommunications requirements.	▪ Interviews with NiW staff ▪ Metering Standing Data Register ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ Description of Metering document	NA
323	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.3A(1)	A network operator must ensure that bi-directional electricity flows do not occur at a metering point unless the metering installation for the metering point is capable of separately measuring and recording electricity flows in each direction.	▪ There is no generation behind NiW's meters that could cause a bidirectional electricity flow. Therefore, this obligation is not applicable.	▪ Interviews with NiW staff ▪ Metering Standing Data Register ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ Description of Metering document ▪ Power Purchasing Agreements	NA
324	Distribution Licence, condition 4.1.1 Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.3B	If a user is aware of bi-directional electricity flows at a metering point that was not previously subject to a bi-directional flows or any changes in a customer's or user's circumstances in a metering point that will result in bi-directional flows, the user must notify the network operator within 2 business days.	▪ There have been no circumstances of metering points which were previously not capable of bi-directional flow becoming capable of bi-directional flow within the audit period.	▪ Interviews with NiW staff ▪ Metering Standing Data Register ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ Description of Metering document ▪ Power Purchasing Agreements	NR
325	Distribution Licence, condition 4.1.1 Integrated Regional Licence,	Electricity Industry Metering	An accumulation meter or an interval meter that separately measures and records bi-directional	▪ As noted previously, there is no generation behind NiW's meters that could cause a bidirectional electricity flow. Therefore,	▪ Interviews with NiW staff ▪ Metering Standing Data Register	NA

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
	condition 4.1.1 Transmission Licence, condition 4.1.1	Code, clause 3.3C	electricity flows at the metering point must record: ▪ the net electricity production transferred into the network that exceeds electricity consumption; and ▪ the net electricity consumption transferred out of the network that exceeds electricity production.	there is no need for bidirectional and this obligation is not applicable.	▪ Inspection of substations and sample installations ▪ Meter drawings ▪ Description of Metering document ▪ Power Purchasing Agreements	
326	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.5(1) and (2)	A network operator must ensure that there is a metering installation at every connection point on its network that is not a Type 7 connection point. Unless it is a Type 7 metering installation, the metering installation must meet the functionality requirements prescribed.	▪ All NiW's connections are metered. The metering is generally at the point of connection. ▪ Type 7 connection points are not directly metered and usage is calculated. NiW does not have any Type 7 connections, therefore this obligation is not applicable. ▪ NiW's metering installations meet the functionality requirements prescribed.	▪ Interviews with NiW staff ▪ Metering Standing Data Register ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ Description of Metering document ▪ Power Purchasing Agreements	NA
327	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.5(3)	For each metering installation on its network, a network operator must provide, install, operate and, subject to subclause 3.7(5), maintain the metering installation in the manner prescribed, unless otherwise agreed.	▪ There were no new meters installed during the audit period. ▪ NiW has in place PPAs which specify requirements for maintaining meter installations, testing metering accuracy, remedying any faults, etc. ▪ The metering installations are as agreed with customers. ▪ Meter calibration has been completed annually over the three year audit period. ▪ If NiW needs to carry out manual meter reads, this can still be carried out to derive totals within a timeframe but is not able to provide the 30 minute datasets that are normally reported through the SCADA.	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				▪ As NiW's meters predate the Code and are grandfathered, it is technically complaint with this obligation. Therefore, this obligation has not been rated.	▪ Power Purchasing Agreements ▪ Description of Metering document	
328	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.5(4)	Except for a Type 7 metering installation, a network operator must ensure that the metering point for a revenue metering installation is located as close as practicable to the connection point in accordance with good electricity industry practice.	▪ NiW's revenue meters are installed at the points of connections of the loads on the network. ▪ A few exceptions exist as a result of the topology of the network and customer locations after the sale of assets to junior miners. The customers have agreed to these arrangements. All customers are metered. ▪ Therefore, these meters are installed as close as practicable, satisfying the requirements of this obligation. ▪ As noted previously, NiW does not have any Type 7 connections. ▪ We note that the 2013 audit report included a non-mandatory recommendation to consider moving five meter points closer to the connection if a suitable opportunity arose. ▪ However, NiW has not moved these meters during the previous or current audit period and considers that there is unlikely to be any real benefit to completing this recommendation. Therefore, it has not completed a recommended improvement opportunity identified in the 2013 audit report. ▪ The only site NiW considered to be relevant to this 2013 recommendation was the Agnew feeder point as this is approximately 40km from the meter. Although a line loss correction was agreed with the customer and used to calculate the losses, NiW moved this meter in late 2016.	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				▪ All of NiW's PPAs include provisions for losses agreed with each customer. As a result, we consider that it is appropriate for NiW to have not fully completed the non-mandatory improvement opportunity that was identified in the 2013 audit report.		
329	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.5(6)	A network operator may only impose a charge for providing, installing, operating or maintaining a metering installation in accordance with the applicable service level agreement that it has with the user.	▪ NiW has not installed any new meters during the audit period. ▪ As per the PPAs, NiW does not charge for installing, operating or maintaining metering installations. ▪ If maintenance is required on a meter installation, this is completed by NiW at its own cost. Similarly, any new meters are installed at NiW's own cost by an external meter contractor.	▪ Interviews with NiW staff ▪ Metering Standing Data Register ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ Description of Metering document ▪ Power Purchasing Agreements	NR
330	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.5(9)	If a network operator becomes aware that a metering installation does not comply with the Code, it must advise affected parties of the non-compliance and arrange for the non-compliance to be corrected as soon as practicable.	▪ A small number of NiW's meters do not have the capability to be able to have password protection as they cannot accept a password. However, Meter Code 3.14(1) does not require installations that predate the Code to be updated. All meters are, therefore, considered compliant with the code. ▪ The regime for testing the meters for accuracy is set out in each of the PPAs. ▪ The meter calibrations completed by Hahn in each year of the audit period only found one meter outside the required accuracy limit. ▪ Based on a recommendation included in the last audit report, NiW has updated its EMG End of Month Procedure to include a procedure for notifying customers as soon as practicable if any metering non-compliance issues occur. However, no non-compliances have been recorded	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				during the audit period, and, as such, this obligation has not been rated.		
331	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.7	All devices that may be connected to a telecommunications network must be compatible with the telecommunications network and comply with all applicable State and Commonwealth enactments.	▪ NiW does not have devices connected to a telecommunications network. Instead devices connect to internal mine communications systems.	▪ Interviews with NiW staff ▪ Metering Standing Data Register ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ Description of Metering document ▪ Power Purchasing Agreements	NR
332	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.8	Subject to clause 3.27, a network operator must ensure that, consistent with the standards of good electricity industry practice, each metering installation on its network is secured by devices or methods that hinder unauthorised access and enable unauthorised access to be detected.	▪ NiW maintains its meter installations securely. ▪ Unauthorised access is prevented and restricted through control of metering installations. ▪ The meters are on controlled access mine sites and in locked substations which require access permits for any work. This is adequate security hindering unauthorized access meeting good electricity industry practice. ▪ The meters are remotely monitored and any unauthorised changes will be detected.	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	1
333	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.9(3)	Subject to subclauses 3.9(4), 3.9(5) and 3.9(7), each metering installation must meet at least the requirements for that type of metering installation as	▪ All of NiW current meter installations predate the Meter Code. Therefore, NiW's meters are grandfathered and do not require updating to meet the requirements of the Code. ▪ Meter accuracy and testing requirements are included in each of the PPAs. NiW's	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			specified in Table 3 in Appendix 1 of the Code.	customers have accepted the accuracy in their agreed contracts. ▪ Calibration is carried out in accordance with the requirements of the PPAs, with the latest calibration being completed by Hahn in January 2019. ▪ NiW does not generally use internal clocks, using SCADA as the primary clock for timestamps. If NiW needs to carry out manual meter reads, this can still be carried out to derive totals within a timeframe but is not able to provide the 30 minute datasets that are normally reported through the SCADA. ▪ NiW reported that had been non-compliant against this obligation in both the 2014 and 2015 annual Compliance Reports it submitted to the ERA. The non-compliance related to long-term clock rates for meters not being checked although in practice this was irrelevant as metering timing was determined by the SCADA clock. The 2016 audit report noted that as a result of the grandfathering of its meters under the Code, NiW was not required to comply with the obligation and should not have reported that it was non-compliant. ▪ We consider that a not rated grading is appropriate.	▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	
335	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.9(9)	If compensation is carried out within the meter, then the resultant metering system error must be as close as practicable to zero.	▪ No compensation has been carried out within a meter during the audit period. ▪ When meters are tested, readings are taken before and after to allow correction to be completed during the testing process.	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
					2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	
336	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.10	A network operator must ensure that any programmable settings in any of its metering installations, data loggers or peripheral devices, which may affect the resolution of displayed or stored data, satisfy the relevant requirements specified in the applicable metrology procedure and comply with any applicable instructions by the National Measurement Institute under the National Measurement Act.	▪ All of NiW's metering installations predate the Meter Code and are grandfathered and do not require updating to meet the requirements of the Code. ▪ Any issues are picked up in the monthly reports that NiW prepares for its customers. ▪ NiW does not have a dedicated, overall metrology procedure. However, each of the individual Power Purchase Agreements (PPAs) cover meter installation and accuracy and, as such, form NiW's metrology procedures. ▪ However, as noted previously, although each of the individual Power Purchase Agreements (PPAs) cover meter installation and accuracy and, as such, form NiW's metrology procedures, NiW has not submitted a metrology procedure to the ERA for approval, in accordance with the requirements of Clauses 1.3 and 6.2 of the Metering Code. ▪ Refer to Recommendation A1/2019 (Obligation 319)	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	2
337	Distribution Licence condition 5.1 Integrated Regional Licence condition 5.1 Transmission	Electricity Industry Metering Code clause 3.11(1)	A network operator must ensure that a metering installation on its network is operating consistently with good electricity industry practice to measure and	▪ The metering installations meet the requirements specified in the PPAs. These form the applicable service level agreements which are allowed in the Code under clause 3.11(1)(b).	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
	Licence condition 5.1		record data, and to permit collection of data within the time specified in the applicable service level agreement, for at least the percentages of the year specified.	▪ As a result, NiW has complied with the requirements.	▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	
338	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.11(2)	If an outage or malfunction occurs to a metering installation, the network operator must repair the metering installation in accordance with the applicable service level agreement.	▪ The metering repairs are carried out in accordance with the requirements of the PPAs. These form the applicable service level agreements which are allowed in the Code under clause 3.11(1)(b). ▪ NiW has not experienced any outages or malfunctions during the audit period that have required the meter to be repaired. As a result, this obligation has not been rated.	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	NR
340	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.11A(1)	A network operator must ensure that the meters on its network are systematically sampled and tested for accuracy in	▪ The requirement for accuracy of meters is covered by the PPAs. ▪ The periodicity of NiW's meter testing is more frequent than that prescribed in AS 1284 and covers all meters, not just a sample set. The testing included in the	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			accordance with AS 1284.13.	PPAs is at least every 2 years compared to the AS allowing 5 years for these meters and only 2 years if meters do not meet requirements. ▪ NiW uses an independent contractor for completing its meter testing, with the contractor carrying out this work under the provisions of AS 1284.13.	▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	
341	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.11A(2)	Subject to clause 3.11A(3), if a "population" of meters is deemed to have failed under AS 1284.13, the network operator must ensure that all of the meters in that population are removed and replaced with new meters within 3 years of the testing of the population.	▪ There has been no failure of a population of meters. ▪ The requirements for testing and repairing/replacing meters are set out in each of the PPAs ▪ The PPAs stipulate that all meters are tested every 24 months. ▪ The PPAs stipulate that if any tests deem a meter to be inaccurate then that meter will be repaired.	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	NR
342	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.12(1)	A network operator must ensure that each metering installation complies with at least the prescribed design requirements.	▪ As observed at the previous audit, the requirements of 3.12(1) cannot be met as it requires measurement class Current Transformers (CTs) to be used exclusively for measurement. However, under the grandfathering allowances,	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				protection class CTs are permitted by 3.14(4) and NiW utilises the CTs that have were installed prior to the Code being implemented. ▪ During the previous audit period, NiW initiated and has completed a project to develop 'As Build' drawings for safety and technical reasons, which minimises the scope for errors in the drawings and allows the recorded technical information to be improved.	▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	
343	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.12(2)	A network operator must ensure that instrument transformers in its metering installations comply with the relevant requirements of any applicable specifications or guidelines, including any transitional arrangements, specified by the National Measurement Institute under the National Measurement Act and any requirements specified in the applicable metrology procedure.	▪ As noted above for Obligation 342, installation of metering pre-dates the requirements of the Code and, therefore, it is not required to be upgraded to the Code. ▪ However, as noted previously, NiW does not have an approved metrology procedure and, as such, cannot be compliant with any of the obligations that refer to the applicable metrology procedure. ▪ Refer to Recommendation A1/2019 (Obligation 319)	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	2
344	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.12(3)	A network operator must provide isolation facilities of a standard consistent with good electricity industry practice, to facilitate testing	▪ The metering installations predate the Code and are, therefore, grandfathered and do not require upgrading. Metering installations have been provided with isolation facilities where possible.	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			and calibration of the metering installation.	▪ As its meter installations predate the Code, NiW was not required to report that it had been non-compliant against this obligation. ▪ NiW initiated the installation of isolation facilities following the 2013 audit and this project has now been completed.	▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	
345	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.12(4)	A network operator must maintain drawings and supporting information, of a standard consistent with good electricity industry practice, to detail the metering installation for maintenance and auditing purposes.	▪ As noted for Obligation 344, NiW initiated and has completed a project to develop 'As Build' drawings for safety and technical reasons based on a recommendation at the previous audit. ▪ NiW maintains a Metering Standing Data Register that includes the asset attributes and associated equipment related to each meter.	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document	1
346	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.13(1)	A network operator must procure the user, or the user's customer, to install, or arrange for the installation of, a full check metering installation or partial check metering installation in accordance with the prescribed requirements.	▪ Installation of metering pre-dates the requirements of the Code and, therefore, they are not required to be upgraded to the Code. As a result, check metering installations are not required. ▪ However, NiW does have some check meters for the supply to its largest customer and uses these to compare generation against the consumption with assumed losses in the network. Based on the energy supplied per metering point for NiW's largest customer, there is no requirements to provide check metering under the installation requirements	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				included under Clause 3.13(1) of the Code.	▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	
347	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.13(3)(c)	A partial check metering installation must be physically arranged in a manner determined by the network operator, acting in accordance with good electricity industry practice.	▪ Installation of metering pre-dates the requirements of the Code and, therefore, they are not required to be upgraded to the Code. As a result, partial check metering installations are not required. ▪ NiW utilises the SCADA data when partial check metering is required.	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	1
348	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.13(4)	A check metering installation for a metering point must comply with the prescribed requirements.	▪ Installation of metering pre-dates the requirements of the Code and, therefore, they are not required to be upgraded to the Code. As a result, check metering installations are not required. ▪ However, as noted above, NiW does have some check meters and uses these to compare generation against the consumption with assumed losses in the network.	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
					▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	
349	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.14(3)	If, under clause 3.14(2), a metering installation uses metering class CTs and VTs that do not comply with the Table 3 in Appendix 1, then the network operator must take the actions specified in order to achieve the accuracy requirements in Table 3 in Appendix 1.	▪ Clause 3.14(3) is only applicable for installations committed before Code commencement (3.14(1)) and not commissioned within a specified time frame. ▪ Installation of metering pre-dates the requirements of the Code, and, therefore, they are not required to be upgraded to comply with the Metering Code. ▪ However, NiW's metering transformers meet the requirements of Table 3 Appendix 1.	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	1
355	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.20(1)	If reasonably requested by a Code participant, a network operator must provide enhanced technology features in a metering installation.	▪ NiW has not received a request to provide enhanced technology features in a metering installation within the audit period. As a result, this obligation has not been rated.	▪ Interviews with NiW staff	NR
356	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.20(3)	A network operator may only impose a charge for the provision of metering installations with enhanced technology features in accordance with its	▪ NiW has not received a request to provide enhanced technology features in a metering installation within the audit period. Therefore, NiW has not imposed a charge for the provision of a metering installation.	▪ Interviews with NiW staff	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			applicable service level agreement with the user.	▪ As a result, this obligation has not been rated.		
357	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.21(1)	Meters containing an internal real time clock must maintain time accuracy as prescribed. Time drift must be measured over a period of 1 month.	▪ NiW has not received a request to provide enhanced technology features in a metering installation within the audit period. ▪ As has been noted previously, the need for internal real time clocks is irrelevant as NiW determines its meter timing through its SCADA clock.	▪ Interviews with NiW staff	NR
358	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.21(2)	If a metering installation includes measurement elements and an internal data logger at the same site, it must include facilities on-site for storing the interval energy data for the periods prescribed.	▪ NiW has not received a request to provide enhanced technology features in a metering installation within the audit period. ▪ NiW's meters have facilities onsite for storing meter read data as this information is stored on the main NiW network through the SCADA system. Some remote meters are manually read with the data retrospectively recorded in SCADA.	▪ Interviews with NiW staff	NR
359	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.22	A network operator providing one or more metering installations with enhanced technology features must be licensed to use, and access, the metering software applicable to all devices being installed and be able to program the devices and set parameters.	▪ NiW has not received a request to provide enhanced technology features in a metering installation within the audit period. ▪ As a result, this obligation has not been rated.	▪ Interviews with NiW staff	NR
360	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.23(a)	Where signals are provided from the meter for the user or the user's customer, a network operator must ensure that signals are isolated by relays or electronic buffers to prevent accidental or	▪ NiW has not received a request to provide enhanced technology features in a metering installation within the audit period. ▪ As a result, this obligation has not been rated. ▪ However, NiW meets the requirements of the obligation as the signals are isolated to	▪ Interviews with NiW staff	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			malicious damage to the meter.	prevent accidental or malicious damage to the meter as part of the inherent design of the meter.		
361	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.23(b)	Where signals are provided from the meter for the user or the user's customer, a network operator must provide the user, or the user's customer, with sufficient details of the signal specification to enable compliance with clause 3.23(c) of the Code.	▪ NiW has not received a request to provide enhanced technology features in a metering installation within the audit period. ▪ As a result, this obligation has not been rated.	▪ Interviews with NiW staff	NR
364	Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 3.27	A person must not install a metering installation on a network unless the person is the network operator or a registered metering installation provider for the network operator doing the type of work authorised by its registration.	▪ NiW has not installed any metering installations within the audit period. **Recommendation A2/2019** ▪ We note that the Metering Standing Data Register does not include any information related to either a meter date of manufacture or an installation date. As a result, we recommend that NiW looks to include this information in the Metering Standing Data Register.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Description of Metering document	NR
366	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 4.1(1)	A network operator must establish, maintain and administer a metering database containing standing data and energy data for each metering point on its network.	▪ NiW maintains a database of the required information. Customer consumption is compiled on a monthly basis for invoicing purposes. Log sheets are used to record the usage.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Description of Metering document ▪ Examples of Energy Invoices spreadsheets	1
367	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 4.1(2)	A network operator must ensure that its metering database with its associated links, circuits, information storage and processing systems are secured by devices or	▪ NiW has an IT policy in place to protect access to the database. ▪ The databases and associated links, circuits, information storage and processing systems are secure by passwords with varying access levels in order to hinder unauthorised access and	▪ Interviews with NiW staff ▪ BHP Global Processes, Information Systems and Cybersecurity - Our Requirements, Version 6.2, 7 March 2018	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			methods consistent with a good industry practice (to hinder unauthorised access and enable unauthorised access to be detected).	enable unauthorised access to be detected.		
368	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 4.1(3)	A network operator must prepare and, if applicable, implement a disaster recovery plan to ensure that it is able, to rebuild the metering database and provide energy data to Code participants within 2 business days after the day of any disaster.	▪ NiW has a data disaster recovery plan. ▪ Data is backed on a daily basis. A monthly offsite back-up is also maintained. ▪ In the event of a disaster, all data is able to be recovered expediently as part of NiW's disaster recovery and business continuity plan. ▪ The servers are backed up and recovery time has been tested. ▪ Recovery of energy data is within next meter reading as energy readings self-correct at the next meter reading (half hour). The database registry is recovered within one hour and general recovery of servers within one day. ▪ The energy data is captured to two independent systems – one SCADA and one SQL database. ▪ Either data set maybe used for provision of energy data. A disaster in one will not affect the data retained in the other, which will be immediately available, allowing the requirement to be complied with. Additionally, both data sets are backed up independently. ▪ Meter data is not required to be supplied to Code participants until after month end. The disaster recovery plan is covered by having independent dual data sets.	▪ Interviews with NiW staff ▪ BHP Global Processes, Information Systems and Cybersecurity - Our Requirements, Version 6.2, 7 March 2018	1
369	Distribution Licence, condition 4.1.1	Electricity Industry Metering	A network operator must ensure that its registry complies with the Code and	▪ NiW has a meter register but this is not maintained in conjunction with Western Power as NiW's network is not part of the WEM and so the market rules do not	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
		Code, clause 4.2(1)	the prescribed clause of the market rules.	apply. However, NiW's Metering Standing Data Register meets the requirements of the Metering Code.	▪ Description of Metering document	
370	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 4.3(1)	The standing data for a metering point must comprise at least the items specified.	▪ NiW has provided a complete print out of the registry information which contains the standing data required under Clause 4.3(1).	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Description of Metering document	1
371	Distribution Licence, condition 4.1.1 Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 4.4(1)	If there is a discrepancy between energy data held in a metering installation and in the metering database, the affected Code participants and the network operator must liaise to determine the most appropriate way to resolve the discrepancy.	▪ There have been no such discrepancies with the data within the audit period. ▪ The power purchase agreements set out discrepancy resolution issues. For some remote meters where the communication link is weak, data is stored in the communication modules adjacent to the meter. ▪ From time-to-time, NiW receive requests from its customers to provide them with additional data outside the normal monthly reporting. NIW consider that this is for clarification or more detailed data purposes rather than being a discrepancy that needs resolving.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Description of Metering document	NR
372	Distribution Licence, condition 4.1.1 Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 4.5(1)	A Code participant must not knowingly permit the registry to be materially inaccurate.	▪ NiW have not knowingly permitted the registry to be materially inaccurate. ▪ The meter database has been sighted and there are no known errors. The registry does not need to be reviewed until a meter is replaced. NiW is expected to need to replace meters in the next audit period. ▪ There have been no customer (Code participants) complaints. No errors have been highlighted by NiW's customers.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Description of Metering document	1
373	Retail Licence, condition 4.1.1	Electricity Industry Metering	Subject to subclause 5.19(6), if a Code participant, other than a network operator, becomes	▪ No changes to or inaccuracies in an item of standing data in the registry have been reported by customers during the audit period.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
		Code, clause 4.5(2)	aware of a change to, or inaccuracy in, an item of standing data in the registry, then it must notify the network operator and provide details of the change or inaccuracy within the timeframes prescribed.	▪ A code participant is defined as someone with an access contract and the Power Purchase Agreements are access contracts. ▪ There are no alternative retailers for transfers to cause registry errors. There is no need for a process for notification as in the case of NiW, the retailer and the network operator are the same entity.	▪ Description of Metering document	
374	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 4.6(1)	If the network operator is notified of a change to, or inaccuracy in, an item of standing data by a Code participant that is the designated source for the item of standing data under Table 2 in clause 4.3(1) then the network operator must update the registry to address the issue.	▪ NiW has not received any notification relating to an item of standing data by a Code participant which is the designated source for the item of standing data within the audit period. ▪ Code participants include users with an access contract and the Power Purchase Agreements are access contracts. ▪ In the case of NiW, the retailer and the network operator are the same entity, so no formal correspondence takes place.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Description of Metering document	NR
375	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 4.6(2)	If a network operator is notified of a change to, or inaccuracy in, an item of standing data by a Code participant which is not the designated source for the item of standing data, or otherwise becomes aware of a change to or inaccuracy in an item of standing data, then the network operator must determine whether the registry should be updated, and update the registry as required.	▪ NiW has not received any notifications within the audit period relating to a change to, or inaccuracy in, an item of standing data by a Code participant which is not the designated source for the item of standing data. ▪ As such, NiW has not had to undertake investigations to the standard of good electricity industry practice to determine whether the registry should be updated, and update the registry as required. ▪ Therefore, this obligation has not been rated.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Description of Metering document	NR
376	Distribution Licence, condition 4.1.1	Electricity Industry Metering	If standing data for a metering point is updated in the registry, the network operator must, within 2	▪ No updates have been made to standing data by NiW within the audit period.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register	NR

