



ABN 20 009 454 111

Audit and Review Report  
NewGen Power Kwinana Pty Ltd Electricity  
Generation Licence Performance Audit and Asset  
Management System Review

**October 2014**

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## Executive Summary

NewGen Power Kwinana Pty Ltd (NPK or the licensee) holds an Electricity Generation Licence (EGL3) issued by the Economic Regulation Authority (the Authority) under Sections 7 and 15 of the Electricity Industry Act 2004 (WA) (the Act). The licence enables NPK to construct and operate power generating facilities in accordance with the licence conditions.

Sections 13 and 14 of the Act requires NPK to provide the Authority with a report by an independent expert on the measures taken by the licensee to meet the performance criteria specified in the licence and on the effectiveness of its Asset Management System. In April 2014 NPK commissioned Qualeng to carry out the performance audit of their licence compliance and the Asset Management System review (the audit and review) for the period 1 August 2011 to 31 July 2014. The audit and review has been conducted and this report prepared in accordance with the "Authority's Audit and Review Guidelines: Electricity and Gas Licences (April 2014)" (the guidelines).

### THE ASSETS

The licence has been granted for an area located at Leath Road, Naval Base/Kwinana, South East of Perth, Western Australia. The generating assets consist of one Alstom GT 13E2-MXL 160 MW heavy duty industrial gas turbine (GT), a Heat Recovery Steam Generator (HRSG), a 160MW steam turbine, air inlet filters and gas exhaust structures, a natural gas conditioning and metering station, a water treatment plant, balance of plant and a direct cooling water (CW) system. The total power export capacity of the station is 320 MW.

NPK manages the operation and maintenance of the assets for the owners. The power station is jointly owned by Energy Infrastructure Trust (managed by

Infrastructure Capital Group (ICG)) and Sumitomo Corporation through its wholly owned subsidiary, Summit Southern Cross Power Holdings Pty Ltd (SSCPH). NPK has engaged ERM Power Generation Pty Ltd to provide the operation and maintenance of the assets.

## **THE REPORT**

The report includes:

- (i) a summary of the objectives, the scope of the task and details of this audit and review;
- (ii) key findings and recommendations from this audit and review.

Separately, a post audit and review implementation plan has been prepared by the licensee listing the audit and review recommendations and the responses and actions proposed by NPK. The plan does not form part of the report and is provided separately to complete the documentation.

## **LICENSEE'S RESPONSE TO PREVIOUS AUDIT RECOMMENDATIONS**

The previous audit report covered the period 1 August 2009 to 31 July 2011. The report made no recommendations and therefore there are no previous actions to review within this audit and review.

## **SUMMARY OF ISSUES AND RECOMMENDATIONS, PERFORMANCE AUDIT**

Throughout the audit the licensee's attitude towards compliance was positive and cooperative.

On completion of the performance audit the auditor has found that NewGen Power Kwinana Pty Ltd's operation was in compliance with the licence conditions apart from the following finding:

- The submission of the electricity generation licence compliance report in 2014 was five days late as it was due on the 31 August 2014 and was submitted on the 5 September 2014. A non compliance will need to be recorded for the reporting year 1 July 2014-30 June 2015.

The Performance Audit issues and recommendations are listed in Table 1.

**Table 1- Performance Audit non-compliances and recommendations**

Table of Current Audit Non Compliances/Recommendations		
Reference No/ Year	Non Compliance/Controls Improvement (Rating / Legislative Obligation / Details of Non Compliance or inadequacy of controls)	Auditors' Recommendations
1/2014	<p>A2</p> <p>Obligation 124</p> <p>Electricity Industry Act section 11</p> <p>A licensee must provide the Authority, in the manner prescribed, any information the Authority requires in connection with its functions under the Electricity Industry Act.</p> <p>The 2014 submission of the annual generation licence compliance report was five days late as it was due on the 31 August 2014 and was submitted on the 5 September 2014.</p>	<p><b>1/2014</b> The 2014 submission of the annual generation licence compliance report was five days late as it was due on the 31 August 2014 and was submitted on the 5 September 2014. A non compliance will need to be recorded for the reporting year 1 July 2014-30 June 2015.</p>

## **AUDITOR'S OPINION, PERFORMANCE AUDIT**

On completion of the performance audit, after assessment and testing of the licensee's control environment, risk assessment process, information system, control activities and monitoring, the auditor has formed the opinion that, during the audit period of 1 August 2011 to 31 July 2014, the licensee had in place effective controls for compliance with the standards, outputs and outcomes required by the licence and, apart from the finding reported above, NewGen Power Kwinana Pty Ltd's operation was in compliance with the licence conditions.

## **SUMMARY OF ISSUES AND RECOMMENDATIONS, ASSET MANAGEMENT SYSTEM REVIEW**

The review has found that NewGen Power Kwinana Pty Ltd is managing the asset operation effectively and is committed to continuous improvement and regulatory compliance. At present the asset management system needs review and updating to integrate some of the processes into a coherent system. Through its strong approach to budgeting and maintenance of the plant the licensee has sound basis for managing the assets.

The main deficiencies found in the review have been listed in Table 2 together with the review recommendations.

**Table 2- Review Asset System Deficiencies / Recommendations**

Table of Current Review Asset System Deficiencies/ Recommendations			
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Auditors' Recommendation
1	1.1	<p>B2</p> <p>Asset management plan covers key requirements.</p> <p>Whilst MEX provides the individual list of maintenance tasks, there is no evidence of the planning process, the decisions, reasons and formulation of a maintenance strategy. There is documentation demonstrating various aspects of an asset management plan however the Review did not find a comprehensive document dealing with the review of strategy at regular intervals.</p> <p>The Review did not find a clear definition and review of service levels and objectives within the asset management plan (AMP) documentation, the review of performance against those objectives, the results analysed and the resulting corrective actions clearly defined.</p>	<p><b>1/2014</b> Prepare a suitable Asset Management Plan (AMP). The AMP should provide clear definition of measurable objectives and strategies implemented to achieve those objective. The AMP should indicate the processes used to review plant performance and plan strategies and activities, manage the costs, risk and performance of the assets, the creation, acquisition or enhancement of assets, the utilisation, maintenance, replacement and disposal of assets; it should indicate the means to monitor performance and report it to management. The AMP should report on past performance.</p>
2	1.2	<p>C2</p> <p>Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning.</p> <p>There is a process however there is no formal documented description of the planning process, so that the scope, consideration of operating objectives, stakeholder needs review are not formally defined.</p>	<p><b>2/2014</b> Planning process should be documented either in the AMS documentation or in a stand alone procedure.</p>
3	1.3	<p>B/NR</p> <p>Service levels are defined.</p> <p>Under the Tradeable Purchase Agreement the source of the electricity is not stipulated so that, if generation fails, electricity can be sourced elsewhere and the service levels maintained. However this will severely impact the internal performance and commercial viability of the asset.</p> <p>The Review did not find in the AMS documents or in the Business Services Reports clear information on quantifiable service levels and objectives.</p>	<p><b>3/2014</b> Provide a clear and measurable definition of service levels. Review the definition of the plant objectives.</p>
-	1.5	<p>B2</p> <p>Lifecycle costs of owning and operating assets are assessed. (also at 2.2).</p> <p>The Asset Life Plan was issued in July 2008 and</p>	<p>Recommendations made under EC1.9</p>

Table of Current Review Asset System Deficiencies/ Recommendations			
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		had not been reviewed since. This finding is further addressed under EC1.9 (the Review has noted that the Asset Life Plan was reviewed after the Review period, in September 2014).	
4	1.6	<p>B2</p> <p>Funding options are evaluated.</p> <p>No procedure was found of the process of proposing, reviewing and approving major projects and evaluation of funding options. No procedure for review of funding options for unbudgeted items was found.</p>	<p>4/2014 Document a procedure for proposal, review and approval of projects and for evaluation of funding options. Procedure should include Life Cycle Costing in new asset evaluations.</p>
5	1.8	<p>B2</p> <p>Likelihood and consequences of asset failure are predicted.</p> <p>Likelihood and consequences of asset failure were analysed in 2010, actions were identified however the Review noted that some of actions had not been followed up since 2010. Further findings and recommendations are raised at EC8.</p>	<p>5/2014 Documentation on risk management, asset failure likelihood and consequences should be reviewed, updated where necessary and integrated so that documents are all made part of a working risk management system which is subject to management overview.</p>
6	1.9	<p>C3</p> <p>Plans are regularly reviewed and updated.</p> <p>The AMS document states that the Asset Life Plan is to be reviewed as part of the yearly business planning process and as part of a review of the production over the preceding 12 months, however there was no documentary evidence that a formal review had taken place since the issue date of the Asset Life Plan (July 2008) or during the Review period (the Review has noted that the Asset Life Plan was reviewed after the Review period, in September 2014).</p> <p>In general events may occur during the life of the plant that cannot be fully predicted. In addition the operation of the plant is subject to external factors which affect the operating regime which, in turn affects the life and maintenance requirements of the plant. This necessitates a review of the plant performance and operation at regular intervals, as well of a review of the strategies in place for the plant operation. External factors such as client demand, carbon policies, environmental</p>	<p>6/2014 Document the process of review and updating of the asset management plan (AMP). The AMP needs to be reviewed and updated at regular intervals.</p>

Table of Current Review Asset System Deficiencies/ Recommendations			
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		constraints can affect the use of the plant. The demand of external and internal change need to be addressed in reviews which need to be demonstrated formally so that a trail is available of strategy development. The reviews need to be carried out at regular intervals, say on an annual basis, due to the increased speed of change that is taking place.	
-	2.1	<p>C2</p> <p>Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions.</p> <p>While the Operator Services Agreement (OSA) provides some high level directives on asset acquisition the process of project evaluation is not documented.</p>	Refer to Recommendation 4/2014 at EC1.6
7	2.1 Cont.	<p>A spare Cooling Water (CW) pump motor was included in the budget 2013-14 as a DCS Spare Parts List line item for Critical Spares (as per Budget 31 August 2013) as no spare had been purchased previously.</p> <p>The increase in the line items was entered in the Budget and the cause identified. Some documentation was available however a full justification/case for the item had not been formally processed.</p>	<b>7/2014</b> While the case for the CW Pump Motor appears sound, there should be evidence of justification of the costs and the process should be formalised.
-	2.2	<p>C/NR</p> <p>Evaluations include all life-cycle costs.</p> <p>Not applicable during the Review period however no documented procedure was evident showing the inclusion of life cycle cost evaluations in new asset project assessment.</p>	Recommendation as per 4/2014, EC1.6
8	3.1	<p>B1</p> <p>Under-utilised and under-performing assets are identified as part of a regular systematic review process.</p> <p>Whilst there are processes in place for the review of plant performance, these processes are not clearly identified in the AMP documentation (or in procedures).</p>	<b>8/2014</b> Whilst there are processes in place for the review of plant performance, these processes are not clearly identified in the AMP documentation (or in procedures). There should be a definition of the systematic monitoring and review of asset performance and a definition of the replacement/ disposal process in the AMP documentation and in procedures.