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		Code, clause 4.7(1)	business days after the update (or such other time as is specified in the applicable service level agreement) notify the update to the current user and each previous user, if the updated standing data relates to a period or periods when the previous user was the current user.		▪ Description of Metering document	
377	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 4.8(3)	A network operator must allow a user who is a retailer or a generator to have local and, where a suitable communications link is installed, remote access to the energy data for metering points at its associated connection points, using a password provided by the network operator that provides 'read only' access.	▪ NiW allows its users to have access as NiW is both the network operator and the retailer. Therefore, this obligation is considered to be not applicable.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Description of Metering document	NA
378	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 4.8(3A)	A network operator must allow a user who is a retailer or a generator to have access to data held in its metering database for metering points at its associated connection points, by the prescribed methods, using a password provided by the network operator which provides 'read only' access.	▪ NiW allows its users to have access as NiW is both the network operator and the retailer i.e. there are no circumstances where an external user is required to be provided with remote access.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Description of Metering document	NA
379	Distribution Licence, condition 4.1.1	Electricity Industry Metering	A network operator must have devices and methods in place to ensure that energy data held in its	▪ NiW has security devices, controls and passwords in place in accordance with its IT policies. These comply with the	▪ Interviews with NiW staff ▪ BHP Global Processes, Information Systems and Cybersecurity - Our	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
		Code, clause 4.8(4)(a)	metering installation is secured from unauthorised local or remote access using the methods prescribed	requirements under clause 4.8(4)(a) of the Code.	Requirements, Version 6.2, 7 March 2018	
380	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 4.8(4)(b)	A network operator must have devices and methods in place to ensure that the data held in its metering database is secured from unauthorised local, or remote, access using the methods prescribed.	▪ NiW has security devices, controls and passwords in place in accordance with its IT policies to ensure that the data held in its metering database is secured from unauthorised local, or remote, access	▪ Interviews with NiW staff ▪ BHP Global Processes, Information Systems and Cybersecurity - Our Requirements, Version 6.2, 7 March 2018 ▪ NiW Metering Standing Data Register ▪ Description of Metering document	1
381	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 4.8(5)	Without limiting subclause 4.8(4), a network operator must ensure that electronic passwords and other electronic security controls are only issued to the specified authorised personnel and otherwise keep its records of electronic passwords, and other electronic security controls, secure from unauthorised access.	▪ NiW has security devices, controls and passwords in place in accordance with its IT policies. ▪ The metering information is secured by the BHP Billiton IT requirements and is secured by passwords with varying access levels. Passwords are only issued to authorised personnel and BHP Billiton IT policies also detail requirements for password usage.	▪ Interviews with NiW staff ▪ BHP Global Processes, Information Systems and Cybersecurity - Our Requirements, Version 6.2, 7 March 2018	1
382	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 4.9	A network operator must retain energy data in its metering database for each metering point on its network, including any energy data that has been replaced under subclause 5.24, for at least the periods, and with the level of accessibility, prescribed.	▪ Data is retained by IT systems with back up of servers and retained for the required time. ▪ Metered energy data from 2005 has been provided as evidence by NiW. This data is available immediately on the computer network to the appropriate personnel. ▪ Energy data is reported to NiW's customers on a monthly basis. The metered usage is recorded at 30 minute intervals.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Description of Metering document ▪ Examples of customer invoice spreadsheets	1

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383	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.1 (1)	A network operator must use all reasonable endeavours to accommodate another Code participant's requirement to obtain a metering service and requirements in connection with the negotiation of a service level agreement.	▪ No requests for a metering service have been made during the audit period.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Description of Metering document	NR
384	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.1(2)	Without limiting subclause 5.1(1), a network operator must: ▪ expeditiously and diligently process all requests for a service level agreement; ▪ negotiate in good faith with a Code participant regarding the terms for an agreement; and ▪ to the extent reasonably practicable in accordance with good electricity industry practice, permit a Code participant to acquire a metering service containing only those elements of the metering service which the Code participant wishes to acquire.	▪ No requests for a metering service have been made during the audit period.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Description of Metering document	NR
385	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.3	A network operator must, for each metering point on its network, obtain energy data from the metering installation and transfer the energy data into its metering database by no	▪ Energy data is downloaded from each metering installation at each point of supply every half hour via the SCADA system. As a result, NiW has complied with the requirements. ▪ Although the data is downloaded monthly for invoicing purposes, it can be accessed	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Description of Metering document	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			later than 2 business days after the date for the scheduled meter reading for the metering point (or such other time as is specified in the applicable service level agreement).	at any time. Daily standing meter data is downloaded daily for St Ives.	▪ Examples of customer invoice spreadsheets	
386	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.4(1)	A network operator must, for each meter on its network, at least once in every 12 month period undertake a meter reading that provides an actual value that passes the validation processes in Appendix 2.	▪ NiW engages a third party independent contractor to complete annual calibration of its meters, including validation checks. ▪ Although NiW uses its SCADA system to record and download energy data electronically, it also takes manual meter readings if required. A small number of NiW's meters, including check and low consumption meters, are not connected to the SCADA system and have to be manually read. These manual meter readings are verified by cross checking and separation of duties.	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ PQM Accuracy Testing Reports, Hahn Electrical Contracting, December 2016, January 2018, January 2019 ▪ Power Quality Analysis Report, Hahn Electrical, March 2017 ▪ Power Purchasing Agreements ▪ Description of Metering document	1
387	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.4(1A)	The meter reading referred to in clause 5.4(1) must not be undertaken by the customer associated with the meter, and must be undertaken by a person who is employed or appointed by the network operator and who is suitably skilled in accordance with good electricity industry practice to carry out meter readings.	▪ Meter readings are not undertaken by the customer as NiW employs qualified and trained high voltage technicians to take manual readings of customer associated meters when/if required.	▪ Interviews with NiW staff ▪ Inspection of substations and sample installations ▪ Meter drawings ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document ▪ Examples of customer invoice spreadsheets	1

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388	Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.4(2)	A user must, when reasonably requested by a network operator, assist the network operator to comply with the network operator's obligation under subclause 5.4(1).	▪ A code participant is defined as someone with an access contract and the Power Purchase Agreements are access contracts. ▪ No requests were made of users (customers) by NiW during the audit period related to complying with Clause 5.4(1) of the Code. ▪ In the case of NiW, the retailer and the network operator are the same entity, so no formal correspondence takes place related to meeting this obligation.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document	NR
389	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.5(2)	Subject to subclause 5.5(2A)(b), a network operator may impose a charge for the provision of data, but only if: ▪ a user has requested the energy data to the extent permitted by, and in accordance with the applicable service level agreement between it and the user; and ▪ if a customer has given a direction under subclause 5.17A(1), in accordance with the prescribed conditions.	▪ No charges have been imposed for the provision of data between network operator and retailer. ▪ Similarly, NiW's does not charge its customers for the provision of data. Customers are only charged in accordance with their respective PPAs, which form the applicable service level agreements.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document	NR
390	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.5(2A)	A network operator must not impose a charge for the provision of standing data and for the provision of energy data if another enactment prohibits it doing so.	▪ NIW has not imposed a charge for the provision of standing data under the Code.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
391	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.6(1)	Subject to subclause 5.6(2), a network operator must provide validated, and where necessary, substituted or estimated energy data for a metering point to the user for the metering point and the IMO within the timeframes prescribed in subclause 5.6(1)(2).	▪ The NiW network is not part of the WEM and the requirement is not applicable as daily settlements with the Australian Energy Market Operator (AEMO) are not required. (Note that the Independent Market Operator (IMO) referenced in the Metering Code transitioned to the AEMO in 2016). ▪ The energy data provided to each of NiW's customer users is provided in accordance with the applicable service level agreements included in the respective PPAs.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document	NA
392	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.7	If a replacement energy data value is inserted in a metering database for a metering point, the network operator must provide replacement energy data to the user for the metering point and the IMO within the timeframes prescribed.	▪ The NiW network is not part of the WEM and the requirement is not applicable as daily settlements with AEMO are not required. ▪ The energy data provided to each of NiW's customer users is provided in accordance with the applicable service level agreements included in the respective PPAs. ▪ Any energy data value that needs to be replaced is replaced in accordance with the timeframes included in the relevant service level agreement (the PPAs). ▪ NiW's policy is to use zero as the replacement value when smaller loads have an error. Peak values are not estimated for any other replacement.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document	NA
397	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.12(1)	If a user gives a network operator an energy data request for a metering point in accordance with the communication rules, and the energy data request relates only to a time or times for which the user was the current user at the metering point, then the	▪ There have been no energy data requests from users to NiW made under this clause of the Code during the audit period. ▪ The users have been provided energy data according to the PPAs (the applicable service level agreements).	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			network operator must provide a user with a complete set of energy data for the metering point within the timeframes prescribed.			
398	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.13	If the current user for a metering point gives the network operator a standing data request for the metering point in accordance with the communication rules then the network operator must: ▪ provide the current user with a complete current set of standing data for a metering point; and ▪ advise whether there is a communications link for the metering point, within 2 business days after the receipt of the request.	▪ No request for standing data has been received within the audit period. ▪ There are no communication rules as there is no need for them with no other retailer on network.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document	NR
399	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.14(3)	If a user makes a bulk standing data request, the network operator must in accordance with the communication rules, acknowledge receipt of the request and provide the requested standing data within the timeframes prescribed.	▪ No requests for bulk standing data has been received within the audit period from NiW's users.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document	NR
400	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.15	If a network operator provides energy data to a user or the IMO it must also provide the date of the meter reading in	▪ The NiW network is not part of the WEM and the requirement is not applicable as daily settlements with the AEMO are not required. ▪ The energy data provided to each of NiW's customer users is provided in	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			accordance with the requirements specified.	accordance with the applicable service level agreements included in the respective PPAs. ▪ Dates are included with meter readings on invoices or supporting data provided to NiW's customers.	▪ Description of Metering document	
401	Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.16	If a user collects or receives energy data from a metering installation then the user must provide the network operator with the energy data (in accordance with the communication rules) within the timeframes prescribed.	▪ Users do not collect or receive energy data to send to the network operator. ▪ NiW is both network operator and retailer and there is no need for communication rules as there are no other retailers on network.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document	NR
402	Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.17(1)	A user must provide standing data and validated, and where necessary substituted or estimated, energy data to the user's customer to which that information relates where the user is required by an enactment or an agreement to do so for billing purposes or for the purpose of providing metering services to the customer.	▪ NiW has complied with the requirements. ▪ Detailed standing and validated energy data is provided to NiW's customers in the monthly invoices it issues. ▪ Although there is no enactment to provide data, the PPAs make provision for meter data to be provided to a customer after month end. Time frames are not specified. ▪ Applicable enactments, such as the Code of Conduct, do not apply to NiW as it does not supply any small use consumers.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document	1
403	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.17A(1)	A network operator must provide data for a metering point from its metering database to a person if (and to the extent that) the customer associated with the metering point gives the network operator a direction to do so that complies with subclause 5.17A(2).	▪ NiW has complied with the requirements. ▪ One of NiW's retail customers, St Ives Gold (SIG), are provided with a daily download of the previous day's usage that allows them to monitor their energy consumption in more detail. ▪ NiW does not give SIG a password to access this data but has created a sub-routine that automatically provides this	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document ▪ Examples of ad hoc data requests from customers	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				information to the customer in read-only format. This is emailed daily to SIG ▪ In addition, other retail customers make ad hoc requests to NiW to provide energy data (e.g. maximum usage). NiW fulfils these ad hoc requests when they are made. ▪ NiW provides its customers with monthly energy data in its invoices so requests to provide metering point data tend to be intra-month.		
404	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.17A(3)	A network operator must comply with a direction under subclause 5.17A(1) within the timeframes prescribed.	▪ Where requests for data from a metering point have been made by NiW's customers, NiW has complied with the requirements to provide the data as soon as practicable and within the required 10 business days after direction has been received.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document ▪ Examples of ad hoc data requests from customers	1
405	Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.18	If a user collects or receives information regarding a change in the energisation status of a metering point then the user must provide the network operator with the prescribed information, including the stated attributes, within the timeframes prescribed.	▪ One of NiW's substations at Redross has been de-energised during the audit period as it has not been in use. However, NiW is both the retailer and the distributor and so fulfils both roles as network operator.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document ▪ Examples of ad hoc data requests from customers	1
406	Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.19(1)	A user must, when requested by the network operator acting in accordance with good electricity industry practice, use reasonable endeavours to collect information from	▪ There have been no requests to any user to collect information during the audit period. Therefore, this obligation has not been rated.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			customers, if any, that assists the network operator in meeting its obligations described in the Code and elsewhere, and provide that information to the network operator.			
407	Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.19(2)	A user must, to the extent that it is able, collect and maintain a record of the prescribed information in relation to the site of each connection point with which the user is associated.	▪ NiW has complied with the requirements. ▪ Contacts lists and address, site and customer attributes and sample advice to customers has been provided as evidence.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Examples of customer invoices ▪ Correspondence with retail customers	1
408	Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.19(3)	Subject to subclauses 5.19(3A) and 5.19(6), the user must, within 1 business day after becoming aware of any change in an attribute described in subclause 5.19(2), notify the network operator of the change.	▪ NiW as a retailer and distributor has not become aware of any change in attribute. There has been no advice from users of any changes to site attributes. Therefore, this obligation has not been rated.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Examples of customer invoices ▪ Correspondence with retail customers	NR
409	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.19(5)	A network operator must give notice to a user, or (if there is a different current user) the current user, acknowledging receipt of any customer, site or address attributes from the user within the timeframes prescribed.	▪ NiW as a network operator has not received any customer, site or address attributes. ▪ There was no new customer site or address attributes in the audit period to require a notice. ▪ Therefore, this obligation has not been rated.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Correspondence with retail customers	NR
410	Retail Licence, condition 4.1.1	Electricity Industry Metering	The user must use reasonable endeavours to ensure that it does not notify the network operator	▪ NiW as a retailer and distributor has not become aware of any change in attribute during the audit period.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
		Code, clause 5.19(6)	of a change in an attribute described in subclause 5.19(2) that results from the provision of standing data by the network operator to the user.	▪ There has been no advice from users of any changes to site attributes during the audit period. ▪ Therefore, this obligation has not been rated.	▪ Power Purchasing Agreements ▪ Correspondence with retail customers	
411	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.20(1)	A network operator must, by not later than 6 months after the date this Code applies to the network operator, develop, in accordance with the communication rules, an Energy Data Verification Request Form.	▪ NiW has previously developed an energy data verification request form. ▪ There have been no requests for energy data verification during the audit that have required the form to be used. ▪ Generally any requests from NiW's two customers are received directly via email. ▪ NiW is both network operator and retailer and there is no need for communication rules as there are no other retailers on network.	▪ Interviews with NiW staff ▪ Energy Data Verification Request Form ▪ Correspondence with retail customers	1
412	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.20(2)	An Energy Data Verification Request Form must require a Code participant to provide the information prescribed.	▪ NiW has not received any requests for energy data verification during the audit period. As such, this obligation has not been rated. ▪ NiW has an Energy Data Verification Request Form that can be used for future requests and it has updated the EMG End of Month Procedure to include the requirements for data verification requests.	▪ Interviews with NiW staff ▪ Energy Data Verification Request Form ▪ Correspondence with retail customers ▪ EMG End of Month Procedure	NR
413	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.20(4)	If a Code participant requests verification of energy data under subclause 5.20(3), the network operator must, in accordance with the metrology procedure: ▪ subject to subclause 5.20(5), use reasonable endeavours to verify energy data; and ▪ inform the requesting Code participant of the	▪ NiW has not received any requests for energy data verification during the audit period. As such, this obligation has not been rated. ▪ NiW has an Energy Data Verification Request Form that can be used for future requests and it has updated the EMG End of Month Procedure to include the requirements for data verification requests.	▪ Interviews with NiW staff ▪ Energy Data Verification Request Form ▪ Correspondence with retail customers ▪ EMG End of Month Procedure	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			result of the verification and provide the verified energy data to that Code participant within the timeframes prescribed.			
414	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.21(2)	A network operator must comply with any reasonable request under subclause 5.21(1).	▪ NiW has not received any requests for meter testing or auditing within the audit period.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Correspondence with retail customers ▪ EMG End of Month Procedure	NR
415	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.21(4)	A test or audit under subclause 5.21(1) is to be conducted in accordance with the metrology procedure and the applicable service level agreement.	▪ NiW has not received any requests for meter testing or auditing within the audit period. ▪ The applicable service level agreement for each of NiW's retail customers is included in the respective PPA. ▪ However, as noted previously, NiW does not have an approved metrology procedure and, as such, cannot be compliant with any of the obligations that refer to a metrology procedure. ▪ Refer to Recommendation A1/2019 (Obligation 319)	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements	2
417	Generation Licence condition 5.1 Integrated Regional Licence condition 5.1 Retail Licence condition 5.1	Electricity Industry Metering Code clause 5.21(6)	A Code participant must not make a test or audit request that is inconsistent with any access arrangement or agreement.	▪ No request to separately test or audit has been made within the audit period.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Correspondence with retail customers	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
422	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.22(1)	A network operator must validate energy data in accordance with this Code applying, as a minimum, the prescribed rules and procedures set out in Appendix 2 and must, where necessary, substitute and estimate energy data under this Code applying, as a minimum, the prescribed rules and procedures set out in Appendix 3.	▪ NiW has complied with the requirements. ▪ Validation for the energy data is not required as meters were installed before Code and CT ratios not changed, and check metering is not required. ▪ Substituted or estimated data has been zero for smaller loads (this is not an issue to the retailer who is the same person as the network operator). ▪ For larger loads, estimated energy is substituted using Substitution Method 13 or interpolated data which will self-correct the following month. ▪ Manual meter readings are carried out to collect the data during outages. Although the detailed 30 minute intervals will not to be recorded or reported for the outage period, the overall energy use data is unaffected as the manual meter reads can be used as substitutes until the repair work is completed. ▪ Peak power is not estimated during periods of data loss, which meets substitution method 18 requirements.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Examples of customer invoices ▪ EMG End of Month Procedure ▪ EoM Tool	1
423	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.22(2)	The network operator must use check metering data, where available, to validate energy data provided that the check metering data has been appropriately adjusted for differences in metering installation accuracy in accordance with subclause 3.13.	▪ NiW does not employ check meters. Instead NiW uses an internal check of generation through its SCADA system.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements	NR
424	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.22(3)	If a check meter is not available or energy data cannot be recovered from the metering installation within the time required	▪ As noted above, check metering not installed or required. ▪ Substituted or estimated data has been zero for smaller loads and this is not an	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			under this Code, then the network operator must prepare substitute values using a method contained in Appendix 3 and agreed where necessary with the relevant Code participants.	issue to the retailer who is the same entity as the network operator. ▪ For larger loads, if required, NiW would estimate energy data using Substitution Method 13 or interpolated data which would self-correct the following month. However, no energy data has had to be substituted or estimated during the audit period. Estimated or interpolated data self-corrects the following month. ▪ Manual meter readings are carried out to collect the data during outages. Although the detailed 30 minute intervals will not to be recorded or reported for the outage period, the overall energy use data is unaffected as the manual meter reads can be used as substitutes until the repair work is completed. As such, there was no estimation or substitution of the energy data. Examples of NiW's interpolation using manual reads were observed through the EoM Tool that NiW uses for preparing its invoices ▪ Peak power is not estimated during periods of data loss, which meets substitution method 18 requirements.	▪ Power Purchasing Agreements ▪ Examples of customer invoices ▪ EMG End of Month Procedure ▪ EoM Tool	
425	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.22(4)	If a network operator detects a loss of energy data or incorrect energy data from a metering installation, it must notify each affected Code participant of the loss or error within 24 hours after detection.	▪ Any loss of energy data or incorrect energy data is handled according to the applicable metrology procedure (PPAs). ▪ There is no loss of energy data or incorrect recording of data as NiW is able to use manual meter reads if there are problems with the SCADA information and vice versa. Therefore, as any discrepancy related to the consumption within the billing self-corrects in the next billing cycle there is generally no need to notify the customer that energy data has been lost or incorrectly recorded. As such, there was no estimation or	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Correspondence with retail customers ▪ Examples of customer invoices ▪ EMG End of Month Procedure ▪ EoM Tool	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				substitution of the energy data during the audit period. ▪ Examples of NiW's interpolation using manual reads were observed through the EoM Tool that NiW uses for preparing its invoices.		
426	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.22(5)	Substitution or estimation of energy data is required when energy data is missing, unavailable or corrupted, including in the circumstances described in this subclause.	▪ Validation checks and error corrections are made to data using an automated routine when importing data into the database via the SCADA system. ▪ Substituted or estimated data has been zero for smaller loads and this is not an issue to the retailer who is the same person as the network operator in the case of NiW ▪ For larger loads, estimated energy is substituted using Substitution Method 13 or interpolated data which will self-correct the following month. As such, there is no estimation or substitution of the energy data. ▪ Peak power is not estimated during periods of data loss, which meets substitution method 18 requirements. ▪ The meter accuracies are regularly tested every 24 or 48 months (depending on the customer) in accordance with the requirements in NiW's PPAs.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Correspondence with retail customers ▪ Examples of customer invoices ▪ EMG End of Month Procedure ▪ EoM Tool	NR
427	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.22(6)	A network operator must review all validation failures before undertaking any substitution.	▪ Validation checks and error corrections are made to data using an automated routine when importing data into the database. ▪ As noted above, NiW has not undertaken any substitution of energy data during the audit period. ▪ The meter accuracies are regularly tested (every 2 years) in accordance with the requirements in SCE's PPAs.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Correspondence with retail customers ▪ Examples of customer invoices	NR

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					▪ EMG End of Month Procedure ▪ EoM Tool	
428	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.23(1)	If a network operator determines that there is no possibility of determining an actual value for a metering point, then the network operator must designate an estimated or substituted value for the metering point to be a deemed actual value for the metering point.	▪ As noted above, NiW has not estimated or substituted an actual value for a metering point during the audit period. ▪ The meter accuracies are regularly tested every 24 or 48 months (depending on the customer) in accordance with the requirements in NiW's PPAs. ▪ Validation checks and error corrections are made to data using an automated routine when importing data into the database. ▪ In the event that NiW has to estimate or substitute a value for a metering point, where there is no possibility of determining an actual value for a metering point, the designated, substituted or estimated data is deemed to be zero for smaller loads and this is not an issue to the retailer who is the same person as the network operator in the case of NiW. ▪ For larger loads, the designated, substituted or estimated energy data value is determined using Substitution Method 13 or interpolated data which will self-correct the following month. Peak power is not estimated during periods of data loss, which meets substitution method 18 requirements.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Correspondence with retail customers ▪ Examples of customer invoices ▪ EMG End of Month Procedure ▪ EoM Tool	NR
429	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.23(3)	If a network operator has designated a deemed actual value for a metering point then the network operator must: ▪ repair or replace the meter or one or more of	▪ No such event has occurred that has required replacement or repair of any meters within the audit period. ▪ The meter accuracies are regularly tested every 24 or 48 months (depending on the customer) in accordance with the requirements in NiW's PPAs.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			components of metering equipment (as appropriate) at the metering point; and ▪ subclauses 5.24(3(c) and 5.24(4) apply in respect of the estimated or substituted value which was designated to be the deemed actual value.	▪ Following substitution of a deemed value, any faulty equipment, communication link or logging system would be repaired or replaced as appropriate.	▪ Description of Metering document ▪ Examples of customer invoices ▪ EMG End of Month Procedure ▪ EoM Tool	
430	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.24(1)	If a network operator uses an actual value (first value) for energy data for a metering point, and a better quality actual or deemed actual value is available (second value), the network operator must replace the first value with the second value if doing so would be consistent with good electricity industry practice.	▪ No such event has occurred within the audit period as no better values have become available. ▪ If this were to occur, it would not be necessary for NiW to revise the reading with the second value (accumulator register) for large loads, as the error will self-correct the following month. ▪ For small loads, the assumed value of zero consumption would be retained by NiW to maintain good customer relations consistent with good electricity industry practice. ▪ The meter accuracies are regularly tested every 24 or 48 months (depending on the customer) in accordance with the requirements in NiW's PPAs. ▪ Validation checks and error corrections are made to data using an automated routine when importing data into the database via the SCADA system.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document ▪ Examples of customer invoices ▪ EMG End of Month Procedure ▪ EoM Tool	NR
431	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.24(2)	If a network operator uses a deemed actual value (first value) for energy data for a metering point, and a better quality deemed actual value is available (second value), then the network	▪ No such event has occurred within the audit period as no better values have become available. ▪ If this were to occur, it would not be necessary for NiW to revise the reading with the second value (accumulator	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			operator must replace the first value with the second value if doing so would be consistent with good electricity industry practice.	register) for large loads, as the error will self-correct the following month. ▪ For small loads, the assumed value of zero consumption would be retained by NiW to maintain good customer relations consistent with good electricity industry practice. ▪ The meter accuracies are regularly tested every 24 or 48 months (depending on the customer) in accordance with the requirements in NiW's PPAs. ▪ Validation checks and error corrections are made to data using an automated routine when importing data into the database via the SCADA system.	▪ Description of Metering document ▪ Examples of customer invoices ▪ EMG End of Month Procedure ▪ EoM Tool	
432	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.24(3)	If a network operator uses an estimated or substituted value (first value) for energy data for a metering point, and a better quality actual, deemed, estimated or substituted value is available (second value), then the network operator must replace the first value with the second value if doing so would be consistent with good electricity industry practice or the user and its customer jointly request it to do so.	▪ No such event has occurred within the audit period as no better values have become available and there have been no requests from customers to replace any energy data values. ▪ If this were to occur, it would not be necessary for NiW to revise the reading with the second value (accumulator register) for large loads, as the error will self-correct the following month. ▪ For small loads, the assumed value of zero consumption would be retained by NiW to maintain good customer relations consistent with good electricity industry practice. ▪ The meter accuracies are regularly tested every 24 or 48 months (depending on the customer) in accordance with the requirements in NiW's PPAs. ▪ Validation checks and error corrections are made to data using an automated routine when importing data into the database via the SCADA system.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document ▪ Examples of customer invoices ▪ EMG End of Month Procedure ▪ EoM Tool	NR

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433	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.24(4)	A network operator (acting in accordance with good electricity industry practice) must consider any reasonable request from a Code participant for an estimated or substituted value to be replaced under subclause 5.24.	▪ No such event has occurred within the audit period as there have been no requests for an estimated or substituted value to be replaced. ▪ Essentially, there is no advantage (or disadvantage) to a customer making this request due to self-correction or zero energy estimate.	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document ▪ Examples of customer invoices ▪ EMG End of Month Procedure ▪ EoM Tool	NR
434	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.25	A network operator must ensure the accuracy of estimated energy data in accordance with the methods in its metrology procedure and ensure that any transformation or processing of data preserves its accuracy in accordance with the metrology procedure.	▪ NiW has not used any estimated energy data during the audit period. Therefore, this obligation has not been rated. ▪ The accuracy would not be relevant where a zero energy value has been substituted or no higher peak power value has been estimated. ▪ The accuracy would also not be relevant where the estimate will self-correct the following month. ▪ The metrology procedure used by NiW is set out in each of the PPAs. ▪ However, as noted previously, under Clauses 1.3 and 6.2 of the Metering Code, a metrology procedure must be submitted to and approved by the ERA. As NiW has not completed the actions required by the Code, and it does not have an approved procedure, it is not compliant with any of the obligations that refer to a metrology procedure. ▪ Refer to Recommendation A1/2019 (Obligation 319).	▪ Interviews with NiW staff ▪ NiW Metering Standing Data Register ▪ Power Purchasing Agreements ▪ Description of Metering document ▪ Examples of customer invoices ▪ EMG End of Month Procedure ▪ EoM Tool	2

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
437	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.30(1)	If a network operator makes an election under subclause 5.28 in relation to the network, then the parties must enter into an agreement in relation to the network, which must deal with at least the matters prescribed.	▪ NiW and Western Power have not entered into a metering data agency agreement during the audit period.	▪ Interviews with NiW staff	NR
438	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.31(1)	If a network operator makes an election under subclause 5.28 in relation to a network, the electricity networks corporation must assess the compliance of each metering installation in the network with this Code and notify the electing network operator of each non-compliant metering installation.	▪ NiW and Western Power have not entered into a metering data agency agreement during the audit period.	▪ Interviews with NiW staff	NR
439	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.31(2)	For each non-compliant metering installation notified under subclause 5.31(1)(b), the electing network operator may, by notice to the electricity networks corporation, require the electricity networks corporation to upgrade a non-compliant metering installation, in which case the electricity networks corporation must undertake the upgrade in accordance with the metering data agency agreement and good electricity industry practice.	▪ NiW and Western Power have not entered into a metering data agency agreement during the audit period.	▪ Interviews with NiW staff	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
440	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 5.34(2)	Except to the extent that the metering data agency agreement provides otherwise, the costs which may be recovered by the electricity networks corporation under subclause 5.34(1) must not exceed the amounts prescribed.	▪ NiW and Western Power have not entered into a metering data agency agreement during the audit period.	▪ Interviews with NiW staff	NR
447	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 6.1(1)	A network operator must, in relation to its network, comply with the agreements, rules, procedures, criteria and processes prescribed.	▪ As noted previously, NiW does not have a dedicated, overall metrology procedure. However, each of the individual Power Purchase Agreements (PPAs) cover meter installation and accuracy and, as such, form NiW's metrology procedures. ▪ There is no evidence that NiW has departure from any of the information included in the PPAs that it is required to comply with. ▪ NiW has not received any complaints from its customers related to not complying with the information set out in the PPAs.	▪ Interviews with NiW staff ▪ Power Purchasing Agreements ▪ EMG End of Month Procedure ▪ Correspondence with customers	1
448	Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 6.1(2)	A user must, in relation to a network on which it has an access contract, comply with the rules, procedures, agreements and criteria prescribed.	▪ As noted above, NiW's procedures are set out in each of the power purchase agreements it has in place with its retail customers. ▪ There is no evidence that that any user with an access contract related to NiW's network has failed to comply with the rules, procedures, agreements and criteria prescribed. ▪ In addition, there is no evidence that NiW has departure from any of the information included in the PPAs that it is required to comply with in its position as a licenced electricity retailer.	▪ Interviews with NiW staff ▪ Power Purchasing Agreements ▪ EMG End of Month Procedure ▪ Correspondence with customers	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				▪ NiW has not received any complaints from its customers related to not complying with the information set out in the PPAs.		
448A	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 6.2	A network operator must, as soon as practicable and in any event no later than 6 months after the date this Code applies to it, submit to the ERA for its approval the prescribed documents in subclauses 6.2(a)-(d).	▪ NiW does not have a dedicated, overall metrology procedure. Therefore, the document has not been submitted to the ERA for approval. Each of the individual Power Purchase Agreements (PPAs) cover meter installation and accuracy and, as such, form NiW's metrology procedures. ▪ However, under Clauses 1.3 and 6.2 of the Metering Code, a metrology procedure must be submitted to and approved by the ERA. As NiW has not completed the actions required by the Code, and it does not have an approved procedure, it is not compliant with any of the obligations that refer to a metrology procedure. ▪ Refer to Recommendation A1/2019 (Obligation 319)	▪ Interviews with NiW staff ▪ Power Purchasing Agreements	2
448B	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 6.18	A network operator must publish the document within 10 business days after notification of the ERA's approval under subclauses 6.13(1)(a)(i), 6.16 or 6.17.	▪ Refer to Obligation 448A. ▪ As this obligation has not taken place, it has not been rated	▪ Interviews with NiW staff ▪ Power Purchasing Agreements	NR
448C	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 6.19A(1)	A network operator must publish its communication rules as soon as practicable, and in any event within 6 months after the date this Code applies to it.	▪ NiW is both network operator and retailer and there is no need for communication rules as there are no other retailers on NiW's network.	▪ Interviews with NiW staff	NA
448D	Distribution Licence, condition 4.1.1	Electricity Industry Metering	Once communication rules have been published for a network under clause 6.19A, or amended under	▪ NiW is both network operator and retailer and there is no need for communication rules as there are no other retailers on NiW's network.	▪ Interviews with NiW staff	NA

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
		Code, clause 6.19B(1)	clause 6.21(3), the communication rules may only be amended thereafter in accordance with the communication rules made under subclause 6.7(1)(k) or clause 6.19C.			
449	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 6.20(4)	A network operator must amend any document in accordance with the ERA's final recommendation.	▪ NiW has not received any request by the Authority to amend any documents within the audit period.	▪ Interviews with NiW staff ▪ Correspondence from ERA	NR
450	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 6.20(5)	The network operator must publish any document that has been amended under subclause 6.20(4).	▪ NiW has not received any request by the Authority to amend any documents within the audit period. Therefore, it has not had to publish any amended document.	▪ Interviews with NiW staff ▪ Correspondence from ERA	NR
451	Distribution Licence, condition 4.1.1 Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 7.2(1)	Code participants must use reasonable endeavours to ensure that they can send and receive a notice by post, facsimile and electronic communication and must notify the network operator of a telephone number for voice communication in connection with the Code.	▪ NiW has complied with the requirements. ▪ NiW as both a licenced retailer and electricity distribution entity is able to send and receive a notice by post, facsimile and electronic communication. ▪ NiW has not received any complaints during the audit period. ▪ In the case of NiW, the same entity is both the network operator and the retailer.	▪ Interviews with NiW staff ▪ Correspondence with customers	1
452	Distribution Licence, condition 4.1.1	Electricity Industry Metering Code, clause 7.2(2)	A network operator must notify each Code participant of its initial contact details and of any change to its contact details at least 3 business days before the change takes effect.	▪ NiW has not changed its contact details during the audit period.	▪ Interviews with NiW staff	NR
453	Generation Licence, condition 4.1.1	Electricity Industry Metering	If requested by a network operator with whom it has entered into an access	▪ In the case of NiW, the onus for this obligation is on the customer, retailer and	▪ Interviews with NiW staff	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
	Retail Licence, condition 4.1.1	Code, clause 7.2(4)	contract, the Code participant must notify its contact details to a network operator within 3 business days after the request.	other external code participant entities rather than the network operator. ▪ In the case of NiW, the same entity is both the network operator and the retailer and, therefore, notification is superfluous. ▪ The network operator has made no requests during the audit period. Therefore, this obligation has not been rated.		
454	Generation Licence, condition 4.1.1 Integrated Regional Licence, condition 4.1.1 Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 7.2(5)	A Code participant must notify any affected network operator of any change to the contact details it notified to the network operator under subclause 7.2(4) at least 3 business days before the change takes effect.	▪ In the case of NiW, the onus for this obligation is on the customer, retailer and other external code participant entities rather than the network operator. ▪ In the case of NiW, the same entity is both the network operator and the retailer and, therefore, notification is superfluous. ▪ The network operator has made no requests during the audit period. Therefore, this obligation has not been rated.	▪ Interviews with NiW staff	NR
455	Distribution Licence, condition 4.1.1 Generation Licence, condition 4.1.1 Integrated Regional Licence, condition 4.1.1 Retail Licence, condition 4.1.1 Transmission Licence, condition 4.1.1	Electricity Industry Metering Code, clause 7.5	A Code participant must subject to subclauses 5.17A and 7.6 not disclose, or permit the disclosure of, confidential information provided to it under or in connection with the Code and may only use or reproduce confidential information for the purpose for which it was disclosed or another purpose contemplated by the Code.	▪ NiW has not disclosed or permitted the disclosure of confidential information provided to it under or in connection with the Code. ▪ NiW's data systems have secure access. ▪ There is no evidence of complaints about disclosure of confidential information during the audit period.	▪ Interviews with NiW staff ▪ Correspondence with customers	NR
456	Distribution Licence, condition 4.1.1 Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 7.6(1)	A Code participant must disclose or permit the disclosure of confidential information that is required	▪ NiW has not disclosed or permitted the disclosure of confidential information provided to it under or in connection with the Code. ▪ NiW's data systems have secure access.	▪ Interviews with NiW staff ▪ Correspondence with customers	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
			to be disclosed by the Code.	▪ There is no evidence of complaints about disclosure of confidential information during the audit period.		
457	Distribution Licence, condition 4.1.1 Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 8.1(1)	If any dispute arises between any Code participants then (subject to subclause 8.2(3)) representatives of disputing parties must meet within 5 business days after a notice given by a disputing party to the other disputing parties and attempt to resolve the dispute by negotiations in good faith.	▪ There have been no metering disputes within the audit period.	▪ Interviews with NiW staff ▪ Correspondence files	NR
458	Distribution Licence, condition 4.1.1 Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 8.1(2)	If a dispute is not resolved within 10 business days after the dispute is referred to representative negotiations, the disputing parties must refer the dispute to a senior management officer of each disputing party who must meet and attempt to resolve the dispute by negotiations in good faith.	▪ There have been no metering disputes within the audit period.	▪ Interviews with NiW staff ▪ Correspondence files	NR
459	Distribution Licence, condition 4.1.1 Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 8.1(3)	If the dispute is not resolved within 10 business days after the dispute is referred to senior management negotiations, the disputing parties must refer the dispute to the senior executive officer of each disputing party who must meet and attempt to resolve the dispute by negotiations in good faith.	▪ There have been no metering disputes within the audit period.	▪ Interviews with NiW staff ▪ Correspondence files	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
460	Distribution Licence, condition 4.1.1 Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 8.1(4)	If the dispute is resolved by representative negotiations, senior management negotiations or CEO negotiations, the disputing parties must prepare a written and signed record of the resolution and adhere to the resolution.	▪ There have been no metering disputes within the audit period.	▪ Interviews with NiW staff ▪ Correspondence files	NR
461	Distribution Licence, condition 4.1.1 Retail Licence, condition 4.1.1	Electricity Industry Metering Code, clause 8.3(2)	The disputing parties must at all times conduct themselves in a manner which is directed towards achieving the objective in subclause 8.3(1).	▪ There have been no metering disputes within the audit period.	▪ Interviews with NiW staff ▪ Correspondence files	NR
Electricity Industry (Network Quality and Reliability of Supply) Code						
462	Distribution Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 5(1)	A distributor or transmitter must, as far as reasonably practicable, ensure that electricity supply to a customer's electrical installations complies with prescribed standards.	▪ NiW has as far as is reasonably practicable, ensured that the electricity supply to its customers' electrical installations has complied with the prescribed standards during the audit period. ▪ The power quality survey completed during the audit period show compliance with the voltage fluctuation and harmonic requirements included in Clauses 6 and 7 of the Code. The survey was completed to the current AS 61000 standard. ▪ As was observed in the previous audit report, standards are agreed with NiW's retail customers in the PPAs and these specify the relevant standard that was in place at the time, AS 2279). However, although the most recent versions of the PPAs are dated 2014, they still refer to the now-replaced AS. ▪ The old Australian standard (AS2279) uses a different method for voltage flicker	▪ Interviews with NiW staff ▪ Hahn Electrical - PQ Analysis Survey Report 2017	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				and less detail for harmonics. The old Australian standard also has a more demanding total harmonic level than the Code. **Recommendation A3/2019** ▪ NiW's PPAs have not been renewed during the audit period meaning that there has not been an opportunity to update the out-of-date references to the previous Australian Standard. Therefore, we recommend that NiW reviews and updates the references to AS 2279 when the PPAs are next updated.		
463	Distribution Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 8	A distributor or transmitter must, so far as reasonably practicable, disconnect the supply of electricity to installations or property in specified circumstances, unless it is in the interest of the customer to maintain the supply.	▪ There have been no disconnections for network quality and reliability of supply issues during the audit period.	▪ Interviews with NiW staff ▪ Correspondence files ▪ Power Purchasing Agreements	NR
464	Distribution Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 9	A distributor or transmitter must, as far as reasonably practicable, ensure that the supply of electricity is maintained and the occurrence and duration of interruptions is kept to a minimum.	▪ NiW has ensured that the supply of electricity has been maintained and the occurrence and duration of interruptions has been kept to a minimum. ▪ There are heavy PPA financial penalties imposed for any interruptions to supply. ▪ NiW maintains a log of its interruptions to supply. During the 4 year reporting period, as set out in Schedule 1, cl 13 of the *Network Quality and Reliability Code 2005*, the northern system had 33 interruptions, and the southern system had 15 interruptions. ▪ The statistics for the interruptions for this period is as follows:	▪ Interviews with NiW staff ▪ Incident logs and reports 2016/2017/2018/2019 ▪ Correspondence files ▪ Power Purchasing Agreements	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				– Average length of interruption: 150 minutes – Average no. of interruptions pa: 12 – Average Supply availability percentage: 99.91% – Average total length of interruptions pa 1,842 minutes ▪ The interruptions have been minor and response is in line with service levels expected for the number and size of customers and network. ▪ There is a requirement for mine production to keep interruptions to a minimum.		
465	Distribution Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 10(1)	A distributor or transmitter must, so far as reasonably practicable, reduce the effect of any interruption on a customer.	▪ NiW aims to minimise the effect of any interruption on the customer and there are PPA financial penalties imposed for any interruptions to supply. ▪ Planned outages are coordinated with mine production/shutdowns. Any unplanned outages are restored as soon as reasonably practicable and as expected for a radial system. ▪ There is no remote switching on the network and personnel are required to travel to the site for local switching operations. This impact to customers is reduced by having on call personnel with vehicle access.	▪ Interviews with NiW staff ▪ Incident logs and reports 2016/2017/2018/2019 ▪ Correspondence files ▪ Power Purchasing Agreements	1
466	Distribution Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 10(2)	A distributor or transmitter must consider whether, in specified circumstances, it should supply electricity by alternative means to a customer who will be affected by a proposed interruption.	▪ NiW's networks are essentially radial and there is no backup for line failures. There have been no requests for standby or alternative supply due to shutdown during the audit period. These circumstances are very unlikely as planned outages are coordinated with mine shutdowns.	▪ Interviews with NiW staff ▪ Incident logs and reports 2016/2017/2018/2019 ▪ Correspondence files ▪ Power Purchasing Agreements ▪ Schematic drawings	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
468	Distribution Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 13(2)	A distributor or transmitter must, so far as reasonably practicable, ensure that customers in specified areas do not have average total lengths of interruptions of supply greater than specified durations.	▪ During the 4 year reporting period, as set out in Schedule 1, cl 13 of the *Network Quality and Reliability Code 2005*, the average length of interruption of supply to has been 150 minutes. This is less than the 290 minute requirement outlined under this section of the Code.	▪ Interviews with NiW staff ▪ Incident logs and reports 2016/2017/2018/2019 ▪ Correspondence files ▪ Power Purchasing Agreements	1
469	Distribution Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 13(3)	The average total length of interruptions of supply is to be calculated using the specified method.	▪ NiW creates an incident log every time there is an incident and an interruption to the supply. Interruption times can be ascertained from the incident logs and this information is recorded in spreadsheet for reporting purposes. NiW confirmed that it undertakes calculation of interruptions annually as required. ▪ The Electricity Industry Network Quality and Reliability of Supply Code - Reporting Requirements spreadsheet records the following interruption information: – Date – Initial loss of supply (LOS) time – Switching Operator – Grid – From substation – To substation – Circuit breaker – Client – Number of customers – Nickel West Initiated Outages Planned (Pl) /Unplanned (Un) – Timely notice to customer – Voltage level (kV) – Restoration	▪ Interviews with NiW staff ▪ Incident logs and reports 2016/2017/2018/2019 ▪ Electricity Industry Network Quality and Reliability of Supply Code - Reporting Requirements spreadsheets ▪ Power Purchasing Agreements	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
				– Circuit breaker – Downtime – Origin of Fault – Fault Symptom – Fault Cause – Forecast above 30dec C? – Permitted duration(Clause 11) – Down time (Minutes) – Explanation – Customer minutes of down time ▪ During the 4 year reporting period, as set out in Schedule 1, cl 13 of the *Network Quality and Reliability Code 2005*, the average length of interruption of supply to has been 150 minutes. This is less than the 290 minutes requirement outlined under this section of the Code.		
470	Distribution Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 14(8)	A distributor or transmitter must, on request, provide to an affected customer a free copy of an instrument issued by the Minister and of any notice given under section 14(7) of the *Electricity Industry (Network Quality and Reliability of Supply) Code 2005*.	▪ NiW has not received any requests to provide to an affected customer a free copy of an instrument issued by the Minister and of any notice given under section 14(7) of the Code.	▪ Interviews with NiW staff ▪ Correspondence files	NR
471	Distribution Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 15(2)	A distributor or transmitter that agrees with a customer to exclude or modify certain provisions must set out the advantages and disadvantages to the customer of doing so in their agreement.	▪ Provisions related to quality and reliability standards are set out in each of the PPAs. ▪ However, as there have not been any new agreements during the audit period, this obligation has not been rated.	▪ Interviews with NiW staff ▪ Power Purchasing Agreements	NR