Table of Current Review Asset System Deficiencies/ Recommendations			
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Auditors' Recommendation
-	3.3	B1 Disposal alternatives are evaluated.  Refer to EC3.1 for finding on documentation of disposal process.	Refer to recommendation 8/2014 at EC3.1
-	3.4	B2 There is a replacement strategy for assets.  The replacement strategy should be subject to a systematic review within the AMP review. This was not evident during the Review period and has been noted under EC3.1.	Refer to recommendation 8/2014 at EC3.1
9	4.1	B2 Opportunities and threats in the system environment are assessed.  While there was evidence of reporting and review of plant operation and financial performance, there was no clear evidence of a systematic assessment by the asset management system of the external opportunities and threats and of corrective actions taken to maintain requirements.	9/2014 Provide a methodology in the AMS for the assessment of opportunities and threats in the system environment.
10	4.2	B1 Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved.  The documentation does not clearly identify the required operating performance standards, while some variances are discussed it is not possible to review the achievement of performance standards as those standards are not clearly set. For example the OSA stipulates an availability factor for the payment of incentives to the operator however that target is not shown in the monthly Business Services Reports.	10/2014 There should be a definition of target operating performance standards, reviewed and updated at regular intervals (possibly annually) and regular assessment of plant operating performance against those standards (possibly monthly).
11, 12	4.3	B2 Compliance with statutory and regulatory requirements.  Annual power testing for the Certified Reserve Capacity was not included in the Calendar.	11/2014 The Compliance Calendar should be reviewed to check if it is up to date and whether it should include the annual power testing for the Certified Reserve Capacity. 12/2014 The process for maintaining the currency of the "Compliance Calendar" should be



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		<p>The Review noted that the Compliance calendar indicates "ERA AMS Review" requirement; however there is no mention of Performance Audit, at times the Performance Audit timing is not synchronised with the AMS Review.</p> <p>There should be identification of the process for maintaining the currency of the "Compliance Calendar".</p> <p>One Environmental incident report was raised during February 2013: the annual audit on the ministerial statement 698 was not submitted to the Office of Environmental Protection Authority (OEPA) by the due date. The Audit had been completed by an external consultant before the due date of April 1 2012, but the Audit report was subsequently submitted to the OEPA in February 2013 when the OEPA contacted NPK due to an administrative error.</p>	documented.
-	6.1	<p>B1</p> <p>Maintenance policies and procedures are documented and linked to service levels required.</p> <p>Up to date documentation and review of maintenance strategies, which is expected in an AMP, is not available. This finding has been documented in EC1.1 and EC1.2</p>	Refer to recommendation at items EC1.1 and EC1.2
13	6.3	<p>B1</p> <p>Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.</p> <p>The Review noted that the maintenance procedures do not cover the management of forced outages.</p>	<b>13/2014</b> Maintenance procedures should be reviewed and updated to address forced outages.
14, 15	7.1	<p>B1</p> <p>Adequate system documentation for users and IT operators.</p> <p>Remaining AMS documentation is stored in the DMS however at present there are no controls on document management such as revision control. A basic set of instructions were provided in e-mails</p>	<p><b>14/2014</b> Complete the development of the Document Management System and ensure that controls are implemented for the management of documentation.</p> <p><b>15/2014</b> Ensure that, as appropriate, document in draft or under review are finalised and approved.</p>

Table of Current Review Asset System Deficiencies/ Recommendations			
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		when the DMS started, with instructions on where to file documents and how to use it, however the operation of the DMS is still relatively informal.	
16	7.3	B1 Logical security access controls appear adequate, such as passwords.  Control of access to AMIS including responsibility for authorisations and process is not documented.	<b>16/2014</b> Control of access to AMIS including responsibility and process should be documented.
17	7.5	C1 Data backup procedures appear adequate and backups are tested.  There was no evidence to show that backups are tested; the backup procedure was not documented.	<b>17/2014</b> Document the Asset Management System data backup and backup testing procedures. Ensure there is verification and evidence of back up integrity.
18, 19, 20	8.1	B3 Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system.  The general intent of the Risk Management Policy (RMP) and Risk Management Guideline (RMG) has been applied in practice however, while there is evidence that the policies are understood there is no formal evidence that this has been maintained.  In particular the Review noted that there was no formal application of the formal requirements of the RMP and RMG over recent years and of the asset risk analysis since 2010, even though sound practices have been maintained at an operational level.	<b>18/2014</b> Undertake a review of the Risk Management Policy and Risk Management Guideline to ensure they are current and up to date. <b>19/2014</b> Review the accountabilities and requirements of the Risk Management Policy and Risk Management Guideline to ensure they have been complied with. Evidence of ongoing compliance to be subsequently maintained. <b>20/2014</b> Regular staff training on risk management requirements to be undertaken with appropriate records being maintained.
21, 22, 23	8.2	B3 Risks are documented in a risk register and treatment plans are actioned and monitored.  Risk registers were established at the commencement of operations in 2008 however have not been subsequently reviewed or updated, a review is now warranted.	<b>21/2014</b> Undertake a review of the risk management process to ensure that it is relevant to the current plant operation and that it can be implemented. <b>22/2014</b> Undertake a review of all risk registers and risk treatment plans to ensure all identified risks remain current, no new risks have emerged and all appropriate risk treatment plans are in place, actioned and regularly monitored.

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		<p>Where appropriate, risk treatment plans were put in place at the same time as the risk registers were established. While these plans involved an initial amount of action and monitoring there is no evidence that this has occurred on a regular ongoing basis.</p> <p>As an observation it is noted that, within the risk evaluation matrix, the financial impact scale applicable to the differing levels of consequence/severity is considered too low for an operation with NPK's attributes. As a result, risks of all types are being assessed at a higher level of consequence than would normally be expected for this industry.</p>	<b>23/2014</b> Undertake a review of the financial impact scale used in the risk evaluation model to ensure it is aligned with industry norms.
24	8.3	<p>B3</p> <p>The probability and consequences of asset failure are regularly assessed.</p> <p>Probability and consequences of asset failure were assessed when the initial risk registers were established in 2008 and were further reviewed in 2010. No further systematic reviews were found for the entire plant.</p>	<b>24/2014</b> Implement a process for ensuring the probability and consequences of asset failure are regularly assessed and maintain a record of such assessments having been made.
25	9.1	<p>B1</p> <p>Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.</p> <p>No Contingency/Business Continuity Plans are in place to cover higher risks such as loss of gas supplies, loss of IT infrastructure, loss of office facilities, pandemics, critical asset failure and extreme weather events (ie. extended high temperature).</p>	<b>25/2014</b> Address the need for higher level Contingency Plans/ Business Continuity Plans to cover high level risks such as loss of gas supplies, loss of IT infrastructure, loss of office facilities, pandemics, critical asset failure and extreme weather events (ie. extended high temperature) and implement as necessary.
26	10.1	<p>B1</p> <p>The financial plan states the financial objectives and strategies and actions to achieve the objectives.</p> <p>The financial outcomes contained in the Annual Budget can reasonably be taken to be the financial objectives. However whilst the assumptions contained in the Annual Budget set out the assumed level of contract generation that will</p>	<b>26/2014</b> Within the Annual Budget clearly define and articulate the operating strategies that will be implemented in order to achieve financial objectives. This should be linked to the AMP planning process.

Table of Current Review Asset System Deficiencies/ Recommendations			
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		actually be required, the residual generation that will be made available to the market and the plant operating parameters to achieve this, they do not define specific plant operating strategies or actions that will be implemented as part of this process. For example, in the absence of stated strategies and actions, the pursuit of current year financial outcomes as per the Annual Budget may be to the long-term detriment of the plant. Whilst there is no evidence of this occurring in practice a broader and more clearly articulated approach to operating strategy would be beneficial.	
27	10.4	<p>B2</p> <p>The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period.</p> <p>The Annual Budget does not include any detail on the basis of how the year 2-5 projections have been determined and it is considered appropriate for this to be included in future budget documents.</p>	27/2014 Within the Annual Budget clearly define and articulate the assumptions applying to longer-term revenue projections in order that the level of reasonableness applicable to them can be determined.
28	10.6	<p>A1</p> <p>Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary.</p> <p>Variance reporting was considered to be of a high quality however could be enhanced by the inclusion of corrective operational and trading actions to be taken to recover lost ground if possible and where necessary.</p>	28/2014 (OFI) Variance commentary in monthly Finance Management reports should identify corrective action that has been or will be taken where necessary.
29, 30	11.1	<p>B2</p> <p>There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates.</p> <p>The capital expenditure planning process appears to be robust however it is compromised by the absence of a detailed five year forward view of expenditure to be incurred albeit the inclusion of four year major maintenance events does ensure that all significant expenditure items are captured.</p> <p>There is currently a misalignment between the Required Maintenance Reserve Account Balance Schedule and the timing of major maintenance</p>	<p>29/2014 The capital expenditure plan within the Annual Budget needs to provide schedules for planned capital expenditure on maintenance on an annual basis for the current budget year and each of the ensuing 4 years to provide a 5 year forward view in total.</p> <p>30/2014 Arrange for the Lenders Engineer to review and reset the Required Maintenance Reserve Account Balance Schedule to reflect the planned timing of major maintenance events.</p>

Table of Current Review Asset System Deficiencies/ Recommendations			
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		events. Notwithstanding that the Maintenance Reserve Account currently appears to be overfunded and has been able to cover all actual planned maintenance costs to date this disparity should be remedied in order to provide certainty.	
31, 32	12.1	<p>C3</p> <p>A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current.</p> <p>While aspects of the asset management system and of the asset management plan were subject to review, there has been no formal review of the AMS or of the AMP during the Review period. There was no evidence that a structured review of the AMS has been carried out at regular intervals.</p>	<p><b>31/2014</b> Document the process for review of the asset management system (AMS) and the asset management plan (AMP).</p> <p><b>32/2014</b> Carry out a formal review of the AMS and the AMP. Update the AMS and the AMP as per review findings. (Refer to EC 1.1 for additional recommendation; a review of the above may also require a review and update of the Asset Life Plan).</p>
33	12.2	<p>B2</p> <p>Independent reviews (e.g. internal audit) are performed of the asset management system.</p> <p>An independent review of the AMS was completed in August 2011 as part of the requirements of the licence.</p> <p>No other independent reviews were evident for the Review period.</p>	<p><b>33/2014 (OFI)</b> The asset management system review process should include independent reviews.</p>

## AUDITOR'S OPINION, ASSET MANAGEMENT SYSTEM REVIEW

On completion of the asset management system review, after assessment and testing of the licensee's control environment the auditor has formed the opinion that during the audit period of 1 August 2011 to 31 July 2014, NewGen Power Kwinana Pty Ltd's asset management system was operating effectively. Of the 12 processes of the asset management system, process definition for the single element of asset creation and acquisition was found to require significant improvement, while another process, risk management, required corrective action.