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
477	Distribution Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 23(1)	A distributor or transmitter must take all such steps as are reasonably necessary to monitor the operation of its network to ensure compliance with specified requirements.	▪ NiW has taken all such steps as are reasonably necessary to monitor the operation of its network to ensure compliance with the specified requirements. ▪ The southern system is part of the BHP Billiton mine SCADA. The southern network is not continuously monitored in real time by an operations room dedicated to the network but by is monitored by the mine site operations centre. Alarms or faults are relayed to network staff by mobile telephone. ▪ The northern system is not monitored by the network operator. Outages are reported quickly for the network operator staff to respond. This meets the reasonably necessary requirements. ▪ Another network operator monitors the upstream supply and endeavours to notify of any failures and interruptions. Repair work is carried out by contractors. ▪ The reporting requirements associated with this obligation do not apply as there are no small use customers.	▪ Interviews with NiW staff ▪ Incident logs and reports 2016/2017/2018/2019 ▪ Network schematics ▪ Site inspections ▪ Power Purchasing Agreements	1
478	Distribution Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 23(2)	A distributor or transmitter must keep records of information regarding its compliance with specific requirements for the period specified.	▪ NiW has an internal system for record keeping. ▪ However, the time requirement for this obligation only applies to reports under clause 27, which in turn are not required as there are no small use consumers. ▪ NiW maintains power quality surveys and incident logs in relation to the obligations under clause 23(1)(a).	▪ Interviews with NiW staff ▪ Incident logs and reports 2016/2017/2018/2019 ▪ Network schematics ▪ Site inspections ▪ Power Purchasing Agreements ▪ Hahn Electrical Contracting, BHP Billiton, Power Quality Analysis Reports	1

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
479	Distribution Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 24(3)	A distributor or transmitter must complete a quality investigation requested by a customer in accordance with specified requirements.	▪ NiW completes quality investigations requested by its customers in accordance with specified requirements. ▪ During the audit period, there has not been any requests by any customers for a quality investigation. Therefore, this obligation has not been rated.	▪ Interviews with NiW staff ▪ Power Purchasing Agreements	NR
480	Distribution Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 24(4)	A distributor or transmitter must report the results of an investigation to the customer concerned.	▪ During the audit period, there has not been any requests by any customers for a quality investigation. Therefore, this obligation has not been rated.	▪ Interviews with NiW staff	NR
483	Distribution Licence, condition 4.1.1 Integrated Regional Licence, condition 4.1.1 Transmission Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clauses 26(1) and (2)	A distributor or transmitter must arrange for an independent audit and report on its systems for monitoring, and its compliance with specific requirements. This is to be carried out in respect of the operation of such systems during each reporting period of 3 years or as specified by the ERA.	▪ This obligation only applies to distribution licence holders supplying small users. ▪ NiW does not supply any small use customers. Therefore, this obligation is not applicable to NiW.	▪ Interviews with NiW staff	NA
483A	Distribution Licence, condition 4.1.1 Integrated Regional Licence, condition 4.1.1 Transmission Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clauses 26(3) and (4)	A distributor or transmitter must publish the audit report not later than 1 October following the reporting period.	▪ This obligation only applies to distribution licence holders supplying small users. ▪ NiW does not supply any small use customers. Therefore, this obligation is not applicable to NiW.	▪ Interviews with NiW staff	NA
483B	Distribution Licence, condition 4.1.1 Integrated Regional	Electricity Industry (Network Quality and	A distributor or transmitter must give a copy of its audit report to the Minister and the ERA not less than	▪ This obligation only applies to distribution licence holders supplying small users.	▪ Interviews with NiW staff	NA

2018 No.	Licence Condition	Obligations under Condition	Description	Observations – Cardno 2018 Audit	Evidence (Include Contact)	Compliance Rating
	Licence, condition 4.1.1 Transmission Licence, condition 4.1.1	Reliability of Supply) Code, clause 26(5)	7 days before it is published.	▪ NiW does not supply any small use customers. Therefore, this obligation is not applicable to NiW.		
484	Distribution Licence, condition 4.1.1 Integrated Regional Licence, condition 4.1.1 Transmission Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 27(1)	A distributor or transmitter must annually prepare and publish a report about its performance in respect of each year ending on 30 June.	▪ This obligation only applies to distribution licence holders supplying small users. ▪ NiW does not supply any small use customers. Therefore, this obligation is not applicable to NiW.	▪ Interviews with NiW staff	NA
485	Distribution Licence, condition 4.1.1 Integrated Regional Licence, condition 4.1.1 Transmission Licence, condition 4.1.1	Electricity Industry (Network Quality and Reliability of Supply) Code, clause 27(3)	A distributor or transmitter must give a copy of its report about its performance to the Minister and the ERA not less than 7 days before it is published.	▪ This obligation only applies to distribution licence holders supplying small users. ▪ NiW does not supply any small use customers. Therefore, this obligation is not applicable to NiW.	▪ Interviews with NiW staff	NA

5.2 Asset Management System Review

Table 5-2 provides detailed commentary based on the findings observed during the audit process.

Table 5-2 Asset Management System Review Observations

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
Asset Planning – Overall Rating: A1		
▪ Asset management plan covers key requirements ▪ Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning ▪ Service levels are defined ▪ Non-asset options (e.g., demand management) are considered ▪ Lifecycle costs of owning and operating assets are assessed ▪ Funding options are evaluated ▪ Costs are justified and cost drivers identified ▪ Likelihood and consequences of asset failure are predicted ▪ Plans are regularly reviewed and updated	**Overview of NiW's Electricity Assets and Operations** ▪ WMC Resources Limited (WMC), who were taken over by BHP Billiton in 2005, originally built, owned and maintained the generation and distribution systems required to operate its assets in Western Australia. ▪ Since 2005, NiW has since sold its generation assets and the majority of its distribution assets to Transalta Energy Australia, trading as Southern Cross Energy. The remaining NiW distribution system includes substations and 67 kilometres of distribution lines that supply customers. This distribution system is divided into the Northern Electrical System (NES) and the Southern Electrical System (SES). ▪ The remaining network includes 66kV, 33kV, 22kV, 11kV, 6.3kVand 415V electricity distribution systems. Generally these include the following assets: – Distribution overhead lines and power cables – Substations including associated switchgear, plant, buildings and civil infrastructure – Protection, control, metering and communication equipment – Related functions and facilities such as spares, maintenance and test equipment – Asset management processes and systems such as Supervisory Control And Data Acquisition (SCADA) and asset management information systems (e.g. SAP). ▪ The operations are powered by local generation and are connected to the Transalta owned transmission network. The NiW distribution network that supplies its own mine sites also supplies power to third party mining operations. Therefore NiW is a network operator as per the Distribution and Retail Licence definitions for those parts of the network where it supplies power to these customers. ▪ In the northern system, NiW hold a retail licence with one customer. NiW own the metering equipment and subcontract the supply and distribution to the customer. **Overview of NiW's Asset Planning** ▪ BHP's Corporate Alignment Planning – Our Requirements document sets out the overall framework for NiW's asset planning activities. The corporate alignment planning (CAP) process is fundamental to creating alignment across the BHP's entire organisation. The process guides the development of plans, targets and budgets to help the organisation decide where best to deploy its capital and resources.	▪ NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017 ▪ BHP - Corporate Alignment Planning - Our Requirements, Version 7.2, August 2018 ▪ NiW 5 Year Plan FY20-24 Context Statement ▪ BHP Finance 5 Year Plan Timetable (Calendar of event and milestones) ▪ Northern Regions FY 20 pipeline prioritised Rev D3 Capital Planning Spreadsheet ▪ Agnew Gold Mining Company PPA, 27 May 2014 ▪ Lightning Nickel PPA, 4 February 2014 ▪ Mincor Resources PPA, 4 February 2014 ▪ Cherish Metals and Donegal Lanfranchi PPA, 17 September 2014 ▪ St Ives Gold Mining Company PPA, 30 October 2013 ▪ Description of Metering document ▪ Opex budget for NPI 2YB19 ▪ Maintenance Plans list of SAP work orders spreadsheet ▪ Examples of EMG North and South monthly meeting minutes

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ As such, NiW's asset planning is undertaken within the context of the business as a whole. As the primary business of Nickel West are nickel mining and processing, the activities undertaken with respect to its electricity distribution and retail licences are predominantly governed by its mining operations and those of its customers. The distribution and retailing of electricity is not considered core business. ▪ NiW has a 5 Year Plan FY20-24 Context Statement that: – Outlines the intent of the 5 year Corporate Alignment Planning (CAP) cycle process. – Provides strategic context, key priorities, guidance and assumptions. – Provides guidance on preparation milestones. – Outlines the processes to be followed and key accountabilities. ▪ Within the five year plan, the Year 1 plan and budget is always very clear, as, to a lesser extent is Year 2. Years 3 to 5 include potential projects and estimated expenditure but these are less firm at present but become more defined as they move forwards. ▪ Developments in the mining business can be unpredictable and optimal utilisation over the life cycle planning period is generally more difficult to establish. As a result, NiW's asset management activities differ from what would be expected by the more traditional power utility companies serving residential populations. ▪ The main function of the NiW distribution network is to provide sufficient electrical power to the NiW operations and customers. As such, the network will only grow on demand due to expansion of customer activities. New customers typically do not want to be supplied by NiW as they could install state of the art assets and be supplied by TransAlta instead. ▪ Since the 2016 asset management review, NiW's customer base in the Southern Electrical System has reduced by one. Agnew is no longer supplied by NiW and is moving to providing itself with power via a combination of diesel generators and solar power. ▪ The controls that are in place to manage future demand versus available capacity are based on demand planning. NiW's customers typically provide 3 to 6 months' notice for advice on significant changes in the forecast electricity supply. ▪ The Power Purchase Agreements between NiW and its electricity customers requires a capacity plan to be provided by individual customers, which allows NiW to undertake future demand planning. ▪ However, under the current economic climate it is unlikely that there will be any significant expansion of customers' energy requirements. ▪ NiW holds a distribution licence for the town of Leinster but there are no retail customers. The power is distributed and supplied to Company-owned facilities at no cost. The town was being considered to be closed by the end of 2014, during the asset management system review period, with financial assessments of the impacts completed. However, this proposed closure is not being progressed, with an upturn in the mining operations in the area. **Asset Management Plan**	

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ NiW has an overall Asset Management Plan (AMP) related to its distribution and retailing of electricity, as required by its electricity distribution and retail licences. The AMP is included in NiW's Electrical Distribution Licence Asset Management System Document. The document also includes the Financial management and Risk Management Plans. ▪ NiW's assets are clearly defined on the schematic drawings included in the Appendices. ▪ The Asset Management Plan is the responsibility of the Registered Manager. ▪ NiW's AMP describes the systematic and coordinated activities and practices through which NiW manage its distribution network assets and asset systems, their associated performance, risks and expenditures over the life cycle of the assets. It also ensures regulatory requirements and contractual requirements for supplying power to customers are met. ▪ The prime purpose of NiW's Asset Management Plan is to ensure specific objectives related to the distribution and retail activities are achieved and hence, compliance with the requirements of its two electricity licences. ▪ The AMP has been updated during the review period, with the current document dated June 2017. The AMP has been developed to align with the ERA's asset management requirements. ▪ Based on an external review of the document, a further update of the AMP is currently being completed. NiW has a requirement to review its Asset Management System every year as part of its planned activities, with the document being updated where deemed necessary as a part of the review. **Stakeholder Engagement** ▪ Stakeholder responsibilities are provided in Table 1.2 of NiW's Asset Management System Manual. ▪ NiW's Energy Management Group (EMG) holds regular meetings with the representatives of external stakeholders (Customers/Power Provider (SCE)). These meetings are minuted and contact details for participants and key personnel are included in the minutes. The meetings cover aspects of safety, technical supply issues and developments, reliability and outage planning. ▪ NiW also meets with its customers to discuss long-term planning requirements as well as planned maintenance and shutdowns to allow NiW to schedule its own maintenance. ▪ EMG also holds regular meetings with SCE management to discuss aspects of the supply of electricity and associated technical and commercial arrangements. ▪ Examples of monthly meeting minutes were provided as evidence. **Service Levels** ▪ Service level targets are set out in Section 2.6.2 of NiW's Asset Management System Manual. The performance targets have been designed to meet NiW's business values and legislated	

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	requirements and reflect the service levels included in each of NiW's Power Purchase Agreements (PPAs). ▪ Quality and reliability of supply requirements are applicable at a customer's connection point. An overview of the connections associated with each commercial customer is set out in Table 4.3 of the Asset Management System Document. ▪ NiW's reliability of the supply requirements to its customers are set out in Table 4.1 of the Asset Management System document. NiW's supply quality requirements are outlined in Section 4.2.5 of the Asset Management System Document. **Planning Processes and Lifecycle Management** ▪ NiW's AMP specifies activities, resources, responsibilities and timescales for improving the long-term optimisation of delivering the business objectives associated with the network distribution activities. ▪ Each of the life cycle activities (acquisition, operation, maintenance, renewal/replacement and disposal), has been assessed and outlined in the AMP, allowing NiW to develop plans based on the results of a risk management process and existing maintenance programs. ▪ Potential projects are risk assessed against others at a high level with other NiW sites and rolled up to whole of BHP in order to prioritise proposed expenditure at an organization level. Capital planning is very well defined in terms of the scope for each project. The provides a transparent approach to BHP whole-of-business capital planning that includes NiW's electrical business in WA as well as all of its other sites. ▪ As noted above, the asset planning activities, including project justification, risk assessments, option analysis and funding options are generally taken with consideration to specific core business mining projects and functions rather than being related to the planning requirements and lifecycle management of the electrical assets themselves. ▪ Mining companies operate under different circumstances and, as a result, the economic lifespan of distribution assets is directly related to the profitable operation of the mine. Economic lifespan will, therefore, need to be determined for each specific situation/asset. ▪ Non-asset options are considered, as additional asset options are unlikely in the current climate, therefore making improved utilisation of existing assets the preferred solution. In addition, demand management is a preferred function of NiW's customers, most of who are on two part tariffs. ▪ The capital expenditure forecasts are drawn from mining projects, and although asset life is considered in the process, the life of the assets usually exceeds that of the overall mining project. ▪ NiW's capital expenditure estimates for major items follows a rigorous process defined in BHP's Engineering Standards. NiW standards and specifications are listed in the AMP. The distribution network covered under NiW's AMP represents only a small part of Nickel West's greater electrical network. NiW has one division responsible for the operation of the total electrical system and no clear distinction is made between budgets. For this reason, the	

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	operational budget for the distribution part of the network is an estimation derived from the total operational budget.	
Asset Creation and Acquisition – Overall Rating: ANR		
▪ Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions ▪ Evaluations include all life-cycle costs ▪ Projects reflect sound engineering and business decisions ▪ Commissioning tests are documented and completed ▪ Ongoing legal / environmental / safety obligations of the asset owner are assigned and understood	▪ Asset Acquisition is covered in Section 2.3 of NiW's AMP. ▪ The main function of the NiW's distribution network is to provide sufficient electrical power to the NiW operations and customers. Therefore, the network will only grow on demand due to expansion of operational and/or customer activities. As a result, NiW's controls that are in place to manage future demand versus available capacity are based on demand planning. ▪ The Power Purchase Agreement between NiW and its electricity customers requires a capacity plan to be provided by NiW's individual customers. ▪ During the audit period, NiW has not created or acquired any assets. During the next audit period, based on recommendations from the annual meter testing, it is expected to start to replace some of its existing meters. In addition, a refurbishment (new switchgear) project for the Lanfranchi substation and the upgrade of the Leinster switchboard are expected in the current audit period. Project evaluations have been prepared for these projects to form the capital proposal put forward for inclusion in the capital program. ▪ For the foreseeable economic climate, NiW considers that the expansion of its distribution network is unlikely to be significant. NiW's customer base has reduced by one customer during the audit period. ▪ NiW replaces assets if their performance is below minimum requirements. This is initiated by events including an irreparable failure, general wear and tear or based on the outcome of NiW's risk assessments. ▪ NiW uses standard engineering specifications to detail the technical design for the procurement of major components in its network. These specifications are reviewed regularly. The engineering specifications are listed in Section 2.3 of the Asset Management System Manual. ▪ NiW has in-house resources and access to external contactors to ensure that any asset creation projects will reflect sound engineering and business decisions. ▪ All NiW projects require environmental assessments and clearance which are covered under the project approval process. ▪ Ongoing legal / environmental / safety obligations are assigned to the asset manager and understood. The obligations are key components of new projects and are specifically addressed in the project requirements. ▪ Assets that are created or acquired go through normal NiW project initiation processes and some qualification work done on site. ▪ NiW undertakes its asset procurement activities under the BHP Billiton procurement framework. The 1SAP Basic Procurement Guide, June 2015, provides detailed information related to all steps in the procurement process.	▪ NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017 ▪ NiW – Electrical Design Criteria – DESC 300, November 2018 ▪ BHP Billiton 1SAP Basic Procurement Guide, June 2015 ▪ NiW 5 Year Plan FY20-24 Context Statement ▪ BHP Finance 5 Year Plan Timetable (Calendar of event and milestones) ▪ Northern Regions FY 20 pipeline prioritised Rev D3 Capital Planning Spreadsheet ▪ Opex budget for NPI 2YB19 ▪ NiW - Standard Engineering Specification for Distribution Transformers (SES-341), Version 6, May 2013 ▪ NiW - Standard Engineering Specification for High Voltage Outdoor Circuit Breakers (SES-362), Version 5, May 2013 ▪ NiW - Standard Engineering Specification for Electrical testing and Commissioning Stages 1 & 2 (SES-383), Version 7, May 2013 ▪ NiW - Standard Engineering Specification for Earthing Transformers (SES-385), Version 5, May 2013 ▪ NiW - Standard Engineering Specification for Overhead Powerlines up to 33kV (SES-312), Version 6, May 2013