## POST AUDIT AND REVIEW ACTION PLAN

The audit and review has resulted, where applicable, in findings and

recommendations that require corrective actions by the Licensee.

The recommendations have been listed in the Post Audit And Review Implementation Plan 2014. Responses including actions, responsibilities and dates for completion have been completed by the Licensee.

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

*The Post Audit Implementation Plan is a document prepared by the licensee in response to the recommendations provided by the audit and review. As it represent the licensee's views and actions it does not form part of the audit and review.*

#### Approvals

Representation	Name	Signature	Position	Date
Auditor:	M Zammit		Lead Auditor / Projects Director, Qualeng	30 January 2015

Ref:	66/1	
Issue Status		
Issue No	Date	Description
1	28 Nov 2014	First issue for review by the Authority
2	30 Jan 2015	Final issue

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# 1 OBJECTIVES AND SCOPE OF AUDIT AND REVIEW

## 1.1 BACKGROUND

NewGen Power Kwinana Pty Ltd (NPK or the licensee) generates and supplies electricity to the South West Interconnected System (SWIS) in Western Australia under the EGL3 Electricity Generation licence (the licence) granted by the Economic Regulation Authority (the Authority) on 22 February 2006 (the Licence is at Version 3, 13 January 2011).

The licence has been issued under Sections 7 and 15 of the Electricity Industry Act 2004 (WA) (the Act) and enables the licensee to construct and operate generating works or operate existing generating works in accordance with the licence terms and conditions.

The licence has been granted for an area located at Leath Road, Naval Base/Kwinana, South East of Perth,, Western Australia. The generating assets consist of:

- one Alstom GT 13E2-MXL 160 MW heavy duty industrial gas turbine;
- a Heat Recovery Steam Generator (HRSG);
- a 160MW steam turbine;
- air inlet filters and gas exhaust structures;
- natural gas conditioning and metering station;
- water treatment plant;
- balance of plant;
- direct cooling water (CW) system.

The total power export capacity of the station is 320 MW.

Under sections 13 and 14 of the Act NPK's systems are subject to independent performance audits and asset management system reviews at 24 month intervals or some other period as decided by the Authority. The performance audit is an audit of the effectiveness of measures taken by the licensee to meet the performance criteria specified in the licence. The asset management system review is to determine the effectiveness of the licensee's asset management system.

Qualeng has been engaged by NPK to conduct the performance audit and the asset management system review (the audit and review) for the period 1 August 2011 to 31 July 2014. The audit and review has been conducted and this report prepared in accordance with the "Authority's Audit and Review Guidelines: Electricity and Gas Licences (April 2014)" (the guidelines).

## 1.2 OBJECTIVES OF AUDIT AND REVIEW

The purpose of the performance audit is to:

- *Assess the effectiveness of measures taken by the licensee to meet the obligations of the performance and quality standards referred to in the licence.*

The purpose of the asset management system review is to:

- *Assess the effectiveness of the measures taken by the licensee for the proper management of assets used in the provision and operation of services and, where appropriate, for the construction or alteration of relevant assets.*

## 1.3 SCOPE OF AUDIT AND REVIEW

### 1.3.1 Scope of Performance Audit

The scope of the performance audit is to audit the systems and the processes to assess their effectiveness in ensuring compliance with the standards, outputs and outcomes required by the licence, in detail:

- Assess the effectiveness of systems and procedures and the adequacy of internal controls;
- Consider performance against standards prescribed in the licence;
- Provide assurance of compliance to systems and procedures, existence of control and system outputs / records;
- Verify completeness and accuracy of performance reporting to the Authority;
- Verify compliance with any individual licence conditions.

### 1.3.2 Scope of Asset Management System Review

The scope of the asset management system review includes the assessment of the adequacy and effectiveness of the licensee's asset management system by evaluating the key processes of:

- Asset planning
- Asset creation/acquisition
- Asset disposal
- Environmental analysis
- Asset operations
- Asset maintenance
- Asset management information system
- Risk management

- Contingency planning
- Financial planning
- Capital expenditure planning
- Review of the asset management system.

Each of the system processes was evaluated against effectiveness criteria defined in the guidelines.

Key documentation examined by the auditors is listed in Appendix A.

## **1.4 AUDIT AND REVIEW PERIOD**

The audit and review covers the period between 1 August 2011 to 31 July 2014. The audit and review was carried out between September and November 2014.

## **1.5 METHODOLOGY OF AUDIT AND REVIEW**

The audit and review followed the methodology defined in the Authority's guidelines including:

- Review of documentation;
- Preparation of the audit and review plan, risk assessment and system analysis;
- Fieldwork including the document review and meetings;
- Reporting.

These activities were supported by additional investigations to further clarify aspects of the procedures.

The audit and review plan was prepared outlining the objectives, scope, risk assessment, system analysis, fieldwork plan, the report structure, key contacts and auditing staff.

The audit and review adopted a risk based approach where a preliminary risk and materiality assessment was carried out. The risks resulting from lack of controls (inherent risks) and the strength of existing controls to mitigate the inherent risks were rated and audit and review priority assigned based on the above. Tests were also defined for each licence condition to assess the compliance and effectiveness of the current process.

With specific regard to the Asset Management Review, the review followed the methodology outlined above and defined in the guidelines. The risk assessment was carried out on each asset management system (AMS) element to assess the effectiveness of the current asset management processes.

## **1.6 LICENSEE'S REPRESENTATION**

Licensee representatives that participated in the audit and review meetings or were requested to clarify aspects of the licensee's operation were:

- Mark Hammond, Station Manager, ERM
- Andrew Sutherland, CEO, Summit Southern Cross Power Pty Ltd
- Ralph Lochbuehler, Engineering Manager, ERM
- Vern Louw, Finance Control, ERM
- Tim Harrison, Maintenance Supervisor, ERM
- Melissa Coates, Station Support Officer, ERM.

## 1.7 LOCATIONS VISITED

The following facility was visited during the audit and review:

- NPK Power Station site.

## 1.8 AUDIT AND REVIEW TEAM

A summary of the auditing resources utilised in the performance of the audit and review is listed below.

<i>Item</i>	<i>Resource</i>	<i>Description</i>	<i>Hours</i>
1	M Zammit	Project Director and Lead Auditor	75
2	S Campbell	Senior Engineer, Document Reviewer and Verifier	30
3	M Cavanagh	Reviewer	35
4	Support staff	Document control	-

## 1.9 KEY DOCUMENTS AND INFORMATION

Main documents accessed by the auditors are listed in Appendix A.

## 1.10 LIMITATIONS AND QUALIFICATIONS

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

In regard to the review process, the reviewer relies on evidence coming to the reviewer's attention showing that the control procedures are not effective, when the initial process and procedures do not provide sufficient evidence to the level that would be required by a review.

As noted above, due to the sampling process, the nature of the evidence available to the auditor, the limitations of internal controls and the need to use judgement in the

assessment of evidence there are limitations in the level of accuracy that can be obtained in the audit and in the review and errors and non-compliances may remain undetected.

The Post Audit And Review Implementation Plan (PAIP) is a document prepared by the licensee in response to the recommendations provided by the audit and review. As it represents the licensee's views and actions it does not form part of the audit and review and is provided separately in accordance with the guidelines.

## 1.11 ABBREVIATIONS

AMP	Asset Management Plan
AMIS	Asset Management Information System
AMS	Asset Management System
AS	Australian Standard
Authority	Economic Regulation Authority
CAPEX	Capital Expenditure
CEO	Chief Executive Officer
DM	Document Management
DSOC	Declared Sent Out Capacity
EC	Effectiveness Criteria
EH&S	Environmental Health and Safety
ERMPL	ERM Power Generation Pty Ltd
ETAC	Electricity Transfer Access Contract
HV	High voltage
KPI	Key Performance Indicators
LCC	Lifecycle costs
LV	Low voltage
MRA	Maintenance Reserve Account
NA	Not applicable
NPK	NewGen Power Kwinana Pty Ltd
NR	Not rated
O&M	Operation and Maintenance
OFI	Opportunity for Improvement
OHSE	Occupational Health, Safety and Environmental
OPEX	Operating Expenditure

PAIP	Post Audit and Review Implementation Plan
SLA	Service Level Agreement
YTD	Year to Date

## **2 KEY FINDINGS AND RECOMMENDATIONS**

### **2.1 LICENSEE'S RESPONSE TO PREVIOUS AUDIT AND REVIEW RECOMMENDATIONS**

The previous audit report covered the period 1 August 2009 to 31 July 2011. The report made no recommendations and therefore there are no previous actions to review within this audit.

## 2.2 SUMMARY OF AUDIT AND REVIEW

Separate performance audit summary and asset management system review summary are provided in this section.

### 2.2.1 Performance Audit Compliance Summary

The performance audit is summarised below in Table 3. The table lists the compliance rating for each licence condition using the two-dimensional rating scale described in Table 4.

Each obligation is rated for both the adequacy of existing controls and the compliance with the relevant licence obligation.

**Table 3: Audit Obligation Ratings**

Compliance Licence Condition	Compliance Licence Condition	Audit Priority Applied (1=Highest 5=Lowest)	Adequacy of Controls Rating (Refer to the 4-point rating scale in Table 4 for details) (NP = Not Performed)					Compliance Rating (Refer to the 4-point rating scale in Table 4 for details)			
			A	B	C	D	NP	1	2	3	4
2	Grant of licence	5	✓					✓			
3	Term	5	✓					✓			
4	Fees	5	✓					✓			
5	Compliance	4	✓					✓			
6	Transfer of licence						NR				
7	Cancellation of licence						NR				
8	Surrender of licence						NR				
9	Renewal of licence						NR				
10	Amendment of licence (licensee)						NR				
11	Amendment of licence (Authority)						NR				
12	Accounting records	4	✓					✓			
13	Individual performance standards						NA				
14	Performance audit	4	✓					✓			
15	Reporting a change in circumstances	4					NR				
16	Provision of information	5	✓						✓		
17	Publishing information	5					NR				



Compliance Licence Condition	Compliance Licence Condition	Audit Priority Applied (1=Highest 5=Lowest)	Adequacy of Controls Rating (Refer to the 4-point rating scale in Table 4 for details) (NP = Not Performed)					Compliance Rating (Refer to the 4-point rating scale in Table 4 for details)			
			A	B	C	D	NP	1	2	3	4
18	Notices	5	✓					✓			
19	Review of the Authority's decisions						NR				
20	Asset Management System	2	✓					✓			

Note: Where obligations have not been rated, reasons for the lack of rating are provided in Table 8 Performance Audit Observations and Recommendations (July 2014 version).

**Table 4: Audit compliance and controls rating scales**

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

## 2.2.2 Asset Management Review Effectiveness Summary

The review of the Asset Management System is summarised below in Table 5. The table lists each of the 12 key asset management processes together with the effectiveness criteria for each key component. Definition of the ratings is given in Table 6 (process and policy definition) and Table 7 (performance).

**Table 5: Asset management effectiveness summary**

<b>ASSET MANAGEMENT SYSTEM</b>	<b>Asset management process and policy definition adequacy ratings</b>	<b>Asset management performance ratings</b>
1. Asset planning	<b>B</b>	<b>2</b>
2. Asset creation/ acquisition	<b>C</b>	<b>2</b>
3. Asset disposal	<b>B</b>	<b>1</b>
4. Environmental analysis	<b>B</b>	<b>2</b>
5. Asset operations	<b>A</b>	<b>1</b>
6. Asset maintenance	<b>A</b>	<b>1</b>
7. Asset management information system	<b>B</b>	<b>1</b>
8. Risk management	<b>B</b>	<b>3</b>
9. Contingency planning	<b>B</b>	<b>1</b>
10. Financial planning	<b>B</b>	<b>1</b>
11. Capital expenditure planning	<b>A</b>	<b>1</b>
12. Review of asset management system	<b>B</b>	<b>2</b>

**Table 6: Asset management process and policy definition adequacy ratings**

<b>Rating</b>	<b>Description</b>	<b>Criteria</b>
<b>A</b>	Adequately defined	<ul style="list-style-type: none"> <li>Processes and policies are documented.</li> <li>Processes and policies adequately document the required performance of the assets.</li> <li>Processes and policies are subject to regular reviews, and updated where necessary.</li> <li>The asset management information system(s) are adequate in relation to the assets that are being managed.</li> </ul>
<b>B</b>	Requires some improvement	<ul style="list-style-type: none"> <li>Process and policy documentation requires improvement.</li> <li>Processes and policies do not adequately document the required performance of the assets.</li> <li>Reviews of processes and policies are not conducted regularly enough.</li> <li>The asset management information system(s) require minor improvements (taking into consideration the assets that are being managed).</li> </ul>
<b>C</b>	Requires significant improvements	<ul style="list-style-type: none"> <li>Process and policy documentation is incomplete or requires significant improvement.</li> <li>Processes and policies do not document the required performance of the assets.</li> <li>Processes and policies are significantly out of date.</li> <li>The asset management information system(s) require significant improvements (taking into consideration the assets that are being managed).</li> </ul>

Rating	Description	Criteria
D	Inadequate	<ul style="list-style-type: none"> <li>Processes and policies are not documented.</li> <li>The asset management information system(s) is not fit for purpose (taking into consideration the assets that are being managed).</li> </ul>

**Table 7: Asset management review performance rating scale**

Rating	Description	Criteria
1	Performing effectively	<ul style="list-style-type: none"> <li>The performance of the process meets or exceeds the required levels of performance.</li> <li>Process effectiveness is regularly assessed, and corrective action taken where necessary.</li> </ul>
2	Opportunity for improvement	<ul style="list-style-type: none"> <li>The performance of the process requires some improvement to meet the required level.</li> <li>Process effectiveness reviews are not performed regularly enough.</li> <li>Process improvement opportunities are not actioned.</li> </ul>
3	Corrective action required	<ul style="list-style-type: none"> <li>The performance of the process requires significant improvement to meet the required level.</li> <li>Process effectiveness reviews are performed irregularly, or not at all.</li> <li>Process improvement opportunities are not actioned.</li> </ul>
4	Serious action required	<ul style="list-style-type: none"> <li>Process is not performed, or the performance is so poor that the process is considered to be ineffective.</li> </ul>

## 2.3 OBSERVATIONS AND FINDINGS

The observations and findings of the performance audit and the asset management system review are reported in Table 8 and Table 9.

The tables include all the findings, observations and recommendations and rate NPK's overall compliance and adequacy of controls for each licence obligation and process and policy definition adequacy and performance for the asset management system in accordance with the Authority's requirements. The guidelines rating definitions are reproduced in Table 4 for the performance audit and in Table 6 and Table 7 for the asset management system review.

In regard to the performance audit, where appropriate or where the compliance obligation has been rated as C, D, 2, 3 or 4 recommendations are made to address the issue(s) that have resulted in that rating. Optionally, recommendations to address opportunities for improvement (for items rated A, B or 1) may also be included in the audit report.

In regard to the asset management system review, if process and policy definition is rated C or D, or the asset management performance is rated 3 or 4, recommendations are included to address the deficiencies that have resulted in those ratings.

The licensee's corrective actions are included in the separate Post Audit And Review Implementation Plan.

### 2.3.1 Performance audit findings and observations

Key findings and recommendations arising from the performance audit are listed against their licence obligation in the following table.

#### KEY TO FINDINGS AND RECOMMENDATIONS

Key	Description
►	Finding/ Non-compliance or Inadequacy of controls
1. Text	Recommendations
[OFI]	Opportunity for Improvement

Key	Description
Licence Grant Date	The licence was granted on the 22 February 2006
Start of operation	Plant commissioning was completed in October 2008
Audit period	1 August 2011 to 31 July 2014
Electricity Compliance Reporting Manual version	July 2014 version

**Table 8 Performance Audit Observations and Recommendations (July 2014 version)**

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy AB=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
L1	CI 2	<b>Grant of Licence</b> Licensee is granted a licence for the licence area to construct and operate generating works or operate existing generating works in accordance with the terms and conditions of this licence	The licensee has identified the licence area and is operating the plant in accordance with the conditions of the licence.	5	A	1	
L2	CI.2 (Sch1)	<b>Licence Area</b> The licence area is the area as set out in plan ERA-EL-068	The licensee has identified the licence area and the licence boundaries which correspond to the licence information.	5	A	1	
L3	CI 3	<b>Term</b> Licence commences on the commencement date (22 February 2006) and continues until the earlier of:  (a) the cancellation of the licence (clause 7) (b) surrender of licence (c) expiry (2036)	The licence has been maintained during the audit period. There have been no changes to the licence such as cancellation, surrender or expiry.	5	A	1	
105 L4	CI 4	<b>Electricity Industry Act section 17(1)</b> A licensee must pay to the Authority the prescribed licence fee within one month after the day of grant or renewal of the licence and within one month after each anniversary of that day during the term of the licence.	Through examination of evidence related to licence fee payments the audit found: <ul style="list-style-type: none"><li>For the year 2011-12, licence anniversary 22 February 2012 and Authority's invoice IVERA267 of 9 February 2012, payment was authorised and effected on 9 March 2012;</li><li>For the year 2012-13, licence anniversary of 22 February 2013, Authority's invoice IVERA100004 of 11 February 2013 was paid on 28 February 2013;</li></ul>	5	A	1	
	CI 4.1	The licensee must pay the applicable fees in accordance with the Regulations					

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
			<ul style="list-style-type: none"> <li>For the year 2013-14, licence anniversary of 22 February 2014, Authority's invoice IVERA100115 of 11 February 2014 was paid on 13 February 2014.</li> </ul> <p>All payments were in compliance with the Regulations.</p>				
L5	Cl.5	<b>Compliance:</b> The licensee must comply with all applicable legislation.	<p>The audit found that the licensee has a process and documentation in place to ensure the licensee's compliance with applicable legislation:</p> <ul style="list-style-type: none"> <li>the "NPK REG ADM 149 NPK Licence Requirements" matrix is used to identify the requirements of the licence and timing for compliance; the matrix allocates responsibilities for compliance and timing for submission of documentation;</li> <li>samples of compliance obligations in the matrix include: <ul style="list-style-type: none"> <li>ERA Generation Licence fee payments;</li> <li>Department of Environment and Conservation licence annual report;</li> <li>Radio frequency licence fee payments;</li> <li>Office of the environmental protection authority audit;</li> <li>Dangerous Goods licence;</li> <li>Water Efficiency Management Plan;</li> </ul> </li> </ul>	4	A	1	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
			<ul style="list-style-type: none"> <li>Electricity Generation Licence compliance report; etc</li> </ul> <p>(Further details of compliance are audited under obligation 124)</p>				
106	CI 5.1	<p><b>Electricity Industry Act section 31(3)</b></p> <p>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, potential danger or other unavoidable cause.</p>	<p>Documents and processes are in place to manage and minimise the extent and duration of interruption of the supply of electricity:</p> <ul style="list-style-type: none"> <li>the “Safety Incident Register” records all incidents and potential incidents, timing, severity, investigations and closure of incident;</li> <li>both internal and external risk assessments of plant operation;</li> <li>operating reports such as the monthly “NPK Business Services Report (Ops Section)” which monitor plant events and corrective actions;</li> <li>inspection plan to ensure plant is subject to recommended inspection and maintenance regime based on operating conditions;</li> <li>“Emergency Response Plan” to provide response strategies to accidents, emergencies and interruptions.</li> </ul>	4	A	1	
107	CI 5.1	<p><b>Electricity Industry Act section 41(6)</b></p> <p>A licensee must pay the costs of taking an interest in land or an easement over land</p>	<p>The licensee has paid all the fees due for the site.</p> <p>Payments of site rental were examined:</p>	4	A	1	



Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
			<ul style="list-style-type: none"> <li>In 2012, site rental was paid on 30/11/12, reference number GENDB0007022;</li> <li>In 2013, site rental was paid on 31/10/13, reference number GENDB0007979.</li> </ul>				
L6	CI 6	<b>Transfer of Licence</b> This licence may be transferred only in accordance with the Act.	Not applicable in the audit period.	-	NR	NR	
L7	CI 7	<b>Cancellation of Licence</b> This licence may be cancelled only in accordance with the Act.	Not applicable in the audit period.	-	NR	NR	
L8	CI 8	<b>Surrender of Licence</b> This licence may be surrendered only in accordance with the Act [and as defined in the clause]	Not applicable in the audit period.	-	NR	NR	
L9	CI 9	<b>Renewal of Licence</b> This licence may be renewed only in accordance with the Act.	Not applicable in the audit period.	-	NR	NR	
L10	CI 10	<b>Amendment of Licence on Application of the Licensee</b> The licensee may apply to the Authority to amend the licence in accordance with the Act.	Not applicable in the audit period.	-	NR	NR	
L11	CI 11	<b>Amendment of Licence by the Authority</b> the Authority may amend the licence at any time in accordance with this clause.	Not applicable in the audit period.	-	NR	NR	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
L12 See item 119	CI 12	<b>Accounting Records</b> See item 119 below				-	
119	CI 12.1	<b>Accounting records:</b> Electricity Industry Act section 11 A licensee and any related body corporate must maintain accounting records that comply with the Australian Accounting Standards Board Standards or equivalent International Accounting Standards.	<p>There was evidence to show that accounting records of the body corporate comply with the Australian Accounting Standards Board Standards.</p> <p>The audit examined the accounting records for the 2014 financial year which have been prepared by the partners and approved by the directors of the NewGen Power Kwinana Partnership for the members of the Partnership. According to the partners:</p> <ul style="list-style-type: none"> <li>the company is not a reporting entity as there are no users dependent on general purpose financial statements;</li> <li>accounting policies and records comply with the Australian Accounting Standards Board Standards.</li> </ul> <p>The financial report of NewGen Power Kwinana Partnership has been audited by KPMG which have concluded that in their opinion the financial report “presents fairly the financial position of the Partnership...and its financial performance... in accordance with the accounting policies described” [above].</p>	4	A	1	
120	CI 13	<b>Individual Performance Standards</b> Electricity Industry Act section 11	Not applicable, no individual performance	-	NA	NA	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
	CI 13.4	A licensee must comply with any individual performance standards prescribed by the Authority.	standards were prescribed by the Authority.				
L14	CI 14	<b>Performance Audit</b> see items 101, 121 below.				-	
101	CI14.1	<b>Electricity Industry Act section 13(1)</b> A licensee must, not less than once every 24 months, provide the Authority with a performance audit conducted by an independent expert acceptable to the Authority.  CI 14.1  The licensee must, unless otherwise notified in writing by the Authority, provide the Authority with a performance audit within 24 months after the commencement date, and every 24 months thereafter.	The audit found evidence of the licensee compliance with the requirement to provide a performance audit by examining the following information: <ul style="list-style-type: none"> <li>The Licence, which was granted on 22 February 2006;</li> <li>a letter of 28 August 2014 by the Authority advising the approval of the auditor and stating that the audit period was from 1 August 2011 to 31 July 2014, with a report to be provided to the Authority by 31 October 2014;</li> <li>the licensee commissioned an independent expert to provide the Authority with a performance audit and a report to cover the period of 36 months from 1 August 2011 to 31 July 2014.</li> </ul>	4	A	1	
121	CI 14.2	<b>Electricity Industry Act section 11</b> A licensee must comply, and require its auditor to comply, with the Authority's standard audit guidelines dealing with the performance audit.	The licensee has specified and the auditor has documented in the Audit Plan its compliance with the Authority's guidelines.	4	A	1	
L15	CI 14.3	The licensee may seek a review of any of the requirements of the Authority's standard audit	Not applicable in the audit period.	4	NR	NR	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
		guidelines in accordance with clause 19.1.					
L16	CI 14.4	The independent auditor must be approved by the Authority prior to the audit.	The independent auditor was approved by the Authority by letter on 28 August 2014.	4	A	1	
123	CI 15	<b>Reporting a Change in Circumstances</b> Electricity Industry Act section 11 A licensee must report to the Authority, in the manner prescribed, if a licensee is under external administration or there is a significant change in the circumstances upon which the licence was granted which may affect a licensee's ability to meet its obligations.	Not applicable during the audit period. The licensee has not been under external administration during the audit period and there were no significant changes in the circumstances upon which the licence was granted which may affect a licensee's ability to meet its obligations.	4	NR	NR	
L17	CI 15.1	The licensee must report to the Authority: (a) if the licensee is under external administration (b) if the licensee experiences a change in the licensee's corporate, financial or technical circumstances upon which this licence was granted which may affect the licensee's ability to meet its obligations under this licence within 10 business days of the change occurring or (c) if the: (i-iii) licensee's name; licensee's ABN; licensee's address; (iv) description of the generating works; or (v) nameplate capacity of the generating works,	As per item 123 above.	4	NR	NR	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
		change, within 10 business days of the change occurring.					
124	CI 16 CI 16.1	<b>Provision of information</b> Electricity Industry Act section 11 A licensee must provide the Authority, in the manner prescribed, any information the Authority requires in connection with its functions under the Electricity Industry Act.	<p>Under the Electricity Industry Act the licensee is required to provide the information requested by the Authority which includes:</p> <ul style="list-style-type: none"> <li>Annual Compliance reports covering all of its type 1 and type 2 licence obligations for each reporting year (1 July and ending 30 June) by 31 August immediately following the end of the financial year that is the subject of the report.</li> </ul> <p>The audit examined the licensee compliance reports and found evidence of the following:</p> <ul style="list-style-type: none"> <li>the licensee's letter dated 28 August 2012 sent to the Authority with the attached non-compliance report;</li> <li>the licensee's letter dated 22 August 2013 sent to the Authority with the attached non-compliance report;</li> <li>the licensee's letter dated 5 September 2014 sent to the Authority with the attached non-compliance report.</li> </ul> <p>▶ The 2014 submission was five days late as it was due on the 31 August 2014 and was submitted on the 5 September 2014. A non compliance will need to be recorded for the reporting year 1 July</p>	5	A	2	<p>1. The 2014 submission of the annual generation licence compliance report was five days late as it was due on the 31 August 2014 and was submitted on the 5 September 2014. A non compliance will need to be recorded for the reporting year 1 July 2014-30 June 2015.</p>

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
			2014-30 June 2015.				
125	CL 17 CI 17.1	<b>Publishing information</b> Electricity Industry Act section 11 A licensee must publish any information it is directed by the Authority to publish, within the timeframes specified.	Not applicable in the audit period. There were no directions by the Authority to publish any information.	5	NR	NR	
126	CI 18 CI 18.1	<b>Notices</b> Electricity Industry Act section 11 Unless otherwise specified, all notices must be in writing.	It was confirmed with the licensee's Power Station Manager that all notices are provided in writing.	5	A	1	
L19	CI 19 CI 19.1	<b>Review of the Authority's decisions</b> The licensee may seek a review of a reviewable decision by the Authority pursuant to this licence.	Not applicable in the audit period.	-	NR	NR	
L20	CI 20	<b>Asset Management System</b> See 102/CI 20.1				-	
102	CI 20.1	<b>Electricity Industry Act section 14(1)(a)</b> A licensee must provide for an asset management system. CI 20.1 The licensee must provide for an asset management system in respect of the licensee's assets.	The licensee has implemented an asset management system (AMS) which has been subject to review by an independent auditor.	2	A	1	
103		<b>Electricity Industry Act section 14(1)(b)</b> A licensee must notify details of the asset management system and any substantial	Not applicable during the audit period. There were no substantial changes to the licensee's asset management system (AMS)	2	NR	NR	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B = Y C,D = N	Compliance * 1=Y 2,3,4=N	Recommendations
		changes to it to the Authority.	in the audit period.				
L21	CI 20.2	The licensee must notify the Authority of the details of the asset management system within 5 business days from the later of: (a) the commencement date; and (b) the completion of construction of the generating works.	Not applicable during the audit period, there have been no substantial changes to the asset management system in the audit period.	2	as above	as above	
L22	CI 20.3	The licensee must notify the Authority of any substantial change to the asset management system within 10 business days of such change	Not applicable during the audit period, there have been no substantial changes to the asset management system in the audit period.	2	NR	NR	
104	CI 20.4	<b>Electricity Industry Act section 14(1)(c)</b> A licensee must provide the Authority with a report by an independent expert as to the effectiveness of its asset management system every 24 months [calculated from the commencement date] or such longer period as determined [in writing] by the Authority.	The licensee has commissioned an independent expert to provide the Authority with a report on the effectiveness of its asset management system to cover a period of 36 months from 1 August 2011 to 31 July 2014 as noted in the Authority's letter of the 28 August 2014.	2	A	1	
122	CI 20.5	<b>Electricity Industry Act section 11</b> A licensee must comply, and must require the licensee's expert to comply, with the relevant aspects of the Authority's standard guidelines dealing with the asset management system.	The licensee has complied and has requested the licensee's expert to comply with the Authority's guidelines. The licensee's expert has documented in the Audit Plan its compliance with the Authority's guidelines.	2	A	1	
L23	CI 20.6	The licensee may seek a review of any of the requirements of the Authority's standard audit	Not applicable in the audit period. There have been no requests for a review of the	2	NR	NR	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
		guidelines dealing with the asset management system in accordance with clause 19.1.	Authority's standard audit guidelines dealing with the asset management system.				
L24	CI 20.7	The review of the asset management system must be conducted by an independent expert approved by the Authority.	The independent expert was approved by the Authority in writing on 28 August 2014.	2	A	1	
324	CI 5.1	<b>Electricity Industry Metering Code clause 3.3B</b> A user who is aware of bi-directional flows at a metering point which was not previously subject to a bi-directional electricity flows or any changes in a customer's or user's circumstances in a metering point which will result in bi-directional electricity flows must notify the network operator within 2 business days.	Not applicable in the audit period. The licensee is a user and has an Entry Service Agreement with the network operator. There have been no changes to the operation of flows at the metering point. There have been bi-directional flows at the metering point since the start of operation.	4	NR	NR	
339	CI 5.1	<b>Electricity Industry Metering Code clause 3.11(3)</b> A Code participant who becomes aware of an outage or malfunction of a metering installation must advise the network operator as soon as practicable.	Not applicable in the audit period. The licensee has not become aware of an outage or malfunction of the metering installation during the audit period. Metering is on Synergy's land within the Power Station compound. Operator can access and gets readings of main and check meters daily for cross-checking by the Engineering Manager. No discrepancies were found in the audit period.	4	NR	NR	
364	CI 5.1	<b>Electricity Industry Metering Code clause 3.27</b> 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	Not applicable in the audit period. The metering installation was installed by the network operator, Western Power.	4	NR	NR	



Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
		of work authorised by its registration.					
371	CI 5.1	<b>Electricity Industry Metering Code clause 4.4(1)</b> If there is a discrepancy between energy data held in a metering installation and data held in the metering database, the affected Code participants and the network operator must liaise together to determine the most appropriate way to resolve a discrepancy.	Not applicable in the audit period. All operation related to the metering is performed by the network operator. There was no evidence that a metering discrepancy had occurred in the audit period.	4	NR	NR	
372	CI 5.1	<b>Electricity Industry Metering Code clause 4.5(1)</b> A Code participant must not knowingly permit the registry to be materially inaccurate.	Not applicable in the audit period. All operation related to the metering is performed by the network operator and the Code participant was not aware of any inaccuracy in the registry during the audit period.	4	NR	NR	
373	CI 5.1	<b>Electricity Industry Metering Code clause 4.5(2)</b> Subject to subclause 5.19(6), if a Code participant, other than a network operator, becomes aware of a change to, or an 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.	Not applicable in the audit period. There was no evidence that a metering discrepancy had occurred in the audit period.	4	NR	NR	
388	CI 5.1	<b>Electricity Industry Metering Code clause 5.4(2)</b> A user must, when reasonably requested by a network operator, assist the network operator to comply with the network operator's obligation	Not applicable in the audit period. No applicable requests were received by the licensee from the network operator in the audit period.	4	NR	NR	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
		under subclause 5.4(1). [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.					
401	CI 5.1	<b>Electricity Industry Metering Code clause 5.16</b> 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.	Not applicable. All operation related to the metering is performed by the network operator.	4	NA	NA	
402	CI 5.1	<b>Electricity Industry Metering Code clause 5.17(1)</b> 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.	Not applicable during the audit period. The user had no customers under the Electricity Industry Metering Code during the audit period.	4	NR	NR	
405	CI 5.1	<b>Electricity Industry Metering Code clause 5.18</b> 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.	Not applicable. All operation related to the metering is performed by the network operator.	4	NA	NA	
406	CI 5.1	<b>Electricity Industry Metering Code clause 5.19(1)</b> A user must, when requested by the network	Not applicable during the audit period. There have been no requests by the network operator to collect information from the	4	NR	NR	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
		operator acting in accordance with good electricity industry practice, use reasonable endeavours to collect information from 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.	customers during the audit period.				
407	CI 5.1	<b>Electricity Industry Metering Code clause 5.19(2)</b> 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.	Not applicable. The connection point is with the network operator and the user has no customers under the Electricity Industry Metering Code and has no other connection points.  Under the Entry Services Agreement between the user and the network operator, the network operator is the owner of the metering installation and solely responsible for maintaining and operating the metering equipment.	4	NA	NA	
408	CI 5.1	<b>Electricity Industry Metering Code clause 5.19(3)</b> 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.	Not applicable. The connection point is with the network operator, there are no customers associated with the connection point under the Electricity Industry Metering Code.	4	NA	NA	
410	CI 5.1	<b>Electricity Industry Metering Code clause 5.19(6)</b> The user must use reasonable endeavours to ensure that it does not notify the network operator of a change in an attribute described in subclause 5.19(2) that results from the provision of standing	Not applicable. The connection point is with the network operator, there are no customers associated with the connection point under the Electricity Industry Metering Code.	4	NA	NA	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
		data by the network operator to the user.					
416	CI 5.1	<b>Electricity Industry Metering Code clause 5.21(5)</b> A Code participant must not request a test or audit under subclause 5.21(1) unless the Code participant is a user and the test or audit relates to a time or times at which the user was the current user or the Code participant is the IMO.	Not applicable during the audit period.	4	NR	NR	
417	CI 5.1	<b>Electricity Industry Metering Code clause 5.21(6)</b> A Code participant must not make a request under subclause 5.21(1) that is inconsistent with any access arrangement or agreement. [5.21(1) A Code participant must not make a test or audit request that is inconsistent with any access arrangement or agreement].	Not applicable during the audit period.	4	NR	NR	
435	CI 5.1	<b>Electricity Industry Metering Code clause 5.27</b> Upon request from a network operator, the current user for a connection point must provide the network operator with customer attribute information that it reasonably believes are missing or incorrect within the timeframes prescribed.	Not applicable. The connection point is with the network operator and there are no customers associated with the connection point under the Electricity Industry Metering Code..	4	NA	NA	
448	CI 5.1	<b>Electricity Industry Metering Code clause 6.1(2)</b> A user must, in relation to a network on which it has an access contract, comply with the rules, procedures, agreements and criteria prescribed.	In respect to the Electricity Industry Metering Code there is no evidence that there have been breaches of the rules, procedures, agreements and criteria in the audit period.	4	A	1	
451	CI 5.1	<b>Electricity Industry Metering Code clause 7.2(1)</b>	The audit found that the licensee has been in constant communication with the network	4	A	1	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
		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.	operator during the audit period. The code participant site has facilities for communication by post, facsimile, electronic communication (internet and email) and telephone.				
453	CI 5.1	<b>Electricity Industry Metering Code clause 7.2(4)</b> If requested by a network operator with whom it has entered into an access contract, the Code participant must notify its contact details to a network operator within 3 business days after the request.	Not applicable during the audit period. There was no request by the network operator of code participant contact details and the code participant has been in continuous contact with the network operator during the audit period.	4	NR	NR	
454	CI 5.1	<b>Electricity Industry Metering Code clause 7.2(5)</b> 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.	Not applicable during the audit period. There was no evidence to show that there had been a change in the code participant contact details during the audit period.	4	NR	NR	
455	CI 5.1	<b>Electricity Industry Metering Code clause 7.5</b> 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.	NPK has in place confidentiality obligations with its employees and contractors. There is no evidence that confidential information was disclosed or requested during the audit period.	4	A	1	
456	CI 5.1	<b>Electricity Industry Metering Code clause 7.6(1)</b> A Code participant must disclose or permit the	Discussion with the licensee Power Station Manager confirmed during the course of the audit that the licensee permits the	4	A	1	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
		disclosure of confidential information that is required to be disclosed by the Code.	disclosure of confidential information that is required to be disclosed by the Code.				
457	CI 5.1	<b>Electricity Industry Metering Code clause 8.1(1)</b> 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.	Not applicable during the audit period. There have been no Code participant disputes during the audit period.	4	NR	NR	
458	CI 5.1	<b>Electricity Industry Metering Code clause 8.1(2)</b> 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.	Not applicable during the audit period.	4	NR	NR	
459	CI 5.1	<b>Electricity Industry Metering Code clause 8.1(3)</b> 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.	Not applicable during the audit period.	4	NR	NR	
460	CI 5.1	<b>Electricity Industry Metering Code clause 8.1(4)</b> If the dispute is resolved by representative	Not applicable during the audit period.	4	NR	NR	

Item	Lic ref	Licence Conditions	Findings	Audit Priority	Adequacy A,B=Y C,D=N	Compliance * 1=Y 2,3,4=N	Recommendations
		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.					
461	CI 5.1	<b>Electricity Industry Metering Code clause 8.3(2)</b> The disputing parties must at all times conduct themselves in a manner which is directed towards achieving the objective in subclause 8.3(1).	Not applicable during the audit period.	4	NR	NR	

### 2.3.2 Asset Management System Review Findings and Observations

Key findings and recommendations arising from the Asset Management System Review are listed against their Effectiveness Criteria (EC) in the following table.

#### KEY TO FINDINGS AND RECOMMENDATIONS

Key	Description
►	Finding/ Deficiency
1. Text	Recommendations
[OFI]	Opportunity for Improvement

Table 9 - Asset Management System Review

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
1	Asset Planning	Integration of asset strategies into operational or business plans will establish a framework for existing and new assets to be effectively utilised and their service potential optimised.	
	General: Licensee structure	NewGen Power Kwinana Pty Ltd (NPK) is the licensee. During the Review period, 1 August 2011 to 31 July 2014 NPK was owned by NewGen Holdings Pty Ltd, in turn this company was owned by Summit Kwinana Power Pty Ltd and EIT Kwinana Partner Pty Ltd as partners in the NewGen Power Kwinana Partnership. The Partnership had appointed NPK to act as Agent for the partnership. ERM Power Generation Pty Ltd had been engaged as subcontractor to the Agent under the Operator Services Agreement (OSA) signed 18 February 2010. Post Review period the owners of the assets are Energy Infrastructure Trust (managed	



EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
		by Infrastructure Capital Group (ICG)) and Sumitomo Corporation through its wholly owned subsidiary, Summit Southern Cross Power Holdings Pty Ltd. Under the new OSA between NPK and Summit Southern Cross Power Pty Ltd (SSCP), SSCP is the Operator providing the operation and maintenance services to the licensee.	
1.1	Asset management plan covers key requirements.	<p>A stand alone Asset Management Plan (AMP) does not exist at NPK. The asset management plan is made up of a number of systems and documents. As noted in the 2011/12 Asset Management System (AMS) report the asset management plan relies on the application of the Computerised Maintenance Management System (CMMS) through the Maintenance Expert (MEX) database.</p> <p>The MEX database provides the asset register, the asset history and the planned and historical operation and maintenance (O&amp;M). Planned O&amp;M is demonstrated through the entry of planned activities and tasks into the database. Planned schedules are entered into standard jobs in the Preventative Maintenance Module of the CMMS. Tasks are usually entered or generated from standard jobs between one week to three weeks ahead. Decisions on maintenance schedules are finalised in operational meetings.</p> <p>The system is supported by the following documents:</p> <ul style="list-style-type: none"> <li>• Kwinana Asset Management Policy;</li> <li>• Asset Management System document (issue August 2008), not updated during the review period);</li> <li>• “Asset Life Plan (2008-2032) 30 Year Life Plan”, which is defined as “an executive summary of all maintenance strategies and details the long term asset management activities to achieve the aim of maximising whole of life asset value and the financial performance of the plant”; the Asset Life Plan was issued in July 2008 and had not been updated during the review period; it is noted that the document was revised after the Review period, in September 2014.</li> <li>• Work Instructions and Procedures.</li> </ul>	<p>ADEQUACY OF CONTROLS: B</p> <p>Policy documentation needs improvement</p> <p>PERFORMANCE: 2</p> <p>Performance requires some improvement</p> <p>1. Prepare a suitable Asset Management Plan (AMP). The AMP should provide clear definition of measurable objectives and strategies implemented to achieve those objective. The AMP should indicate the processes used to review plant performance and plan strategies and activities, manage the costs, risk and performance of the assets, the creation, acquisition or enhancement of assets, the utilisation, maintenance, replacement and disposal of assets; it should indicate the means to monitor performance and report it to management. The AMP should report on past performance.</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		<p>High level identification of asset issues was documented in the Asset Life Plan (2008). The Asset Life Plan is a good vehicle for documenting the asset strategies and planned activities. It documents:</p> <ul style="list-style-type: none"> <li>the forecast of: <ul style="list-style-type: none"> <li>Availability / Outage Factors 2009-2039</li> <li>Capacity Factors 2009-2039</li> <li>O&amp;M Expenditure 2009-2039 (high level)</li> <li>Life Cycle Models, with a Costs Schedule (forecast) 2009-2013 (high level)</li> </ul> </li> <li>forecast inspections of major plant and major events</li> <li>summary of operational parameters (forecast) 2009-2013.</li> </ul> <p>► Whilst MEX provides the individual list of maintenance tasks, there is no evidence of the planning process, the decisions, reasons and formulation of a maintenance strategy. There is documentation demonstrating some of the aspects of an asset management plan (AMP) however the Review did not find a comprehensive document dealing with the review of strategy at regular intervals;</p> <p>► a clear definition and review of service levels and objectives were not found within the AMP documentation. Also not found within the AMP: the review of performance against those objectives, the results analysed and the resulting corrective actions clearly defined.</p>	
1.2	Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning.	<p>► There is a process however there is no formal documented description of the process, so that the scope, consideration of operating objectives, stakeholder needs review are not formally defined. No documented planning procedure was evident.</p>	<p>ADEQUACY OF CONTROLS: C Process documentation is incomplete PERFORMANCE: 2 Performance requires some improvement</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		<p>The planning process takes place annually within the budgeting process.</p> <ul style="list-style-type: none"> <li>the budgeting process starts with a detailed budget plan which is prepared in December;</li> <li>maintenance strategies are reviewed by the Engineering team on the basis of plant operation and events such as outages;</li> <li>review meetings take place to firm the asset management budget, to be completed by the end of March/start of April.</li> </ul> <p>The auditors have noted that the Asset Life Plan was reviewed and revised after the Review period, in September 2014</p>	<p>2. Planning process should be documented either in the AMS documentation or in a stand alone procedure.</p>
1.3	Service levels are defined.	<p>From discussions with the Station Manager and the General Manager WA Projects the Review observed that service levels for the licensee are based on the supply of electricity to the licensee's customers, primarily Synergy and the IMO.</p> <p>Financial reports show that the Certified Reserve Capacity (CRC) of the plant is 320 MW in the Wholesale Energy Market (WEM). The licensee sells capacity credits and energy up to 308 MW to Synergy under a Tradeable Purchase Agreement (TPA) while the remaining capacity of 12 MW is sold to the Independent Market Operator (IMO) at the Reserve Capacity Price. Under the TPA the source of the electricity is not stipulated so that, if generation fails, electricity can be sourced elsewhere and the service levels maintained. However this will severely impact the internal performance and commercial viability of the asset.</p> <p>► The Review did not find in the AMS documents or in the Business Services Reports clear information on quantifiable service levels and objectives.</p>	<p>ADEQUACY OF CONTROLS: B Process documentation needs improvement. PERFORMANCE: NR As service levels are not defined in the asset management system, performance cannot be rated</p> <p>3. Provide a clear and measurable definition of service levels. Review the definition of the plant objectives.</p>
1.4	Non-asset options (e.g. demand management) are considered.	<p>Not applicable to this operation as the operation is based on the supply of all generated power up to the contracted output to the customers.</p> <p>The operation relies on supplying power required by System Operation or dispatches</p>	NA