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ Asset procurement for larger value assets is managed by NiW's procurement team. Where appropriate, preferred vendors have been set up by the procurement team. ▪ New assets are entered into the asset maintenance register (SAP) on completion of any new project. Procedures are in place to maintain and update these records in case of acquisition of new assets or decommissioning/disposal of existing assets. ▪ As a result of NiW not creating or acquiring any new assets during the audit period, this asset management component has been assigned a performance rating of Not Rated.	▪ NiW - Standard Engineering Specification for Battery and Charger units (SES-318), Version 6, May 2013 ▪ NiW - Standard Engineering Specification for High Voltage Indoor Metal Clad Switchgear (SES-330), Version 6, May 2013
Asset Disposal – Overall Rating: ANR		
▪ Under-utilised and under-performing assets are identified as part of a regular systematic review process ▪ The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken ▪ Disposal alternatives are evaluated ▪ There is a replacement strategy for assets	▪ NiW's asset disposal processes include the disposal of redundant plant. However, the most likely reason for asset disposal is asset failure as the nature of the mining industry means that it is likely that assets may be under-utilised for long periods as a result of production demand. Therefore, asset disposals are driven by lack of need for the asset rather than renewal of an asset at the end of its life. Under-utilised assets would be expected to be retained for future use and increases in mining production rather than being identified for removal and either disposal or replacement with an asset more suited to the lower demands. ▪ This disposal strategy is also applied to instances where mining operations are mothballed and placed into care and maintenance regimes, with the electricity assets maintained for the future resumption of operations. ▪ NiW's replacement strategy is also focused on asset failure. However, predicted demand and expansion of NiW's and its customers' mining operations is also taken into account. ▪ Condition assessments from NiW's asset inspection programs is also used to identify assets for replacement. ▪ When asset failures occur, they are critically examined as part of the replacement process. ▪ NiW has not disposed of any electrical assets in the Southern or Northern Systems during the review period. ▪ NiW has a Disposal Procedure that sets out the processes for disposing of assets from its sites. Specific areas outlined in the procedure include the methods of disposal available and the responsibilities and authorisations required to carry out this process. ▪ Generally, based on the asset failure disposal strategy, NiW has limited asset disposal options to evaluate. Where possible, NiW looks to sell its disposed assets to achieve an equitable resale value. Sale for scrap is the most likely option for failed plant such as transformers. Generally redundant equipment is unable to be onsold as it is typically too old and non-compliant with current standards for continued use. ▪ NiW's disposal officers are responsible for asset disposal through stores. Procedures are in place to comply with BHP's environmental and accounting requirements for the disposal of assets. The form includes the collection of asset numbers and sign-off by a Maintenance Planning Supervisor so that the asset can be updated/removed from the asset register and scheduled maintenance on the disposed asset can be stopped.	▪ NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017 ▪ NiW – Disposal Procedure, May 2013 ▪ BHP Billiton 1SAP Basic Procurement Guide, June 2015 ▪ NiW 5 Year Plan FY20-24 Context Statement ▪ Northern Regions FY 20 pipeline prioritised Rev D3 Capital Planning Spreadsheet ▪ NiW Disposals Form – February 2017

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ NiW uses an asset disposal form when disposing of low value assets, e.g. vehicles. ▪ As a result of NiW not disposing of any new assets during the audit period, this asset management component has been assigned a performance rating of Not Rated	
Environmental Analysis – Overall Rating: A1		
▪ Opportunities and threats in the system environment are assessed ▪ Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved ▪ Compliance with statutory and regulatory requirements ▪ Achievement of customer service levels	**Overview** ▪ NiW has an 'Environment' business objective "*To consider sustainability in asset management decisions and minimise risks to the environment*. ▪ NiW has a fully developed HSEC (Health, Safety, Environment and Community) management framework in place and has implemented industry approved safe work practices. The activities associated with NiW's electricity distribution network are, as a minimum, subject to the same safety requirements as its operational sites. In addition, NiW's Network Safety Regulation is applicable. ▪ To meet the current standards required, NiW follows a risk assessment in order to identify potential environmental risks and develop mitigation actions to control these risks. ▪ All NiW projects require environmental assessments and clearance. This is covered under NiW's project approval process. ▪ The decision making process for expansion of NiW's distribution network includes an environmental impact assessment. These assessments are carried out as part of the overall mine project of which the electrical component is a small part. Local environmental conditions are recorded and used for the purchasing of equipment. ▪ Given the nature of NiW's licenced electricity distribution and retail business, both opportunities and threats in the system environment are related to its own and its customer's mining operations. As noted previously, NiW's electricity asset management is generally assessed as part of overall mining operations and the feasibility of new mining projects. As such, and given mine life is often shorter than the nominal electricity asset lives, it differs from a more traditional asset management approach. **Statutory and Regulatory Requirements** ▪ Nickel West maintains a legal register which contains all relevant legislation that is applicable to its operations. ▪ To assist Nickel West with compliance to legal and other requirements, AMN Group Legal provide resources and support for various questions, approvals and stakeholder interactions. ▪ Environment obligations that arise from licenses and approvals are maintained in Land Assist. This database is used to provide a central repository for the management of these requirements. In addition, an on-line subscription to a legal obligations directory (available via the Intranet) is maintained to provide access to new and existing regulatory developments.	▪ NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017 ▪ NiW HSEC Performance Report. April 2019 ▪ NiW Environmental Management Plan, December 2017 (NIW-HSEC-PLN-001) ▪ NiW – Bridging, Overriding and Bypassing Procedure (NIW-HSEC-PRO-0033), November 2017 ▪ BHP - Corporate Alignment Planning - Our Requirements, Version 7.2, August 2018 ▪ BHP - Health, Safety, Environment and Community Event and Investigation Management – Our Requirements, Version 6.0, March 2018 ▪ BHP - Health, Safety, Environment and Community Reporting – Our Requirements, Version 6.2, March 2018 ▪ BHP – Health – Our Requirements, April 2018 ▪ NiW Breach Register ▪ Incident reports examples ▪ BHP - Isolations and Permit to Work Procedure (NIW-HSEC-PRO-0027), Version 2.2, December 2017

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ The HSEC Licences and Approvals procedure ensures the management of HSEC regulatory licences and commitments, including the provision of reminders for key dates, the payment of licence fees and recording of compliance. ▪ Nonconformity, corrective and preventative action, related to HSE issues, is managed in accordance with the Nickel West HSEC Event Reporting and Investigation procedure. ▪ Environment monitoring is completed across Nickel West to satisfy legal and other obligations and is undertaken according to the relevant standards. The monitoring of Environment aspects is captured in the Environment Monitoring procedure. ▪ Reporting health, safety, environment and community significant events is covered in BHP Billiton's Health, Safety, Environment and Community Reporting - Our Requirements, March 2018. **Performance/Service Standards** ▪ Service level targets are outlined in Section 2.6.2 of NiW's AMP and these reflect the service levels included in each of NiW's Power Purchase Agreements (PPAs) and the requirements specified in the relevant regulations and industry codes of practice. ▪ NiW has seven business objectives that relate to achieving performance standards. It has: – A 'Quality' business objective 'To meet the power quality requirements as specified in the Electricity Regulations and in applicable industry codes of practice.' – A 'Capacity' business objective 'To endeavour to meet current and future customers demand whilst at the same time meeting the specified security standards in a cost effective manner.' – A 'Reliability' business objective 'To maximise reliability of supply by minimising the quantity and duration of planned and unplanned power supply interruptions.' – A 'Customer Service' business objective 'To apply a pro-active approach to customer related issues, manage customer feedback and respond to customer complaints in a timely and appropriate manner.' – A 'Safety' business objective 'To align all network activities with applicable safety legislation and NiW's applicable safety standards.' – An 'Environment' business objective 'To consider sustainability in asset management decisions and minimise risks to the environment.' – A 'Financial' business objective 'To assess life cycle costs in the asset management decision making processes and determine potential financial impact of risks.' ▪ NiW measures and monitors its asset performance by means of the following techniques: – Power quality monitoring program – Power system load flow and protection studies	▪ NiW - Leinster Processing Emergency Management Plan Part 2, Version 1, November 2018 ▪ NiW - Management of Controlled Documents (NIW-MGT-PRO-0001), Version 6, April 2018 ▪ NiW - NKK Emergency Management Plan Part 2, Version B, November 2017 ▪ NiW - Bridging, Overriding and Bypassing Procedure, Version 1, November 2017 ▪ NiW - Emergency Management Plan Part 1 (NIW-HSEC-PRO-008), Version 3, July 2017 ▪ NiW - Environment Management Plan (NIW-HSEC-PLN-001), Version 1.4, December 2017 ▪ BHP - Health - Our Requirements, Version 6.2, April 2018

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	– Outage recording – Customer feedback – Operational cost accounting – Incident registration ▪ Each of these techniques is directly associated with NiW's defined business values and objectives. NiW controls and optimises its asset performance through the application of its risk management process. ▪ Table 2.1 in the AMP sets out the service target levels for different attributes against each of NiW's business objectives. **Customer Complaints & Service Levels** ▪ As the span of NiW's distribution network and the number of customers is considered to be too limited to justify the operation of a fully equipped call centre, customer feedback is achieved through the use of a simplified communication channel that meets specified requirements and is accepted by customers. ▪ NiW's management of customer feedback includes: – The recording of customer comments and complaints – NiW field service details are available to all customers – Maintenance manager phone number publicly listed (Leinster Township) – Regular meetings which customers may attend ▪ NiW has a complaint procedure in place to address complaints for all customer groups and any identified power quality non-compliances are recorded as part of the overall risk management procedure. ▪ NiW investigates all customer complaints and the results communicated back to the customer. Where required, distribution networks are repaired or upgraded as appropriate. **Environmental Management** ▪ The requirements of the Environment Management System at Nickel West are set out in the Environment Management Plan (NIW-HSEC-PLN-001). ▪ The Plan is included in the Asset Management System Manual and outlines the overall Environmental Management System, Framework and Policy, and the legal and other requirements. ▪ NiW's activities associated with its electricity distribution network are, as a minimum, subject to the same environmental requirements as the NiW operational sites. Environment objectives and targets are established as per the Nickel West planning process.	

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ Taking environmental risks into consideration during the planning, engineering and acquisition stage of an assets enables NiW to select equipment with minimal impact on the environment. ▪ The Plan also includes a section on Risk Management that outlines the Environmental Risk Register as well as the risks associated with land management, water management, air emission management, waste management and compliance management. References and related documents are included in Section 16 of the Plan. ▪ To meet current standards, where appropriate, NiW's risk assessment process is followed to identify potential environmental risks and mitigation plans are developed to control these risks. ▪ Environment objectives and targets are established as per the NiW's planning process in compliance with Legislative and BHPB Our Requirements; Corporation Alignment Planning, Environment Requirements. These business level objectives are identified in the NiW 5 year plan and annual HSEC plan on a page. ▪ Nickel West maintains a Risk Register that identifies the environment aspects associated with each Operation. ▪ The Nickel West Environment Risk Registers are reviewed on an annual basis. The review is completed with a range of skilled and experienced people, and people with a direct and indirect influence on environment impact. ▪ The Nickel West HSE Analysis & Improvement SI is the nominated management representative who is responsible and has authority for: – Ensuring that an environmental management system is established, implemented and maintained in accordance with the requirements of AS/NZS ISO14001:2004; and – Reporting to top management on the performance of the environmental management system for review, including recommendations for improvement. ▪ A review of NiW's Environment Management System Management is completed annually with the Nickel West HSEC Lead Team. The outcomes from the annual review are included in the Annual Environmental Report submitted to the Department of Environment Regulation. ▪ Environmental performance is reported monthly in the HSEC Performance Report. This includes reporting on environmental events, community complaints, water use and greenhouse gas emissions. The reporting is by NiW site and so the electrical distribution component of the reporting will be included but is grouped together with the rest of NiW operations.	
Asset Operations – Overall Rating: A1		
▪ Operational policies and procedures are documented and linked to service levels required ▪ Risk management is applied to prioritise operations tasks	**Overview** ▪ NiW's controls and optimises its asset performance using its risk management processes. ▪ NiW staff are responsible for, planning the activities, managing client communication, directing contractor staff, switching duties and ensuring a safe work environment. Contractors provide labour and equipment and work under supervision of NiW staff. ▪ NiW's networks operations section consists of approximately ten staff that performs the day to day operation of the electrical systems.	▪ NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017 ▪ Hahn Electrical - BHP Billiton PQM Accuracy Testing - Kambalda Nickel Concentrator, December 2016

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
▪ Assets are documented in an Asset Register, including asset assessment of assets' physical, structural condition and accounting data ▪ Operational costs are measured and monitored ▪ Staff receive training commensurate with their responsibilities	▪ Both Leinster and Kambalda locations have a Site Supervisor/Maintenance Manager and associated staff. An Asset Manager, who is located at the Perth head office, coordinates activities between both locations. ▪ NiW's normal distribution network operation does not require a high level of involvement of staff. Switching activities are usually initiated by maintenance requirements or emergency situations or, occasionally, requested by customers and/or SCE. **Operational/Maintenance Procedures** ▪ NiW has multiple policies and procedures for managing its distribution systems. Some procedures are statutory and these are, therefore, non-negotiable in terms of scope and frequency. In-house procedures are reviewed periodically and frequencies modified as required. In-house SAP maintenance procedures are also reviewed periodically. ▪ Section 2.4.3 of NIW's AMP outlines the Predictive Maintenance activities carried out. Preventative maintenance activities performed on NiW's distribution network include clearing vegetation under powerlines and around substations to prevent vegetation fires reaching lines. ▪ Section 2.4.4 of NIW's AMP outlines the Condition Monitoring activities carried out. These include: – Metering routine 'in situ' test and verification tests – Metering installation overall accuracy test – Line and insulator inspections – Transformer oil inspections (ground based transformers) – Protection review – Substation electrical integrity inspections. – Power Quality Measurements. ▪ NiW has a 52 Weekly Testing and Calibration of Power Meters procedural form for planned maintenance that is designed to eliminate/mitigate failure or inaccurate operation of customers Power Meters. The procedure includes the safety and training requirements for carrying out the associated tasks. ▪ The procedure includes sign-off by the field staff carrying out the work, the supervisor/coordinator, to confirm that the tasks have been completed by the technician to the required standard and the Planner, to confirm that the documentation and tasks have been completed to the standard required by the business process. ▪ NiW has a Transformer Oil Sampling pro forma that is completed during oil testing. ▪ No work activities were occurring during the site visits to NiW's facilities. However, the procedure for high voltage isolations was explained. Drawings were readily available and contained detail to the expected level for isolations. **Power Quality Monitoring**	▪ Hahn Electrical - BHP Billiton PQM Accuracy Testing - Kambalda Nickel Concentrator, January 2018 ▪ Hahn Electrical - BHP Billiton PQM Accuracy Testing - Kambalda Nickel Concentrator, January 2019 ▪ Functional Location Structure: Structure List examples in 1SAP ▪ Energy Data Verification Request Form ▪ Priority Restoration Register Memo, 19 August 2013 ▪ NiW Metering Standing Data Register ▪ Reconciliation spreadsheets for planned and scheduled electrical work ▪ Maintenance Plans for Leinster Town Electrical Assets ▪ BHP Leinster Town Line Maintenance contract work ▪ Purchase order for Leinster Town Line Maintenance contract work ▪ Summary of repairs required and photos for Leinster Town Line Maintenance contract work ▪ Examples of 1SAP Weekly Work Management Report ▪ Examples of inspection reports, including: – Oil samples – Power Quality Analysis Reports – Thermographic Surveys – Transformer Inspections – 2018 Pole & Lamp Audit

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ Power quality requirements apply to the 'connection points' at a customer's premises as these points determine the transfer of ownership and responsibility from network operator to customer. ▪ NiW's 'Quality' business objective is '*To meet the power quality requirements as specified in the Electricity Regulations and in applicable industry codes of practice*.' ▪ Details of NiW's power quality monitoring program are recorded throughout the AMP. ▪ A registration system is used to store the results from power quality measurements and to record and manage power quality complaints. Information from this database is available for annual reporting and auditing purposes. ▪ NiW is required to annually report on its quality and reliability performance. For Power Quality (PQ) the two areas of performance are: – The results of PQ monitoring. – The number of customer PQ complaints received. ▪ NiW has a key performance indicator related to the number of (recognised) power quality complaints. Complaints are attributed to the parameters they relate to (e.g. frequency, steady state voltage level, voltage fluctuations and harmonic voltages). ▪ NiW uses PQ monitoring to pro-actively identify situations where poor power quality could potentially cause customer complaints. ▪ NiW's power quality risk levels are based on the maximum allowed values and these are set out in the AMP. **Metering** ▪ NiW's metering is generally at the point of connection. However, a few exceptions exist as a result of the topology of the network and the customer locations after the sale of the assets to junior miners. Each customer was aware of the metering facilities and agreed to these. ▪ NiW does not a formal metering procedure. Any new installations would be negotiated with the customer to suit particular supply needs and arrangements. The basis for arrangements would be the *Metering Code 2012* and associated legislation. ▪ NiW's only customer in the Northern System is Agnew Gold Mine. The metering is owned and operated by TransAlta as they are the network operator. The metering was installed before the code and is covered by agreement in a PPA contract. ▪ Similarly, the metering in the Southern System was installed before the Metering Code came into effect and is covered by agreement in the PPAs contracts NiW has in place with its customers. ▪ NiW's meters are generally inside locked substations or within the mine site controlled access areas. Where possible meters are also password protected. ▪ Metering data is transmitted over internal mine communication networks and does not rely on open public (Telstra) communications links.	– 2019 Pole & Lamp Audit – Arc Flash Study – Example of Asset Inspection Reports – Maintenance Performance KPI Reports ▪ Asset Defects Register ▪ NiW Procedure for Lifting Operations (NIW-HSEC-PRO-0025), Version 1.4, October 2018 ▪ NiW – Engineering Guideline for Arc Flash Hazard Assessment and Application of Controls (GL076), Version 2, May 2013 ▪ NiW – Guideline for Maintenance and Testing of High Voltage Oil Filled Transformers > 500kVA (GL-301), Version 3, May 2013 ▪ NiW – Guideline for Maintenance and Testing of High Voltage Switchgear (GL-302), Version 3, January 2015 ▪ NiW – Electrical PPE and Test Equipment (NIW-IOPS-PRO-0001), Version 0, March 2018 ▪ NiW – Nigh Voltage Isolation and Access (NIW-NOW-PRO-0005), Version 8, June 2017 ▪ Equipment Work Procedure - 4 weekly electrical inspection for Redross switchyard ▪ Equipment Work Procedure - 4 weekly electrical inspection for batteries in external subs ▪ Equipment Work Procedure - 4 weekly electrical inspection for Lanfranchi switchyard

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ Collection of data is continuously logged to a central data base and is available to the last ½ hour interval on demand. ▪ NiW does not have any "Small Use" or "Contestable" customers. **Shutdowns** ▪ The majority of NiW's network maintenance work requires equipment to be de-energised. If continuous supply is required a backup facility may need to be supplied and installed. ▪ The predominantly radial network configuration of NiW's distribution systems limits operational flexibility. Alternative power can only be supplied via stand-by or mobile generation. However, as this is a costly option, it is not NiW's preferred approach for maintenance activities. ▪ NiW's most cost effective option is to carry out maintenance activities during planned shutdowns as required by mine production outages. ▪ Once NiW has determined its maintenance activities, detailed scheduling is prepared in accordance with the planned shutdown schedules. NiW has regular meetings with its customers and discussion of shutdown planning is documented and outages are scheduled to minimise disruption to customers. In some cases SCE is also involved in the planning of outages. **Asset Management System** ▪ NiW's asset maintenance is scheduled in SAP and the output is a work order for a task. Each work order has been risk assessed and the frequency of the task is associated with the risk. ▪ NiW's assets are defined on drawings and these are readily available from the corporate information system. **Risk Management** ▪ Each power interruption is subject to a risk assessment. This risk assessment is part of NiW's process to analyse the root cause of interruptions and to determine whether or not the particular circumstances are likely to recur and result in a similar interruption. In case of recurrence, immediate mitigation measures are established and implemented. ▪ Loss of supply data is collected by NiW and registered in an IT based system as part of a mandatory procedure. The data collected is used to enable NiW to establish an annual risk assessment for its assets. ▪ The process to manage the risks associated with all bridging, overriding and bypassing activities is described in the Bridging, Overriding and Bypassing Procedure. The procedure outlines the minimum operational requirements to manage the risks **Asset Register**	▪ Equipment Work Procedure - 52 weekly electrical inspection for Redross switchyard ▪ Equipment Work Procedure 52 weekly electrical inspection for Lanfranchi switchyard ▪ NiW – Work Description - Inspect Power Poles (12monthly) – Checklist ▪ 52W Power Quality Survey – Leinster Town Work Instruction ▪ Examples of EMG North and South monthly meeting minutes

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ Detailed technical data for electrical distribution equipment is currently stored in NiW's asset data register. NiW utilises SAP as their ERP (Enterprise Resources Planning) application to record numerical equipment data. ▪ The asset data recorded in the asset register includes asset type, location, material (where applicable), plans of components (where applicable), asset condition and accounting data. Assets in the field are physically tagged with the asset ID number and key asset information. ▪ The distribution system assets are documented in a spreadsheet that is held on the corporate computer network. ▪ Graphical equipment data is recorded on drawings in a drawing library. ▪ Procedures are in place to maintain and update these records in case of acquisition of new assets or decommissioning/disposal of existing assets. The asset register is updated by a site based person if change occurs. Personnel with the appropriate computer access level are able to access the assets document. **Asset Operation and Maintenance Costs** ▪ NiW's Operating expenditure budgets include costs associated with the: – Operation of existing assets. – Maintenance of existing assets. ▪ NiW's opex budget planning follows a rigorous process and is carried out in accordance with various NiW standards and procedures. The operating cost finances are generally drawn from consolidated budgets with the mining plants. ▪ The distribution network covered under the AMS is a small part of Nickel West's greater electrical network. There is one division responsible for the operation of the total electrical system and no clear distinction is made between budgets. For this reason the operational budget for the distribution part of the network is an estimation derived from the total operational budget. ▪ NiW prepares its operating budgets annually for the following five financial years with greater accuracy given to the first financial year. A Business As Usual approach is taken for the overall electricity operations and maintenance based on the historic trends. This includes the costs for the assets associated with the licensed distribution activities but is rolled up and reported for the whole-of-business electricity requirements. ▪ Completed work orders capture the costs by the functional location recorded in SAP. This includes labour and material costs. NiW's business partners in the BHP Finance department are responsible for monitoring and reporting on the incurred costs. As the costs for the licenced electricity distribution are small relative to NiW's overall operating costs for each of the associated sites, the costs information generally is not used as a measure of performance. ▪ NiW compares the budget and actual revenues and costs on a monthly basis through variance analysis. Forecasts are adjusted in order to provide more accurate projections for the remainder of the period.	

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	Staff Training ▪ NiW's staff receive training commensurate with their responsibilities. Refresher training is completed where required. ▪ Each member of staff has an individual training record that identifies training requirements and includes copies of certification. ▪ Staff training is managed through BHP's corporate learning management system portal, which tracks and records training completed and required. ▪ Training is completed both in-house and through the use of external training, as may be required. **Staff Resourcing** ▪ NiW's normal distribution network operation does not require a high level of involvement of staff. Switching activities are usually initiated by maintenance requirements or emergency situations or, occasionally, requested by customers and/or Transalta. ▪ Nickel West operations are coordinated from the head office in Perth. The Asset Manager is located in the head office. The Leinster and Kambalda distribution network operations have their own Maintenance Managers. ▪ The resourcing for the Southern System comprises of a team of one electrical supervisor, three HV switching operators plus an electrician. The distribution work is only a portion of the duties of BHP Billiton's employees. The employees are residential and have an arrangement for managing after hours call outs. If a task requires additional resources, then contractors are used. There is a local contractor who has plant and equipment for working with power poles and aerial power lines. There are significant additional resources in Kalgoorlie which is 50km away. ▪ The resourcing for the northern system comprises of the town work being a portion of the duties of a BHP Facility Superintendent employee with five electricians reporting to them and five engineers looking after the operations and maintenance of the distribution system. If a task requires additional resources, then BHP Billiton employees from the area can be used as required. There is a contractor based in Leonora approximately 150km away who has plant and equipment for working with power poles and aerial power lines. There are significant additional resources in Kalgoorlie which is 400kM away. ▪ NiW staff are supported by contractors for labour and equipment with contractors contacted when a power interruption requires component(s) to be repaired or replaced. Incidents of lack of availability of a contractor have been experienced which leads to an increase in outage time. ▪ In addition to contractor support, NiW has a formal agreement with Transalta in place for breakdown support at Leinster. **Recommendation R1/2019**	

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ Although the staff resourcing is generally considered appropriate for managing NiW assets, NiW noted that its on-call arrangements in the Southern System were managed on an ad hoc basis. NiW was looking to change the arrangement to utilise external resources. We recommend that NiW looks to formalise on-call staff for out-of-hours attendance when required. At present the responsibility appears to lie wholly with the Electrical Supervisor which poses potential risks if they are not available to respond.	
Asset Maintenance – Overall Rating: A1		
▪ Maintenance policies and procedures are documented and linked to service levels required ▪ Regular inspections are undertaken of asset performance and condition ▪ Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule ▪ Failures are analysed and operational / maintenance plans adjusted where necessary ▪ Risk management is applied to prioritise maintenance tasks ▪ Maintenance costs are measured and monitored	**Overview** ▪ NiW's AMP provides a high level description of the significant maintenance activities carried out by NiW on its electricity network. Maintenance policies and references to equipment standards are included in Section 5.3 of the AMP. ▪ NiW's asset maintenance requires close interaction with the connected customers as the radial network structure has only limited switching options. Maintenance on major equipment is generally scheduled during shutdowns of the associated mining area in order to minimise impacts on NiW and its electricity retail customers. ▪ NiW's preventive maintenance is based on maintenance intervals prescribed by manufacturers or common industry standards. ▪ NiW uses 1SAP as its main planning tool for interval based maintenance activities such as preventive maintenance and condition monitoring (e.g. asset inspections and measurements). ▪ Maintenance is performed by NiW internal resources and contractors. NiW staff are responsible for, planning the activities, managing client communication, directing contractor staff, switching duties and ensuring a safe work environment. The contractors provide labour and equipment and work under supervision of NiW personnel. **Work Orders and Maintenance Scheduling** ▪ Regular work orders are produced in SAP for maintaining the equipment. The work order includes the risk rating and this is utilised in prioritising work when scheduled manning is unavailable or a task takes longer than expected. ▪ NiW's list of work orders in SAP is extensive and involves timeframes of weekly to multi-year maintenance activities. ▪ During the site visits, we reviewed a number of recent work orders in detail and observed that they had well-documented procedures and checklists. The work order work flow was well understood by the interviewed staff. The work flow involves the supervisor reviewing the actions and results. If further actions are required, a work order is created for the specific action. ▪ A risk management procedure is used to each work order to assess the risk involved, with a structure of CET – test the risk to be assigned, CCV – verify the risk is appropriate and CCE – execute the risk assigned. No incidents have occurred during the review period, hence no changes have occurred to the risk management procedure or work orders.	▪ NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017 ▪ Hahn Electrical - BHP Billiton PQM Accuracy Testing - Kambalda Nickel Concentrator, December 2016 ▪ Hahn Electrical - BHP Billiton PQM Accuracy Testing - Kambalda Nickel Concentrator, January 2018 ▪ Hahn Electrical - BHP Billiton PQM Accuracy Testing - Kambalda Nickel Concentrator, January 2019 ▪ Functional Location Structure: Structure List examples in 1SAP ▪ Energy Data Verification Request Form ▪ Priority Restoration Register Memo, 19 August 2013 ▪ NiW Metering Standing Data Register ▪ Reconciliation spreadsheets for planned and scheduled electrical work ▪ Maintenance Plans for Leinster Town Electrical Assets ▪ BHP Leinster Town Line Maintenance contract work ▪ Purchase order for Leinster Town Line Maintenance contract work

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ During the review, we observed examples of work order lists, detailed individual work orders in 1SAP and viewed a calendar of work orders recorded against different asset types. **Asset Inspections** ▪ NiW monitors asset integrity data through regular inspection programs. The intensity of monitoring depends on the estimated risk levels. Although it does not currently maintain a single asset inspection record, inspection results are recorded as specific equipment parameters in NiW's SAP system. ▪ The regular inspections include thermographic inspections on a yearly basis of HV aerials, HV transformers and pole mounted fuses. Thermography of switchboards is no longer undertaken due to safety implications ▪ Visual inspections are carried out of all distribution equipment on a 3 monthly basis. ▪ Transformer oil sampling of ground mounted transformers is scheduled for every 12 months or more frequent if required. ▪ A power quality audit is scheduled for once in every 12 months. The audit includes reviewing the loading on transformers as the air conditioning load has been increasing. ▪ Inspections of poles are managed using a dedicated spreadsheet. Inspections are prioritised, with information/notes being recorded against each asset in the spreadsheet, including where maintenance/renewal work has been identified. ▪ All transformers are inspected on a three monthly basis for oil leaks and general condition. There have been no oil leaks in the last audit period ▪ A contractor with personnel and equipment for removal of vegetation near power lines visits Leinster every 3 months with the task of managing vegetation where required. During the site visits, we did not observe any issues related to vegetation being in close proximity to the power lines. ▪ NiW's electrical equipment is either designed for an outdoor environment or enclosed with a suitable IP rating. The major electrical equipment is visually inspected every 3 months and switchboards have a detailed inspection every 12 months. During our site visits we did not observe any issues related to water affecting any of NiW's electrical equipment. ▪ The most recent power pole audit was conducted in March 2015 by Electrix during the last audit period. The audit was by a specialist company who reviewed the condition of all the wooden power poles. The review included core sampling. **Maintenance Plans** ▪ Section 2.4.3 of NiW's AMP outlines its Preventive Maintenance activities. ▪ Predictive maintenance activities are based on the outcome of the condition monitoring program and vary from year-to-year.	▪ Summary of repairs required and photos for Leinster Town Line Maintenance contract work ▪ Examples of 1SAP Weekly Work Management Report ▪ Examples of inspection reports, including: – Oil Samples – Power Quality Analysis Reports – Thermographic Surveys – Transformer Inspections – 2018 Pole & Lamp Audit – 2019 Pole & Lamp Audit – Arc Flash Study – Asset Inspection Reports – Maintenance Performance KPI Reports ▪ Asset Defects Register ▪ NiW – Guideline for Maintenance and Testing of High Voltage Oil Filled Transformers > 500kVA (GL-301), Version 3, May 2013 ▪ NiW – Guideline for Maintenance and Testing of High Voltage Switchgear (GL-302), Version 3, January 2015 ▪ NiW – Engineering Guideline for Arc Flash Hazard Assessment and Application of Controls (GL076), Version 2, May 2013 ▪ Equipment Work Procedure - 4 weekly electrical inspection for Redross switchyard ▪ Equipment Work Procedure - 4 weekly electrical inspection for batteries in external subs

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ NiW has a bush clearing program to clear vegetation under power lines and around substations to prevent it from reaching lines. Activities are scheduled annually and carried out by contractors with specialised equipment. NiW's expenditure on its bush clearing program is in the region of $20,000/year. **Customer Consultation** ▪ NiW's Energy Management Group (EMG) holds regular meetings with the representatives of external stakeholders (Customers/Power Provider (SCE)). These meetings are minuted and contact details for participants and key personnel are included in the minutes. The meetings cover aspects of safety, technical supply issues and developments, reliability and outage planning. As a result of these meetings, outages on the power system are normally discussed well in advance and, where possible, coordinated with the end users to minimise the impact to the customers. ▪ EMG also holds regular meetings with SCE management to discuss aspects of the supply of electricity and associated technical and commercial arrangements. **Interruptions to Supply** ▪ NiW uses a 'Planned Outage Notification' form to notify each individual customer in the area that will be affected by the planned interruption. ▪ Notice is provided to affected customers not less than 72 hours before the proposed interruption to the customer. ▪ As both of NiW's distribution networks are located below the 26th parallel of latitude, the length of the interruption should not exceed 6 hours. However, if the Bureau of Meteorology in Perth forecasts temperatures of 30°C or more, the maximum length of interruption should not exceed 4 hours. ▪ In terms of standards for the duration of interruptions, NiW's average total length of interruption for a customer should not exceed 290 minutes. The average is determined by taking the average of the total minutes of supply interruption over 4 consecutive years. ▪ NiW is required to take action if end user customers are affected by interruptions for more than 12 hours continuously or if the customer has in the preceding year been interrupted more than 16 times. Clause 12 of the *Network Quality and Reliability of Supply Code 2005*, which sets out the required actions for significant interruptions does not apply to NiW as it is only applies to small use customers. ▪ NiW has to pay liquidated damages under the terms of the PPA to St Ives (and to Agnew Gold Mine for the duration in the audit period that NiW was retailing to the organization). Under the terms of the PPAs in place for NiW's other customers, the requirements for interruptions relate to the standard Western Power quality of supply requirements. ▪ Any supply interruptions greater than four hours are highlighted in NiW's Electricity Industry Network Quality and Reliability of Supply Code - Reporting Requirements spreadsheet.	▪ Equipment Work Procedure - 4 weekly electrical inspection for Lanfranchi switchyard ▪ Equipment Work Procedure - 52 weekly electrical inspection for Redross switchyard ▪ Equipment Work Procedure 52 weekly electrical inspection for Lanfranchi switchyard ▪ NiW – Work Description - Inspect Power Poles (12monthly) – Checklist ▪ 52W Power Quality Survey – Leinster Town Work Instruction ▪ Examples of EMG North and South monthly meeting minutes

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ NiW has experienced two interruptions greater than 12 hours, one for an upstream pole broken in a severe weather event in the Northern System, the other resulting from the Lanfranchi feeder tripping due to an overcurrent /earth fault. ▪ To assess it performance against its reliability business objective, NiW uses key performance indicators based on: – Customer minutes lost – Length of interruption – Number of interruptions – Annual average percentage of supply **Asset Failure Analysis and Risk Assessment** ▪ Each power interruption is subject to a risk assessment. This risk assessment is part of NiW's process to analyse the root cause of interruptions and to determine whether or not the particular circumstances are likely to recur and result in a similar interruption. In case of recurrence, immediate mitigation measures are established and implemented. ▪ Loss of supply data is collected by NiW and registered in an IT based system as part of a mandatory procedure. The data collected is used to enable NiW to establish an annual risk assessment for its assets. **Maintenance Costs** ▪ Maintenance costs related to completed work orders are recorded in SAP and are reviewed by the Electrical Supervisor on a regular basis. ▪ The actual operations and maintenance costs for each year in the review period are included within the costs centres for scheduled repairs, preventative maintenance and breakdown costs. ▪ Further details of NiW's asset maintenance costs have been provided under the Asset Operations section. **Recommendation R2/2019** ▪ NiW uses paper copies of its Equipment Work Procedures and these are filled in in the field. They are kept on file but not scanned in and no data is entered back into 1SAP. Only Critical Control Executions (CCEs), which have a material risk, are scanned in electronically. We recommend that NiW investigates moving to electronic data capture to improve the quality of maintenance information that can be easily retrieved and would enable improved analysis.	
Asset Management Information System – Overall Rating: A1		

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
▪ Adequate system documentation for users and IT operators ▪ Input controls include appropriate verification and validation of data entered into the system ▪ Logical security access controls appear adequate, such as passwords and that appropriate system access and functionality is provided to users ▪ Physical security access controls appear adequate ▪ Data backup procedures appear adequate ▪ Key computations related to licensee performance reporting are materially accurate ▪ Management reports appear adequate for the licensee to monitor licence obligations	**Overview** ▪ The BHP IT department is responsible for the administration, operation and maintenance of NiW's Information Technology (IT) systems. NiW's asset management system documentation is held and managed within the BHP's corporate information system. ▪ Detailed technical data for electrical distribution equipment is currently stored in NiW's asset data register. NiW utilises SAP as their ERP (Enterprise Resources Planning) application to record numerical equipment data. ▪ NiW's graphical equipment data is registered on drawings in a drawing library. ▪ The drawings of NiW's assets are extensive. Key drawings for the southern system are maintained in the electrical supervisor's office. Key drawings for the northern scheme are maintained in the town office. ▪ NiW's drawing management involves the electrical supervisor marking up changes on drawings and submitting to the drawing office. The drawing office has procedures for drawing changes and is responsible for updating drawings on the Corporate IT network. ▪ Some paper records are used for reference when planning field work. ▪ NiW has procedures in place to maintain and update these registers in case of acquisition of new assets and decommissioning/disposal of existing assets. **Data Analysis** ▪ Data input controls focus on asset maintenance requirements but there is appropriate verification and validation of the data entered into the system, with reports being able to be run from the system to help identify any incorrectly recorded information. ▪ The key computations related to licensee performance reporting undertaken by NiW are minimal. Meter data is recorded and reported via NiW's SCADA system. Any data transferred to spreadsheets for analysis has validation checks completed. Key computations related to NiW's performance reporting appeared to be materially accurate. **Security Access** ▪ Access to the Corporate IT network is via user accounts and passwords. Access to the write to NiW's databases is also controlled through the use of passwords and changes to records are tracked. ▪ NiW's data is encrypted using AES-128 standard and stored in secure data centres or hosting facilities. Procedures are in place for user authentication, cyber security, IT risk management, incident management and disaster recovery. ▪ The IT systems are accessible via authorised computer terminals and users require a valid account and current password. The computer terminals are not available to the general public and are located in approved lockable buildings. In addition, the IT systems are remotely accessible to authorised users using a two-factor authentication system.	▪ NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017 ▪ Examples of schematic drawings and plans ▪ BHP Global Processes, Information Systems and Cybersecurity - Our Requirements, Version 6.2, 7 March 2018 ▪ Nickel West Description of Metering Overview ▪ Asset Register extracts ▪ Liquidated Damages Calculator ▪ Nickel West Metering Standing Data Register ▪ Asset Inspection Reports ▪ Maintenance Performance KPI Reports

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ Restricted access is given to authorised users of NiW's SCADA systems and Enterprise Resources Planning system 1SAP. ▪ NiW's physical security access controls are adequate, with access to the Perth offices and mine sites being by swipe card. Visitors are required to be escorted. **Data Back-Up** ▪ NiW has data recovery procedures, including operating on the Perth office server and back-up of the servers to ensure data integrity. NiW carries out daily back-ups and offsite back-up of the servers is carried out on a weekly basis. **Management Reporting** ▪ NiW's management reporting related to its electrical assets is minimal but performance recording and reporting is considered adequate for the licensee to monitor licence obligations. ▪ The performance data monitoring and reporting includes: – Number of end user customers experiencing electricity supply interruptions for more than 12 hours continuously. – Number of end user customers experiencing more than 16 electricity supply interruptions. – Number of complaints received relating supply interruption. – Capital expenditure by NiW in addressing these complaints. – Number and total amount of payments made for failure to give required minimum 72 hours' notice of planned interruptions. – Number and total amount of payments made for supply interruptions exceeding 12 hours. – Average length of interruptions to supply at customer premises expressed in minutes – Average number of interruptions to supply at customer premises – Average percentage of time that electricity has been supplied to customer premises. – Average total length of all interruptions to supply at customer premises expressed in minutes. ▪ Billing and interruptions data is collected and analysed in Perth. Expenditure data is also monitored and reported although, as noted previously, this typically relates to all of NiW's electricity activities as opposed to separating out the data only associated with its licenced distribution and retail activities. ▪ Key reports for outage logging are considered appropriate and adequate.	
Risk Management – Overall Rating: A1		

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
▪ Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system ▪ Risks are documented in a risk register and treatment plans are actioned and monitored ▪ The probability and consequence of risk failure are regularly assessed	**Overview** ▪ NiW's Risk management Plan is included in Section 4 of the Asset Management System Manual. ▪ BHP requirements for risk management are used by NiW and are applicable to the NiW electricity distribution network. In addition, NiW makes use of a Risk Management Procedure. **Policies** ▪ BHP's risk management objective states "The identification and management of all risks are central to achieving our purpose, strategy and business plans. By understanding and managing risk in a consistent way, we provide greater certainty and confidence to our employees, the communities in which we operate and our shareholders, customers and suppliers." ▪ NiW electricity distribution activities form only a small part of BHP's global business. However, the particular risk management objectives associated with these activities still have a direct relation to the corporate objectives and risk management policies. ▪ The agreed risk management policy is included in each of the PPAs that NiW has in place for each of its retail customers. ▪ NiW has a 'Safety' business objective 'To align all network activities with applicable safety legislation and NiW's applicable safety standards'. **Risk Management Process** ▪ NiW's risk management procedures have been prepared in full compliance with BHP's Enterprise Wide Risk Management (EWRM) process. ▪ The risk management process applicable to NiW's distribution and retail activities is integrated with the existing NiW risk management procedure. This procedure aligns with the Risk Management Standard ISO 31000:2009. ▪ Risk management strategies are based on maximising performance of service levels for each of NiW's seven business values. ▪ NiW uses its performance indicators as a reference to measure the performance and adequacy of controls. NiW's risk criteria are linked to these performance indicators and are used to assess the severity of potential risks in terms of likelihood and consequence. **Risk Identification** ▪ NiW identifies risks through: – Annual Risk Assessment Workshops involving management and operational staff.	▪ NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017 ▪ BHP – Risk Management – Our Requirements, Version 6.1, November 2017 ▪ BHP – Security and Emergency Management- Our Requirements, Version 6.1, November 2017 ▪ NiW Risk Management Procedure – NIW-FIN-PRO-0008 – November 2018 ▪ NiW HSEC Event Reporting & Investigation - NIW-HSEC-PRO-003 ▪ NiW NKC Electrical Equipment – Risk Management Plan Summary – Extreme and High Risks ▪ NKC Electrical Equipment – Risk Management Plan Summary – Extreme and High Risks ▪ NPI Risk Register ▪ Truscott Crisis Leaders – Report on the BHP NiW NKK Incident Management Capability as at 27 April 2017 ▪ HV Risk Mitigation Plans for: – Transformers & Compound – HV Protection Systems – HV Switchboards – HV Switchrooms – HV Switchyard Equipment ▪ LV Risk Mitigation Plans for: – LV Switchrooms – UPSs – LV MCCs – LV Switchboards

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	– Measurements of performance indicators, including power supply quality assessed against the defined quality criteria, customer complaints, equipment loads and fault current levels. – Inspection results from condition monitoring activities, which are used in conjunction with the measurements, to compare with reference values and provide an indication of the equipment condition and associated risk levels. – Loss of supply reports based on information from planned and unplanned loss of supply events. These reports allow NiW to identify risks related to reliability of supply and also an assessment of component failure data. – HSE incident reports. HSE related issues having a high priority and are addressed immediately by NiW. Lower level risks are addressed in line with NiW's business priorities. – Customer Service reports, including customer complaints are used by NiW to contribute to the risk management process. **Prioritisation of Risks** ▪ NiW uses quantitative analysis method to rank risks. Risk ranking is based on both likelihood and consequence scores. The process and the likelihood and consequence scores are set out in the BHP – Risk Management – Our Requirements document. ▪ Risks are assessed on the Severity of the impact and the Likelihood of occurring as per BHP's requirements for risk management. Impact categories may include Health & Safety, Environment, Community, Reputation, Legal and Financial. Likelihood categories may include very rare, rare, unlikely, possible, likely and almost certain. ▪ The Likelihood assessment measure the chance of the impact at the severity which is being used in the calculation of the Residual Risk Rating, taking into account the effectiveness of existing preventative controls. ▪ NiW develops and implements cost-effective treatments or controls to increase potential benefits and reduce potential negative impacts. Risk ratings with proposed controls are re-assessed to ensure that residual risks are within expectable limits. ▪ NiW monitors and reviews the risks and the effectiveness of the treatment measures. Ongoing risks are recorded in a Risk Register which is reviewed at regular intervals and updated when additional risks are identified. **Risk Register** ▪ NiW uses GRC (Governance Risk and Compliance), an electronic database used to record significant risks affecting the overall business. In addition, separate risk registers are developed for each site. The registers down differentiate between NiW's own electrical activities and those associated with the distribution licence requirements.	

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	Risk Management Plan ▪ The Risk Management Plan (RMP) included in NiW's AMP has been derived from BHP's corporate requirements and adapted to the particular circumstances of NiW's electrical distribution and retail activities. ▪ The RMP addresses circumstances and events that could adversely affect performance by providing mitigation actions that translate into operational plans. ▪ NiW's RMP reference the corporate process and the methodology to determine risk levels. ▪ Process input is generally based on performance data extracted from several sources (e.g. results of power quality measurements, risk assessment workshop, incidents, increasing demand data). ▪ The process steps included in NiW's RMP describe identification, analysis and evaluation of risks leading to the development of a risk mitigation plan. **Residual Risks and Risk Mitigation** ▪ During the review period NiW has been involved in corporate process to complete external reviews of all NiW sites for different categories if equipment in order to develop criteria and scores for updated risk assessments. ▪ The risk assessment process has been used to develop mitigation plans for the different equipment. The existing mitigation actions were reviewed in order to assess what could be done to improve the mitigating controls and treatments. ▪ NiW uses a risk mitigation process to develop mitigation options and select the best option in terms of maximum risk reduction versus minimum cost (cost benefit analysis). ▪ NiW's risk mitigation process focuses primarily on preventative actions and address measures that reduce the likelihood of an event occurring. Taking away the root cause is the main priority of any risk mitigation plan. ▪ The developed risk mitigation plans cover HV and LV assets and include separate plans for NiW's: – Transformers & Compound – HV Protection Systems – HV Switchboards – HV Switchrooms – HV Switchyard Equipment – LV Switchrooms – Uninterruptible Power Supplies (UPSs) – LV (Motor Control Center) MCCs – LV Switchboards	

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ The individual plans include the specific risk assessment for that specific asset. Individual risks are listed and scored, with a separate mitigation plan developed to address each extreme and high risk. The Assessment and Mitigation Plans provide details of existing controls to derive the existing risk rating and then provide a Proposed Risk Control Plan to provide additional mitigation to reduce the risk. A condition assessment is also included in the Plan. ▪ At the present time, NiW is working through these new risk plans and is using any identified capital requirements as justification for inclusion in its capital expenditure planning. These have been prioritised for the higher scoring risks. ▪ The individual equipment risk plans roll up and allow NiW to prioritise at different levels. Progress against the program is reported monthly to the Asset Integrity Manager **Workplace Health & Safety** ▪ NiW has a fully developed HSEC management framework in place and has implemented industry approved safe work practices. The activities associated with the operation of the electricity distribution network are, as a minimum, subject of the same safety requirements as NiW's operational mining and processing sites. ▪ BHP's Safety - Our Requirements provides an overview of Safety risk management, including Permit to work, Isolation work, Company-wide safety risks (Confined space, Dropped and falling objects, Fall of ground, Lifting, Light vehicle, Loss of containment of hazardous materials, Mobile equipment and light vehicle collisions in open cut mining operations, and Personnel falling from height).	
Contingency Planning – Overall Rating: B1		
▪ Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	**Overview** ▪ NiW's contingency planning is outlined in Section 4.2 of its Asset Management System Manual. ▪ NiW distribution network contingency planning covers mitigation actions to reduce quality and reliability of supply non-conformances. ▪ The distribution network contingency planning ensures, so far as is reasonably practicable, that the supply of electricity to a customer is maintained such that the occurrence and duration of interruptions are kept to a minimum. NiW's levels of service obligations related to restoration times are set out in the PPAs with each customer. ▪ NiW's distribution networks are a radial configuration and not designed with redundancy. This is because historically it was considered that there was no need to invest in redundancy as a loss of supply was an acceptable risk. NiW's existing customers are aware of the single supply arrangements and that there is no alternate supply. However, the lack of redundancy is not an issue provided the distribution networks meets NiW's reliability requirements. ▪ The radial network configurations results in a lack of switching alternatives and requires other means of backup. Each component that makes up NiW's radial network is critical and the risk	▪ NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017 ▪ BHP - Health, Safety, Environment and Community Event and Investigation Management – Our Requirements, Version 6.0, March 2018 ▪ BHP - Health, Safety, Environment and Community Reporting – Our Requirements, Version 6.2, March 2018 ▪ BHP – Health – Our Requirements, April 2018

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	levels with regards to reliability are associated with the replacement time of the failed component. ▪ NiW ensures fast replacement times for any failed assets through mitigation controls that include: – Capable staff and appropriate tools – Critical spares availability – Mobile or stand-by generators ▪ Although the NiW distribution networks do not have any mobile or stand-by generators, NiW has arrangements with mobile generator suppliers that provide a reasonably fast reaction time to requests for generators when required. ▪ NiW has a formal arrangement with Southern Cross Energy (SCE) for network support in the northern system and local contractors are used in Kambalda with SCE being available on an as required basis. Spares such as pole top transformers, poles, switchgear such as Ring Main Units and insulators are kept on site. **Contingency Planning for NiW's Southern System** ▪ The Southern System is connected to the SWIS and this allows NiW to import power if required in any emergencies. This is included in NiW's mitigation plans. The process is carried out through Transalta, with NiW making a request for an import and providing details of how much power is required. Transalta inform the EMO of the NiW request. The process can take up to 2-3 hours but is generally arranged within an hour. ▪ Generally NiW does not import from the SWIS via Western Power very often. NiW also has a requirement to export to the SWIS if requested. If required, the EMO can request NiW to export 20 MW at any time. There was a period of time at the end of the current review period where NiW was on alert that this request might be made. If this happens, NiW would have to inform customers and would have to review the customers' requirements and what assets may need to be shut down to comply with the EMO request. ▪ Contingency planning for NiW's southern system is based on the following: – Isolating affected equipment where possible. – Installing hire generators for affected loads – Utilising BHP Billiton resources in Kambalda plus contractors from Kambalda and Kalgoorlie to manage/ assist with isolation of affected equipment and restoration of power to the loads. **Contingency Planning for NiW's Northern System** ▪ For the Northern System, the electricity to Leinster and to Mt Keith is provided by Transalta and so they are responsible for any upstream issues. As there is only one source of supply,	▪ NiW - Leinster Processing Emergency Management Plan Part 2, Version 1, November 2018 ▪ NiW - NKK Emergency Management Plan Part 2, Version B, November 2017 ▪ NiW - Emergency Management Plan Part 1 (NIW-HSEC-PRO-008), Version 3, July 2017 ▪ NiW - Environment Management Plan (NIW-HSEC-PLN-001), Version 1.4, December 2017 ▪ Truscott Crisis Leaders – Report on the BHP NiW NKK Incident Management Capability as at 27 April 2017 ▪ Incident reports examples

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	there are no options for NiW if the supply is lost. In addition, NiW has an informal agreement for mutual assistance from Transalta in emergencies. ▪ Contingency planning for NiW's northern system is based on the following: – Bypassing affected equipment where possible. There are high voltage and low voltage bypass facilities – Utilising emergency generators for specific loads, i.e. medical centre and dining facility – Importing from the SWIS. Emergency generators are available if the SWIS fails but this has never occurred – Utilising multiple high voltage isolators plus a high voltage ring configuration to minimise the number of affected loads – Utilising all of BHP Billiton's resources in Leinster and Mt Keith to manage/ assist with isolation of affected equipment and restoration of power to the loads – Utilising Transalta's EWP for minor aerial HV issues. The EWP is located at Leinster – Utilising Powerlines Plus for major HV issues. Powerlines Plus are based in Leonora approximately 200km south of Leinster. Power lines plus are fully equipped for all aerial power line work including power pole replacement. ▪ There are two generators at NiW's northern system retail customer's facility that can meet the essential load requirement to supply this customer. **NiW Emergency Management Plans** ▪ NiW's Emergency Management Plan provides an explanation of how Crisis and Emergency Management is conducted in BHP Nickel West. The Plan includes details emergency planning requirements such as command and control structures, management teams, response teams, managing evacuations, medical facilities and training. References and related documents are included in Section 4 of the Plan. ▪ NiW has a separate Emergency Management Plan Part 2 that provides an explanation of how Crisis and Emergency Management is conducted in BHP Nickel West's Kalgoorlie Operations. This document describes details of command and control during emergencies, communication of emergencies and response activation methods, emergency management planning, managing the evacuation and emergency resources. References and related documents are included in Section 7 of the document. ▪ NiW has site-based disaster/recovery plans but the focus of these relates to core-business production rather than specifically for the distribution assets. ▪ There is a Town Evacuation Plan for Leinster that includes actions and emergency contact details. ▪ NiW undertakes testing scenarios related to its emergency contingency requirements every two years. These relate to overall incidents rather than focusing on the licenced distribution	

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	assets. During the review period, this was last undertaken in April 2017. An external provider was tasked to conduct incident management refresher training, prepare, facilitate and report on a desktop exercise based on an arc flash in 03#1 substation that resulted in power failure to the furnace, a total loss of site power and a non-life- threatening burns injury to a worker. ▪ Based on the connection to the SWIS in the Southern System and the agreement with Transssalta in the North, NiW considers that there would be nothing it could do if there was a supply outage upstream of their distribution assets. Any issue with their own assets would be rectified immediately, governed by the financial penalties set out in the PPAs for supply interruptions. **Emergency Staff Resources** ▪ NiW has emergency procedures in place. At both of NiW operation locations, staff participate in a weekly emergency service roster. The emergency contact phone number is clearly communicated to both large use customers and Leinster residents connected to the distribution systems. ▪ In the event of an emergency, NiW staff work closely with a number of designated contractors to secure the emergency area and perform necessary switching operations. The 'callout' contractor usually performs the repair work. ▪ An assessment is made by NiW distribution network staff to determine the best course of action for the restoration of power supplies. As much load as possible is restored at the earliest practical opportunity. ▪ In the event of an emergency, NiW staff work closely with a number of designated contractors to secure the emergency area and perform necessary switching operations. The 'callout' contractor usually performs the repair work. ▪ There is a formal agreement with Southern Cross Energy Partnership (SCE - operated by TransAlta) for breakdown support at Leinster and there is also support available through Power Plus Electrical Services. In Kambalda, work is arranged through local contractors depending on availability, typically KEC Electrical contractors or SCE. Given that the majority of the network is owned and operated by SCE, there is an SCE crew available around the clock and in the event of concurrent faults, contractors such as KEC provide a reliable service for either breakdown or planned work. ▪ There is a dedicated HV vehicle available at both Kambalda and Leinster equipped on a needs basis and this is used by NiW staff for work such as isolations, fault finding and line inspections. Similarly a fully equipped emergency vehicle is available through on a needs basis at all times. If NiW resources are unavailable, contractor resources are used as below. ▪ The mine site emergency crews in both of NiW's supply areas are trained in aspects of emergency management, first aid fire-fighting and rescue. ▪ The existing emergency procedures are considered by NiW to function satisfactorily.	

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	Recommendation R3/2019 ▪ NiW does not have a document that outlines the process/procedures for the emergency export of energy to the SWIS. As a result, we recommend that a procedure is developed for future use that sets out the processes for contacting customers and making an assessment of assets to prioritise for shut down.	
Financial Planning – Overall Rating: A1		
▪ The financial plan states the financial objectives and strategies and actions to achieve the objectives ▪ The financial plan identifies the source of funds for capital expenditure and recurrent costs ▪ The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets) ▪ The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period ▪ The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services ▪ Significant variances in actual / budget income and expenses are identified and corrective action taken where necessary	▪ NiW has a 'Financial' business objective '*To assess life cycle costs in the asset management decision making processes and determine potential financial impact of risks*'. ▪ An overview of NiW's financial management is provided in Section 3 of its Asset Management System Manual. ▪ The financial management plan includes details of NiW's: – Budgeting process: Determination of revenue, capital and operational costs – Accounting system: Used to enter costs and revenues; track asset values; and enter purchase orders for maintenance and capital expenditure activities – financial policies – financial statements. ▪ The financial management of the licenced assets form part of NiW's mining electrical assets and are included as part of the overall budgeting process. The overall budget identifies the source of funds for proposed capital expenditure projects and also recurrent asset lifecycle costs. The majority of capital expenditure is funded as part of larger specific mining development projects. ▪ NiW uses the BHP corporate Power and Gas Month End processes. There is a standard operating procedure for the preparation and processing of month end close journals, physicals upload into 1SAP for allocation of variable power costs and allocation of actual gas commodity costs to sites. ▪ As the financial management of the licenced assets forms only a small part of NiW's core business mining operations, detailed financial plans for the licensed assets are not considered relevant, and instead detailed financial plans for the mining operations are prepared. ▪ Although costs are monitored with respect to budgets, detailed operating statements (profit and loss) and statements of financial position (balance sheets) are not prepared for the licenced electricity assets. Additionally, NiW does not predict income from its licensed electricity activities. Income is considered as revenue under the retail licence, although the profitability of the network is considered largely immaterial compared to the core business mining operations. ▪ NiW prepares a monthly Flash report which compares monthly actual financial information to budgets and also provides the Year to Date assessment. The Flash report uses a traffic light grading for each line so that any significant variances can be quickly identified.	▪ NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017 ▪ NiW 5 Year Plan FY20-24 Context Statement ▪ BHP Finance 5 Year Plan Timetable (Calendar of event and milestones) ▪ Northern Regions FY 20 pipeline prioritised Rev D3 Capital Planning Spreadsheet ▪ Opex budget for NPI 2YB19 ▪ BHP Billiton Annual Report 2016 ▪ BPB Billiton Annual Report 2017 ▪ BPB Billiton Annual Report 2018 ▪ EMG End of Month Procedure ▪ Examples of NiW customer invoices ▪ Examples of NiW customer invoice spreadsheet ▪ Examples of NiW - Flash Report

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ NiW's funding and cash flow management is carried out at the corporate level through NiW' financing department. Financial delegation is set out in the BHP Billiton Nickel West - Approvals Matrix. ▪ NiW's overall financial planning process is set out in a financial calendar that includes the key milestones that form the annual budgeting process. ▪ NiW uses a financial model spreadsheet that includes the Energy Management Group predicted revenue and expenditure for a five year period. The upcoming year is split out into monthly financials, with annual totals for the remaining four years in the period. ▪ Revenue is only collected from the commercial customers and the small-use customers are supplied electricity without charge. ▪ NiW's revenue does not cover the cost of operating the network. However, these unrecovered costs are considered to be acceptable to NiW for strategic reasons. ▪ The five year financial plan applies a detailed bottom-up build approach to operating costs, capital expenditure and headcount planning.	
Capital Expenditure Planning – Overall Rating: A1		
▪ There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates ▪ The plan provides reasons for capital expenditure and timing of expenditure ▪ The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan ▪ There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	**Overview of BHP Corporate Requirements for Capital Expenditure Planning** ▪ NiW's capital expenditure planning follows a rigorous process and is carried out in accordance with various BHP and NiW standards and procedures. ▪ BHP's Corporate Alignment Planning – Our Requirements document sets out the overall framework for NiW's asset planning activities. ▪ The corporate alignment planning (CAP) process is fundamental to creating alignment across the BHP's entire organisation. The process guides the development of plans, targets and budgets to help the organisation decide where best to deploy its capital and resources. ▪ The CAP process starts with planning for the long-term to maximise value by understanding strategic options for growth, then focusses on medium and short-term plans to deliver against these strategic objectives. The strategy is reviewed against the operating environment to capture the risks and opportunities this presents and to allow these to be considered through the planning processes. ▪ The CAP process and deliverables facilitate informed decision-making and disciplined delivery of quality planning outcomes. ▪ The CAP process includes a calendar and Group Accounting & Reporting timetable for submission dates to be considered at the whole-of-organisation level. **NiW's Capital Expenditure Planning** ▪ NiW's capital expenditure is predominantly is drawn from mining projects. While asset life is considered in NiW's process, the life of the electricity assets usually exceeds that of the project.	▪ NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017 ▪ BHP - Corporate Alignment Planning – Our Requirements, version 7.2, August 2018 ▪ Nickel West - 5 Year Plan FY20-FY24 – Context Statement ▪ BHP Finance 5 Year Plan Timetable (Calendar of event and milestones) ▪ Northern Regions FY 20 pipeline prioritised Rev D3 Capital Planning Spreadsheet ▪ Opex budget for NPI 2YB19 ▪ BHP Billiton Annual Report 2016 ▪ BPB Billiton Annual Report 2017 ▪ BPB Billiton Annual Report 2018 ▪ EMG End of Month Procedure ▪ Examples of NiW customer invoices

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
	▪ NiW develops its capital projects for major items follow a rigorous process defined in BHP Engineering Standards. ▪ NiW prepares its capex budgets annually for the following five financial years with greater accuracy given to the first financial year. ▪ NiW has a 5 Year Plan FY20-24 Context Statement that: – Outlines the intent of the 5 year Corporate Alignment Planning (CAP) cycle process. – Provides strategic context, key priorities, guidance and assumptions. – Provides guidance on preparation milestones. – Outlines the processes to be followed and key accountabilities. ▪ Financial Context Statement provides the financial context to assist in preparation of the FY 2017 five year plan and two year budget financials. ▪ The document sets out the financial process, the Systems, Templates & Tools to be used, the analysis and comparisons that are required to be completed, the key contacts, actions and responsibilities associated with specific items that need to be considered in the budgeting process, and details of cost centre and resources codes. Standard information to be used in the preparation of the five year plan (e.g. CPI, exchanges rates etc.) are set out in the Appendices. The Appendices also include details of predicted expenditure on major consumables and services. ▪ The capex budgets include costs associated with the: – Acquisition of new assets. – Upgrade/Renewal of existing assets. – Disposal of existing assets. ▪ NiW compares the budget and actual revenues and costs on a monthly basis through variance analysis. Forecasts are adjusted in order to provide more accurate projections for the remainder of the period. ▪ There have not been any items of capital expenditure related to southern system included in NiW's capital plan for the entire review period. There were no carry over items from the previous period and no items for the current year.	▪ Examples of NiW customer invoice spreadsheet ▪ Examples of NiW - Flash Report
Review of Asset Management System – Overall Rating: A1		
▪ A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current	▪ Section 6 of the Asset Management System Manual sets out the review requirements for the document. NiW reviews its AMS at least every 5 years and in the event of any significant changes to assets. ▪ The requirements when reviewing the AMS is to provide focus on: – *Improving the AMS* – *The accuracy of the information/documentation* – *The currency of the information/documentation*	▪ NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017 ▪ Powerplan - Electricity Distribution Licence EDL2 - Asset Management System Internal Review, December 2017 ▪ Correspondence with ERA

Asset Management Process / Effectiveness Criteria	Observations / Comments	Evidence (Include Contact)
▪ Independent reviews (e.g., internal audit) are performed of the asset management system	▪ NiW's AMS has been reviewed since the 2016 ERA asset management system effectiveness review. This review was completed by Powerplan in late 2017 as a result of NiW significantly updating its previous AMS Manual. ▪ The review was essentially carried out in accordance with ERA Guidelines, however some guideline criteria were extended to capture a broad assessment of compliance with relevant safety regulations. The findings of previous Powerplan studies on electrical equipment integrity and risk management for NiW's Kambalda and Leinster assets, were also used in the review. ▪ The Powerplan review provided a number of recommendations, including ones related to the additional items that NiW requested were included in the review scope. NiW has recorded the actions in Excel to monitor and record progress but needs to revisit this and assign timeframes and due dates once organisation structure changes have been approved. ▪ Based on the Powerplan recommendations, NiW has created the recommended service level target reports and risk registers but still needs to test them and train the responsible personnel. ▪ NiW has also updated the Asset Management System Manual document since the onsite review was conducted with Powerplan.	

6 Recommendations

6.1 Performance Audit

Table 6-1 Table of Current Non Audit Compliances and Recommendations

Manual Ref.	Non-Compliance / Controls improvement (Rating / Legislative Obligation / Details of Non-Compliance or inadequacy of controls)	Date Resolved (& management action taken)	Auditors' comments

B. Unresolved at end of current Audit period			
Reference (no./year)	**Non Compliance/Controls improvement (Rating / Legislative Obligation / Details of Non-Compliance or inadequacy of controls)**	**Auditor's recommendation**	**Management action taken by end of Audit period**
A1/2019	*A2* *Electricity Industry Metering Code clause 3.1* *A network operator must ensure that its meters meet the requirements specified in the applicable metrology procedure and also comply with any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the National Measurement Act. (Obligation 319)* *A2* *Electricity Industry Metering Code clause 3.2(1)* *An accumulation meter must at least conform to the requirements specified in the applicable metrology procedure and display, or permit access to a display of the measurements specified in subclauses 3.2(1)(a)(b) using dials, a cyclometer, an illuminated display panel or some other visual means. (Obligation 320)* *A2* *Electricity Industry Metering Code clause 3.3(1)* *An interval meter must at least have an interface to allow the interval energy data to be downloaded in the manner prescribed using an interface compatible with the requirements specified in the applicable metrology procedure. (Obligation 321)* *A2* *Electricity Industry Metering Code clause 3.10* *A network operator must ensure that any programmable settings within any of its metering installations, data loggers or peripheral devices, that may affect the resolution of displayed or stored data, meet the relevant requirements specified in the applicable metrology procedure and comply with any applicable specifications or guidelines specified by the National Measurement Institute*	As noted, there is no mandatory recommendation for this obligation although NiW will continue to be technically non-compliant against the requirements of these obligations NiW may wish to consider submitting a metrology procedure to the ERA for approval but it is accepted that in practice the information included in the PPAs adequately covers the metering of NiW's customers' usage.	To be identified in post-audit implementation plan

B. Unresolved at end of current Audit period			
Reference (no./year)	**Non Compliance/Controls improvement (Rating / Legislative Obligation / Details of Non-Compliance or inadequacy of controls)**	**Auditor's recommendation**	**Management action taken by end of Audit period**
	under the National Measurement Act. (Obligation 336) *A2* *Electricity Industry Metering Code clause 3.12(2)* *A network operator must ensure that instrument transformers in its metering installations comply with the relevant requirements of any applicable specifications or guidelines (including any transitional arrangements) specified by the National Measurement Institute under the National Measurement Act and any requirements specified in the applicable metrology procedure. (Obligation 343)* *A2* *Electricity Industry Metering Code, clause 5.21(4)* *A test or audit under subclause 5.21(1) is to be conducted in accordance with the metrology procedure and the applicable service level agreement. (Obligation 415)* *A2* *Electricity Industry Metering Code clause 5.25* *A network operator must ensure the accuracy of estimated energy data in accordance with the methods in its metrology procedure and ensure that any transformation or processing of data preserves its accuracy in accordance with the metrology procedure. (Obligation 434)* *A2* *Electricity Industry Metering Code, clause 6.2* *A network operator must, as soon as practicable and in any event no later than 6 months after the date this Code applies to it, submit to the ERA for its approval the prescribed documents in subclauses 6.2(a)-(d). (Obligation 448A)* NiW does not have a dedicated, overall metrology procedure. However, each of the individual Power Purchase Agreements (PPAs) cover meter installation and accuracy and, as such, form NiW's metrology procedures. However, under Clauses 1.3 and 6.2 of the Metering Code, a metrology procedure must be submitted to and approved by the ERA. As NiW has not completed the actions required by the Code, and it does not have an approved procedure, it is not compliant with any of the obligations listed above that refer to a metrology procedure.		

B. Unresolved at end of current Audit period			
Reference (no./year)	**Non Compliance/Controls improvement (Rating / Legislative Obligation / Details of Non-Compliance or inadequacy of controls)**	**Auditor's recommendation**	**Management action taken by end of Audit period**
	It is recognised that from a practical point of view, there is no real benefit for NiW to develop and submit a metrology procedure to the ERA for approval other than being able to comply with the requirements of the Metering Code. NiW may wish to consider submitting a metrology procedure to the ERA for approval but it is accepted that the information included in the PPAs adequately covers the metering of NiW's customers' usage. As a result, there is no mandatory recommendation for this obligation although NiW will continue to be non-compliant against the requirements.		
A2/2019	*NR* *A person must not install a metering installation on a network unless the person is the network operator or a registered metering installation provider for the network operator doing the type of work authorised by its registration (Obligation 364)* We note that the Metering Standing Data Register does not include any information related to either a meter date of manufacture or an installation date.	We recommend that NiW looks to include this information in the Metering Standing Data Register.	To be identified in post-audit implementation plan
A3/2019	*A1* *A distributor or transmitter must, as far as reasonably practicable, ensure that electricity supply to a customer's electrical installations complies with prescribed standards (Obligation 462)* As was observed in the previous audit report (Recommendation A6/2016), standards are agreed with NiW's retail customers in the PPAs and these specify the relevant standard that was in place at the time, AS 2279). However, although the most recent versions of the PPAs are dated 2014, they still refer to the now-replaced AS. The old Australian standard (AS2279) uses a different method for voltage flicker and less detail for harmonics. The old Australian standard also has a more demanding total harmonic level than the Code.	NiW's PPAs have not been renewed during the audit period meaning that there has not been an opportunity to update the out-of-date references to the previous Australian Standard. Therefore, we recommend that NiW reviews and updates the references to AS 2279 when the PPAs are next updated.	To be identified in post-audit implementation plan

6.2 Asset Management Review

Table 6-2 Table of Current Review Asset System Deficiencies/Recommendations

A. Resolved during current audit period			
Ref.	**Asset System Deficiency (Rating / Asset Management System Component & Effectiveness Criteria / Details of Asset System Deficiency)**	**Date Resolved (& management action taken)**	**Auditor's Comments**

B. Unresolved at end of current Audit period			
Reference (no./year)	**Asset System Deficiency (Rating / Asset Management System Component & Effectiveness Criteria / Details of Asset System Deficiency)**	**Auditor's recommendation**	**Management action taken by end of Audit Period**
R1/2019	B2 *Staff resources are adequate and staff receive training commensurate with their responsibilities* Although the staff resourcing is generally considered appropriate for managing NiW assets, NiW noted that its on-call arrangements in the Southern System were managed on an ad hoc basis. NiW was looking to change the arrangement to utilise external resources.	We recommend that NiW looks to formalise on-call staff for out-of-hours attendance when required. At present the responsibility appears to lie wholly with the Electrical Supervisor which poses potential risks if they are not available to respond.	To be identified in post-audit implementation plan
R2/2019	B1 *Regular inspections are undertaken of asset performance and condition* NiW uses paper copies of its Equipment Work Procedures and these are filled in in the field. They are kept on file but not scanned in and no data is entered back into 1SAP. Only Critical Control Executions (CCEs), which have a material risk, are scanned in electronically.	We recommend that NiW investigates moving to electronic data capture to improve the quality of maintenance information that can be easily retrieved and would enable improved analysis.	To be identified in post-audit implementation plan
R3/2019	B1 *Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks* NiW does not have a document that outlines the process/procedures for the emergency export of energy to the SWIS.	We recommend that a procedure is developed for future use that sets out the processes for contacting customers and making an assessment of assets to prioritise for shut down.	To be identified in post-audit implementation plan

7 Confirmation of the Audit/Review

I confirm that the audit/review carried out at NiW on 13-15 May 2019 and recorded in this report is an accurate presentation of our findings and opinions.

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Justin Edwards PhD MEng

Cardno (QLD) Pty Ltd

515 St Paul's Terrace

Fortitude Valley QLD 4006

11 July 2019

APPENDIX

A

RISK MANAGEMENT FRAMEWORK

Types of Compliance Risk

Type of Risk	Examples
Supply quality and reliability	Delays in new connections, excessive supply interruptions, supply quality standards not met.
Consumer protection	Customer service levels not met, incorrect bills, disconnection and reconnection standards not met, customers unable to access financial hardship assistance.
Legislation/licence	Breach of industry Acts, regulations and codes, contravention of licence conditions.

Risk Assessment Rating Scales

The consequence, likelihood, inherent risk and adequacy of internal controls are assessed using a 3-point rating scale as described below. The rating scale is as per the Audit and Review Guidelines: Electricity and Gas Licences, (Economic Regulation Authority), April 2014.

Consequence Rating

The consequence rating scale is outlined below.

	Rating	Supply Quality and Reliability	Consumer Protection	Breaches of Legislation or Other Licence Conditions
1	Minor	▪ Breaches of supply quality or reliability standards – affecting small number of customers. ▪ Delays in providing a small proportion of new connections.	▪ Customer complaints procedures not followed in a few instances. ▪ Small percentage of disconnections or reconnections not completed on time. ▪ Small percentage of bills not issued on time.	▪ Legislative obligations or licence conditions not fully complied with, minor impact on customers or third parties. ▪ Compliance framework generally fit for purpose and operating effectively.
2	Moderate	▪ Supply quality breach events that significantly impact customers; large number of customers affected and/or extended duration and/or damage to customer equipment. ▪ Supply interruptions affecting significant proportion of customers on the network for up to one day. ▪ Significant number of customers experiencing excessive number of interruptions per annum. ▪ Significant percentage of new connections not provided on time/ some customers experiencing extended delays.	▪ Significant percentage of complaints not being correctly handled. ▪ Customers not receiving correct advice regarding financial hardship. ▪ Significant percentage of bills not issued on time. ▪ Ongoing instances of disconnections and reconnections not completed on time, remedial actions not being taken or proving ineffective. Instances of wrongful disconnection.	▪ More widespread breaches of legislative obligations or licence conditions over time. ▪ Compliance framework requires improvement to meet minimum standards.
3	Major	▪ Supply interruptions affecting significant proportion of customers on the network for more than one day. ▪ Majority of new connections not completed on time/ large number of customers experiencing extended delays.	▪ Significant failure of one or more customer protection processes leading to ongoing breaches of standards. ▪ Ongoing instances of wrongful disconnection.	▪ Wilful breach of legislative obligation or licence condition. ▪ Widespread and/or ongoing breaches of legislative obligations or licence conditions. ▪ Compliance framework not fit for purpose, requires significant improvement.

Likelihood Ratings

The likelihood rating scale is described below.

	Level	Description
A	Likely	Non-compliance is expected to occur at least once or twice a year
B	Probable	Non-compliance is expected to occur once every three years
C	Unlikely	Non-compliance is expected to occur once every 10 years or longer

Inherent Risk Assessment Rating and Description

The inherent risk rating is based on the combined consequence and likelihood rating. The inherent risk assessment rating scale and descriptions are outlined below.

Likelihood	Consequence		
	Minor	Moderate	Major
Likely	Medium	High	High
Probable	Low	Medium	High
Unlikely	Low	Medium	High

Level	Description
High	Likely to cause major damage, disruption or breach of licence obligations
Medium	Unlikely to cause major damage but may threaten the efficiency and effectiveness of service
Low	Unlikely to occur and consequences are relatively minor

Adequacy Ratings for Existing Controls

The adequacy of existing internal controls is also assessed based on a 3-point scale as indicated below.

Level	Description
Strong	Controls that mitigate the identified risks to an appropriate level
Moderate	Controls that only cover significant risks; improvement required
Weak	Controls are weak or non-existent and have minimal impact on the risks

Assessment of Audit Priority

The assessment of audit priority is used to determine the audit objectives, the nature of audit testing and the extent of audit testing required. It combines the inherent risk and risk control adequacy rating to determine the priority level.

Inherent Risk	Adequacy of Existing Controls		
	Weak	Medium	Strong
High	Audit Priority 1	Audit Priority 2	
Medium	Audit Priority 3	Audit Priority 4	
Low	Audit Priority 5		

APPENDIX

B

ASSET MANAGEMENT PERFORMANCE RATING DEFINITIONS

Compliance Assessment Rating Scale

In accordance with the Audit Guidelines – Electricity, Gas and Water Licences (ERA, April 2014), a 7-point rating scale has been adopted to assess the licensee's compliance against each licence condition. The rating scale and description of compliance is outlined below.

Compliance Status	Rating	Description of Compliance
Compliant	5	Compliant with no further action required to maintain compliance
Compliant	4	Compliant apart from minor or immaterial recommendations to improve the strength of internal controls to maintain compliance
Compliant	3	Compliant with major or material recommendations to improve the strength of internal controls to maintain compliance
Non-Compliant	2	Does not meet minimum requirements
Significantly Non-Compliant	1	Significant weaknesses and/or serious action required
Not Applicable	N/A	Determined that the compliance obligation does not apply to the licensee's business operations.
Not Rated	N/R	No relevant activity took place during the audit period therefore it is not possible to assess compliance.

Asset Management Review Rating Scales

The asset management review utilises a combination of asset management adequacy ratings and asset management performance ratings, which are outlined below. These are based on the Audit Guidelines – Electricity, Gas and Water Licenses (ERA, April 2014).

Asset Management Adequacy Ratings

Rating	Description	Criteria
A	Adequately defined	▪ Processes and policies are documented. ▪ Processes and policies adequately document the required performance of the assets. ▪ Processes and policies are subject to regular reviews, and updated where necessary. ▪ The asset management information system(s) are adequate in relation to the assets that are being managed
B	Requires some improvement	▪ Process and policy documentation requires improvement. ▪ Processes and policies do not adequately document the required performance of the assets. ▪ Reviews of processes and policies are not conducted regularly enough. ▪ The asset management information system(s) require minor improvements (taking into consideration the assets that are being managed)
C	Requires significant improvement	▪ Process and policy documentation is incomplete or requires significant improvement ▪ Processes and policies do not document the required performance of the assets ▪ Processes and policies are significantly out of date ▪ The asset management improvement system(s) require significant improvement s (taking into consideration the assets that are being managed).
D	Inadequate	▪ Processes and policies are not documented. ▪ The asset management information system is not fit for purpose (taking into consideration the assets that are being managed).

Asset Management Performance Ratings

Rating	Description	Criteria
1	Performing effectively	▪ The performance of the process meets or exceeds the required levels of performance ▪ Process effectiveness is regularly assessed and corrective action taken when necessary
2	Opportunity for improvement	▪ The performance of the process requires some improvement to meet the required level ▪ Process effectiveness reviews are not performed regularly enough ▪ Process improvement opportunities are not actioned
3	Corrective action required	▪ The performance of the process requires significant improvement to meet the required level ▪ Process effectiveness reviews are performed irregularly or not at all ▪ Process improvement opportunities are not actioned
4	Serious action required	▪ Process is not performed or the performance is so poor that the process is considered to be ineffective.

APPENDIX

C

KEY DOCUMENTS REVIEWED

Asset Planning

- NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017
- BHP - Corporate Alignment Planning - Our Requirements, Version 7.2, August 2018
- NiW 5 Year Plan FY20-24 Context Statement
- BHP Finance 5 Year Plan Timetable (Calendar of event and milestones)
- Northern Regions FY 20 pipeline prioritised Rev D3 Capital Planning Spreadsheet
- Agnew Gold Mining Company PPA, 27 May 2014
- Lightning Nickel PPA, 4 February 2014
- Mincor Resources PPA, 4 February 2014
- Cherish Metals and Donegal Lanfranchi PPA, 17 September 2014
- St Ives Gold Mining Company PPA, 30 October 2013
- Description of Metering document
- Opex budget for NPI 2YB19
- Meeting minutes

Asset Creation/Acquisition

- NiW – Electrical Design Criteria – DESC 300, November 2018
- BHP Billiton 1SAP Basic Procurement Guide, June 2015
- NiW - Standard Engineering Specification for Distribution Transformers (SES-341), Version 6, May 2013
- NiW - Standard Engineering Specification for High Voltage Outdoor Circuit Breakers (SES-362), Version 5, May 2013
- NiW - Standard Engineering Specification for Electrical testing and Commissioning Stages 1 & 2 (SES-383), Version 7, May 2013
- NiW - Standard Engineering Specification for Earthing Transformers (SES-385), Version 5, May 2013
- NiW - Standard Engineering Specification for Overhead Powerlines up to 33kV (SES-312), Version 6, May 2013
- NiW - Standard Engineering Specification for Battery and Charger units (SES-318), Version 6, May 2013
- NiW - Standard Engineering Specification for High Voltage Indoor Metal Clad Switchgear (SES-330), Version 6, May 2013

Asset Disposal

- NiW – Disposal Procedure, May 2013
- NiW Disposals Form – February 2017

Environmental Analysis

- NiW HSEC Performance Report. April 2019
- NiW Environmental Management Plan, December 2017 (NIW-HSEC-PLN-001)
- NiW – Bridging, Overriding and Bypassing Procedure (NIW-HSEC-PRO-0033), November 2017
- BHP - Corporate Alignment Planning - Our Requirements, Version 7.2, August 2018
- BHP - Health, Safety, Environment and Community Event and Investigation Management – Our Requirements, Version 6.0, March 2018
- BHP - Health, Safety, Environment and Community Reporting – Our Requirements, Version 6.2, March 2018

- BHP – Health – Our Requirements, April 2018
- Incident reports examples
- BHP - Isolations and Permit to Work Procedure (NIW-HSEC-PRO-0027), Version 2.2, December 2017
- NiW - Management of Controlled Documents (NIW-MGT-PRO-0001), Version 6, April 2018
- NiW - Environment Management Plan (NIW-HSEC-PLN-001), Version 1.4, December 2017
- BHP - Health - Our Requirements, Version 6.2, April 2018
- NiW Breach Register

Asset Operations and Asset Maintenance

- NiW – Electrical Distribution Licence - Asset Management System Manual, June 2017
- Hahn Electrical - BHP Billiton PQM Accuracy Testing - Kambalda Nickel Concentrator, December 2016
- Hahn Electrical - BHP Billiton PQM Accuracy Testing - Kambalda Nickel Concentrator, January 2018
- Hahn Electrical - BHP Billiton PQM Accuracy Testing - Kambalda Nickel Concentrator, January 2019
- Functional Location Structure: Structure List examples in 1SAP
- Energy Data Verification Request Form
- Priority Restoration Register Memo, 19 August 2013
- NiW Metering Standing Data Register
- Reconciliation spreadsheets for planned and scheduled electrical work
- Maintenance Plans for Leinster Town Electrical Assets
- BHP Leinster Town Line Maintenance contract work
- Purchase order for Leinster Town Line Maintenance contract work
- Summary of repairs required and photos for Leinster Town Line Maintenance contract work
- Examples of 1SAP Weekly Work Management Report
- Examples of inspection reports, including:
  - Oil samples
  - Power Quality Analysis Reports
  - Thermographic Surveys
  - Transformer Inspections
  - 2018 Pole & Lamp Audit
  - 2019 Pole & Lamp Audit
  - Arc Flash Study
  - Example of Asset Inspection Reports
  - Maintenance Performance KPI Reports
- Asset Defects Register
- Equipment Work Procedure - 4 weekly electrical inspection for Redross switchyard
- Equipment Work Procedure - 4 weekly electrical inspection for batteries in external subs
- Equipment Work Procedure - 4 weekly electrical inspection for Lanfranchi switchyard
- Equipment Work Procedure - 52 weekly electrical inspection for Redross switchyard
- Equipment Work Procedure 52 weekly electrical inspection for Lanfranchi switchyard
- NiW – Work Description - Inspect Power Poles (12monthly) – Checklist
- 52W Power Quality Survey – Leinster Town Work Instruction

- NiW – Engineering Guideline for Arc Flash Hazard Assessment and Application of Controls (GL076), Version 2, May 2013
- NiW – Electrical PPE and Test Equipment (NIW-IOPS-PRO-0001), Version 0, March 2018
- NiW – Nigh Voltage Isolation and Access (NIW-NOW-PRO-0005), Version 8, June 2017
- NiW Procedure for Lifting Operations (NIW-HSEC-PRO-0025), Version 1.4, October 2018
- NiW – Guideline for Maintenance and Testing of High Voltage Oil Filled Transformers > 500kVA (GL-301), Version 3, May 2013
- NiW – Guideline for Maintenance and Testing of High Voltage Switchgear (GL-302), Version 3, January 2015

Asset Information Systems

- Examples of schematic drawings and plans
- BHP Global Processes, Information Systems and Cybersecurity - Our Requirements, Version 6.2, 7 March 2018
- Nickel West Description of Metering Overview
- Asset Register extracts
- Liquidated Damages Calculator
- Nickel West Metering Standing Data Register

Risk Management

- BHP – Risk Management – Our Requirements, Version 6.1, November 2017
- BHP – Security and Emergency Management- Our Requirements, Version 6.1, November 2017
- NiW Risk Management Procedure – NIW-FIN-PRO-0008 – November 2018
- NiW HSEC Event Reporting & Investigation - NIW-HSEC-PRO-003
- NiW NKC Electrical Equipment – Risk Management Plan Summary – Extreme and High Risks
- NKC Electrical Equipment – Risk Management Plan Summary – Extreme and High Risks
- NPI Risk Register
- Truscott Crisis Leaders – Report on the BHP NiW NKK Incident Management Capability as at 27 April 2017
- HV Risk Mitigation Plans for:
  - Transformers & Compound
  - HV Protection Systems
  - HV Switchboards
  - HV Switchrooms
  - HV Switchyard Equipment
- LV Risk Mitigation Plans for:
  - LV Switchrooms
  - UPSs
  - LV MCCs
  - LV Switchboards

Contingency Planning

- NiW - Leinster Processing Emergency Management Plan Part 2, Version 1, November 2018
- NiW - NKK Emergency Management Plan Part 2, Version B, November 2017
- NiW - Emergency Management Plan Part 1 (NIW-HSEC-PRO-008), Version 3, July 2017
- NiW - Environment Management Plan (NIW-HSEC-PLN-001), Version 1.4, December 2017
- Incident reports examples

Financial Planning and Capital Expenditure Planning

- EMG End of Month Procedure
- BHP Billiton Annual Report 2016
- BPB Billiton Annual Report 2017
- BPB Billiton Annual Report 2018
- Examples of NiW customer invoices
- Examples of NiW customer invoice spreadsheet
- Examples of NiW - Flash Report

Review of Asset Management System

- Powerplan - Electricity Distribution Licence EDL2 - Asset Management System Internal Review, December 2017
- Correspondence with ERA