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		power on demand from the customer (IMO). The assets are geared to supply as much power as the customer(s) demand within the plant capacity, therefore there is no demand management as such.	
1.5	Lifecycle costs of owning and operating assets are assessed. (also at 2.2)	<p>The Asset Life Plan shows high level operating, maintenance and capital expenditure costs over the life of the plant.</p> <p>Currently the Asset Life Plan shows only forecast costs and does not compare actuals.</p> <p>► The Asset Life Plan was issued in July 2008 and had not been reviewed since. This finding is further addressed under EC1.9 (the Review has noted that the Asset Life Plan was reviewed after the Review period, in September 2014).</p> <p>Costs are reported and forecast on an annual basis through the annual budget, the "NewGen Kwinana Partnership Budget". This document provides present year planned budget, the present year forecast actual (based on YTD actuals) and budget projections over 5 years.</p>	<p>ADEQUACY OF CONTROLS: B Documentation requires some improvements</p> <p>PERFORMANCE: 2 Performance requires some improvement</p> <p>Recommendations made under EC1.9</p>
1.6	Funding options are evaluated.	<p>Funding sources are identified in the annual budgets (such as the "NewGen Power Kwinana Partnership Budget 2013" and similarly for 2015) which include a five year plan. Funding is based on revenue which is forecast in the budgets. Reserve funds are available from a "Maintenance Reserve Fund" which maintain reserves from revenue and from NewGen Power Kwinana Partnership reserve funds.</p> <ul style="list-style-type: none"> <li>major maintenance/inspection such as GT C (major) inspections are treated like projects and the expenses are funded primarily by the Maintenance Reserve Fund;</li> <li>generally funding sources are discussed in the yearly Budgets which go through a review and approval process;</li> </ul> <p>A Delegation of Financial Authority (DFA) is documented in the "ERM Policy Document" last updated in 2008 and due for review in 2009. It defines the level of management approval required for the expenditure for goods and services. Further DFA is defined in the OSA.</p> <p>► No procedure was found of the process of proposing, reviewing and approving</p>	<p>ADEQUACY OF CONTROLS: B Documentation requires improvement</p> <p>PERFORMANCE: 2 Performance requires some improvement</p> <p>4. Document a procedure for proposal, review and approval of projects and for evaluation of funding options. Procedure should include Life Cycle Costing in new asset evaluations.</p>

EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
		major projects and evaluation of funding options. No procedure for review of funding options for unbudgeted items was found.	
1.7	Costs are justified and cost drivers identified.	<p>Costs are included in the annual budget which is subject to an approval process. The budget includes:</p> <ul style="list-style-type: none"> <li>• forecast including a five year plan</li> <li>• actuals</li> <li>• major costs.</li> </ul> <p>The budget includes costs such as:</p> <ul style="list-style-type: none"> <li>• operating costs, labour, consumables and fuels</li> <li>• capital costs</li> <li>• cost of trading</li> <li>• carbon expenses</li> <li>• operating costs</li> <li>• materials.</li> </ul> <p>Variances are reviewed in the “NPK OPEX Budget Tracker by Cost Code” (eg. NPK OPEX Budget Tracker by Cost Code 31 August 2013). The cost tracker includes actuals from 2012-13, 2013-14 vs budgets for those years, plus old forecast for 2014-15 and new forecast for 2014-15 on the basis of the actuals. Monthly meetings are held to discuss the variances, comments on variances are recorded in the tracker document.</p>	<p>ADEQUACY OF CONTROLS: A</p> <p>Adequately defined</p> <p>PERFORMANCE: 1</p> <p>Performing effectively</p>
1.8	Likelihood and consequences of	The Asset Life Plan provides on overview of major asset performance and key issues	ADEQUACY OF CONTROLS: B

EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
	asset failure are predicted.	<p>affecting the plant operation. A “Safety Incident Register” records incidents such as asset incidents, safety and environmental. The “Corporate Risk Management Guideline” and the “Kwinana Asset Risk Management Policy (ver 2)” provide guidance on business or organisational risk (however the guideline has not been reviewed since 2008).</p> <p>► Likelihood and consequences of asset failure were analysed in 2010, actions were identified however the Review noted that some of actions had not been followed up since 2010. Findings and recommendations are raised at EC8.</p> <p>The Review found that a “Combined Cycle Power Plant Equipment Maintenance and Inspection Plan’ includes risk ratings of the steam plant based on operating hours and starts.</p>	<p>Documentation requires some improvements PERFORMANCE: 2 Performance requires some improvement</p> <p>5. Documentation on risk management, asset failure likelihood and consequences should be reviewed, updated where necessary and integrated so that documents are all made part of a working risk management system which is subject to management overview.</p>
1.9	Plans are regularly reviewed and updated.	<p>Whilst the maintenance activities are entered into MEX regularly and overall preventative plans are stored in MEX, there is a lack of demonstrated review of asset management plans.</p> <p>► The AMS document states that the Asset Life Plan is to be reviewed as part of the yearly business planning process and as part of a review of the production over the preceding 12 months, however there was no documentary evidence that a formal review had taken place since the issue date of the Asset Life Plan (July 2008) or during the Review period (the Review has noted that the Asset Life Plan was reviewed after the Review period, in September 2014).</p> <p>► In general events may occur during the life of the plant that cannot be fully predicted. In addition the operation of the plant is subject to external factors which affect the operating regime which, in turn affects the life and maintenance requirements of the plant. This necessitates a review of the plant performance and operation at regular intervals, as well of a review of the strategies in place for the plant operation. External factors such as client demand, carbon policies, environmental constraints can affect the use of the plant. The demands of external and internal change need to be addressed in reviews which need to be demonstrated formally so that a trail is available of strategy development. The</p>	<p>ADEQUACY OF CONTROLS: C Process documentation is incomplete PERFORMANCE: 3 Performance of the process requires improvement.</p> <p>6. Document the process of review and updating of the asset management plan (AMP). The AMP needs to be reviewed and updated at regular intervals.</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		reviews need to be carried out at regular intervals, say on an annual basis, due to the increased rate of change that is taking place.	
<b>2</b>	<b>Asset Creation and acquisition</b>	A more economic, efficient and cost-effective asset acquisition framework which will reduce demand for new assets, lower service costs and improve service delivery.	
2.1	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions.	<p>During the Review period no new significant asset were planned to be created or acquired, consequently no new projects were undertaken during the Review period.</p> <p>► While the OSA provides some high level directives on asset acquisition the process of project evaluation is not documented.</p> <p>A spare Cooling Water (CW) pump motor has been included in the budget 2013-14 as a DCS Spare Parts List line item for Critical Spares (as per Budget 31 August 2013) as no spare had been purchased previously.</p> <p>► An increase in the line items (eg. CW Pump Motor spare) was entered in the Budget and the cause identified. Some documentation was available however a full justification/case for the item had not been formally processed.</p>	<p>ADEQUACY OF CONTROLS: C Process documentation is incomplete and does not document the required performance of the process.</p> <p>PERFORMANCE: 2 Performance requires some improvement</p> <p>Refer to Recommendation at EC1.6 for documentation of project evaluation process.</p> <p>7. While the case for the CW Pump Motor appears sound, there should be evidence of justification of the costs and the process should be formalised.</p>
2.2	Evaluations include all life-cycle costs.	<p>► Not applicable during the Review period however no documented procedure in evidence showing the inclusion of life cycle cost evaluations in new asset project assessment.</p> <p>During the Review period no new significant asset were planned to be created or acquired, consequently no new projects were undertaken during the Review period.</p>	<p>ADEQUACY OF CONTROLS: C Process documentation is incomplete and does not document the required performance of the process.</p> <p>PERFORMANCE: NR Not Rated as there were no instances of significant asset evaluations during the</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
			Review period.  Recommendation as per EC1.6
2.3	Projects reflect sound engineering and business decisions.	<p>Maintenance projects were established for turbine A, B and C inspections and appeared to be based on sound engineering. Inspections include:</p> <ul style="list-style-type: none"> <li>• A Inspection, which is an inspection of the combustion parts;</li> <li>• B inspection, which includes an A inspection plus additional checks on the auxiliaries, generator, the controls, the protection and monitoring systems including their settings and</li> <li>• the C inspection is a major inspection of all the internal rotating and stationary components. It includes the all GT parts from the inlet of the machine to the exhaust including turbine and compressor shells and casing. It may include repair and replacement of components.</li> </ul> <p>During the Review period no significant asset were planned to be created or acquired, consequently no other significant projects were undertaken during the Review period.</p>	Not Rated. There were no instances of significant asset acquisitions or creation during the Review period.
2.4	Commissioning tests are documented and completed.	No significant projects were carried out during the Review period.	Not Rated. There were no instances of significant asset acquisitions or creation during the Review period.
2.5	Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood. (also at EC4.3)	<p>The asset owners, Energy Infrastructure Trust (managed by Infrastructure Capital Group (ICG)) and Sumitomo Corporation through its wholly owned subsidiary, Summit Southern Cross Power Holdings Pty Ltd have assigned responsibility for the legal / environmental and safety obligations to the licensee, NPK. NPK has identified the overall responsibilities in the procedure “NPK MP MAI 150 Maintenance Procedure Management of Maintenance”.</p> <p>As no asset creation or acquisition projects were undertaken in the Review period,</p>	Not Rated. There were no instances of significant asset acquisitions or creation during the Review period.



EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		there was no opportunity to review the application of the procedure in this context. Operational compliance with statutory and regulatory requirements is reviewed under EC4.3.	
<b>3</b>	<b>Asset Disposal</b>	Effective management of the disposal process will minimise holdings of surplus and under-performing assets and will lower service costs.	
3.1	Under-utilised and under-performing assets are identified as part of a regular systematic review process.	<p>Asset performance and utilisation are monitored through a number of processes:</p> <ul style="list-style-type: none"> <li>the plant is subjected to systematic inspection and testing programs based on Original Equipment Manufacturer (OEM) recommended maintenance and on experience with the plant;</li> <li>major planned inspections and tests were identified in the Asset Life Plan (2008);</li> <li>results of inspections are entered in MEX, are subject to review and are reported in the monthly "NPK Business Services Report (Ops section)";</li> <li>condition monitoring techniques are in place to monitor the condition of the plant;</li> <li>significant conditions are reported in the monthly NPK Business Services Report.</li> </ul> <p>Additional reviews take place through meetings and investigations:</p> <ul style="list-style-type: none"> <li>a daily "Morning Meeting" which is documented, is attended by Operations staff and reviews current events;</li> <li>investigations arising from incidents.</li> </ul> <p>During the Review period no major plant was found to be performing poorly therefore there was no requirement to retire equipment.</p> <p>Review of the monthly Business Services Reports and of the Safety Incident Register did not show any recurring asset issues.</p> <p>However there was evidence that specific conditions affecting the asset life and/or performance had been identified and that those conditions were being monitored. Two</p>	<p>ADEQUACY OF CONTROLS: B Documentation was not adequately defined. PERFORMANCE: 1 Performance was effective.</p> <p>8. Whilst there are processes in place for the review of plant performance, these processes are not clearly identified in the AMP documentation (or in procedures). There should be a definition of the systematic monitoring and review of asset performance and a definition of the replacement/ disposal process in the AMP documentation and in procedures.</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		<p>examples were noted by the Review:</p> <ul style="list-style-type: none"> <li>Corrosion Under Insulation (CUI)</li> <li>Cracking of turbine blades.</li> </ul> <p>► Whilst there are processes in place for the review of plant performance, these processes are not clearly identified in the AMP documentation (or in procedures).</p>	
3.2	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken.	<p>The Review has found that the documentation and the performance of the process are adequate.</p> <p>Processes are in place for the investigation of poor performance and utilisation of assets.</p> <p>The foremost document for identifying poor performance and underutilisation is the Asset Life Plan, however this document had not been updated since 2008.</p> <p>As noted above, asset events are reported in the monthly “NPK Business Services Report (Ops section)”:</p> <ul style="list-style-type: none"> <li>asset incidents such as failure to start, failure of components, oil leaks, steam leaks etc are reported in the Business Services Report as well as logged in the “Safety Incident Register”;</li> <li>failures are recorded in the CMMS;</li> <li>investigations are carried out to review the causes and provide the solutions to significant incidents and are identified in the Safety Incident Register together with responsibilities and closure of incident.</li> </ul> <p>The Review examined through discussions with the Station Manager and review of documentation:</p> <ul style="list-style-type: none"> <li>“HRSG Vent Corrosion” in June 2014, arising from design shortcomings;</li> <li>corrosion in steam plant insulated pipework. An inspection plan is being prepared by the Chemical Manager on all pipework that could be subjected to Corrosion Under Insulation (CUI).</li> </ul>	<p>ADEQUACY OF CONTROLS: A Adequately defined</p> <p>PERFORMANCE: 1 Performing effectively</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		Causes have been identified and corrective actions identified and undertaken.	
3.3	Disposal alternatives are evaluated.	There have been no disposal activities during the Review period. Refer to EC3.1 for finding on documentation of disposal process.	ADEQUACY OF CONTROLS: B Documentation was not adequately defined. PERFORMANCE: NR Not rated  Refer to EC3.1 for Recommendation
3.4	There is a replacement strategy for assets.	There is a replacement strategy for the assets. The strategy was identified in the Asset Life Plan (2008); <ul style="list-style-type: none"> <li>The replacement strategy includes a major plant refit at the 20<sup>th</sup> year of operation (2028);</li> <li>The Asset Life Plan shows that there is a parts replacement strategy for the Gas Turbines (GTs) which is based on the manufacturer maintenance schedule (A, B and C inspections).</li> <li>► The replacement strategy should be subject to a systematic review within the AMP review. This was not evident during the Review period and has been noted under EC3.1.</li> </ul>	ADEQUACY OF CONTROLS: B Process and policy documentation requires improvement. PERFORMANCE: 2 The performance of the process required some improvement.  Refer to EC3.1 for Recommendation
4	<b>Environmental Analysis</b>	The asset management system regularly assesses external opportunities and threats and takes corrective action to maintain requirements.	
4.1	Opportunities and threats in the system environment are assessed.	The Review has found that the licensee carries out a number of reviews: <ul style="list-style-type: none"> <li>there are reviews of business performance in the annual Budget document. The Budget provides comments on forecast changes in budget elements;</li> <li>status of plant operation and events are reported in the monthly "NPK Business Services Report (Ops Section)" which also includes a brief review of incidents, problems and issues that take place in the month;</li> </ul>	ADEQUACY OF CONTROLS: B Process documentation does not adequately document the required performance. PERFORMANCE: 2 Performance requires some

EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
		<ul style="list-style-type: none"> <li>the “NPK Business Services Report (Business Manager’s Report)” provides a more comprehensive reporting including the data provided in the above report as well as financial and trading figures and review of variations;</li> <li>Management Committee Meetings are held quarterly between the owners, the licensee and the operator and are a forum in which the operator provides updates of plant operation and financial performance.</li> </ul> <p>While there was evidence of reporting and review of plant operation and financial performance, there was no clear evidence of a systematic assessment by the asset management system of the external opportunities and threats and of corrective actions taken to maintain requirements.</p>	<p>improvement.</p> <p>9. Provide a methodology in the AMS for the assessment of opportunities and threats in the system environment.</p>
4.2	Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved.	<p>The licensee objectives in the Asset Life Plan are:</p> <ul style="list-style-type: none"> <li>the optimisation of plant competitive performance in the SWIS;</li> <li>maximising shareholders’ value;</li> <li>safety and environmental management.</li> </ul> <p>The licensee monitors performance through the monthly “NPK Business Services Report (Ops Section)”. The report includes performance parameters for:</p> <ul style="list-style-type: none"> <li>safety and health</li> <li>environment</li> <li>operation.</li> </ul> <p>The operation section includes parameters such as:</p>	<p>ADEQUACY OF CONTROLS: B Documentation requires improvement PERFORMANCE: NR</p> <p>No operating performance standards have been defined and consequently there is no ability to rate the achievement of performance standards.</p> <p>10. There should be a definition of target operating performance standards, reviewed and updated at regular intervals (possibly annually) and regular assessment of plant operating performance against those standards (possibly monthly).</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		<ul style="list-style-type: none"> <li>power generation</li> <li>plant trips</li> <li>number of starts</li> <li>forced outages</li> <li>planned outages</li> <li>availability</li> <li>capacity.</li> </ul> <p>The Review noted that the AMS document includes a range of performance measures that were due to be tracked however no set objectives were nominated, Some of the performance measures are tracked in the overall monthly Business Services Report (Business Manager's Report). Actual power generated is compared to budget in the spreadsheets supporting the "Weekly Trading Report".</p> <p>► The documentation does not clearly identify the required operating performance standards, while some variances are discussed it is not possible to review the achievement of performance standards as those standards are not clearly set. For example the OSA stipulates an availability factor for the payment of incentives to the operator however that target is not shown in the monthly Business Services Reports.</p>	
4.3	Compliance with statutory and regulatory requirements.	<p>The Review has found that compliance with statutory and regulatory requirements was not fully achieved during the Review period, however, overall, the process had been adequately defined while performance required some improvement.</p> <p>A Compliance Calendar, "NPK REG ADM 149 NPK Licence Requirements Rev2" is in place. It defines the compliance activities, responsibilities, output required and timing. In addition compliance tasks are entered into MEX, the Review noted:</p>	<p>ADEQUACY OF CONTROLS: B Documentation requires minor improvements PERFORMANCE: 2 Performance requires some improvement</p>

EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
		<ul style="list-style-type: none"> <li>Work Order (WO) 18197 had been created for the Authority's Generation Licence Performance Audit and the AMS Review;</li> <li>there were entries for various obligations in respect of environment, safety, communication etc: <ul style="list-style-type: none"> <li>annual environmental report;</li> <li>Radio frequency licence;</li> <li>dangerous goods licence;</li> <li>annual water efficiency management plan;</li> <li>METEMP Annual Compliance Report for January 2014, covering 2013: Marine Environment Temperature Elevation Monitoring Plan</li> </ul> </li> <li>Annual power testing for the Certified Reserve Capacity was not included in the Calendar.</li> <li>The Review noted that the Compliance calendar indicates "ERA AMS Review" requirement; however there is no mention of Performance Audit, at times the Performance Audit timing is not synchronised with the AMS Review.</li> <li>There should be identification of the process for maintaining the currency of the "Compliance Calendar".</li> <li>One Environmental incident report was raised on 13 February 2013: the annual audit on the ministerial statement 698 was not submitted to the Office of Environmental Protection Authority (OEPA) by the due date. The Audit had been completed by an external consultant before the due date of April 1 2012, but the Audit report was subsequently submitted to the OEPA in February 2013 when the OEPA contacted NPK due to an administrative error. There were corrective actions: <ul style="list-style-type: none"> <li>an audit was conducted on the Compliance calendar to identify and improve compliance related notifications to prevent re-occurrence.</li> </ul> </li> </ul>	<p>11. The Compliance Calendar should be reviewed to check if it is up to date and whether it should include the annual power testing for the Certified Reserve Capacity.</p> <p>12. The process for maintaining the currency of the "Compliance Calendar" should be documented.</p>
4.4	Achievement of customer service	Discussion with the ERM/SSCP Kwinana Power Station (KPS) Manager and the	ADEQUACY OF CONTROLS: B

EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
	levels.	<p>ERM/SSCP CEO indicated that customer service levels are being achieved and, where not achieved, alternative strategies are available:</p> <ul style="list-style-type: none"> <li>Synergy's nominations are generally achieved, however if the Power Station is not operating NPK will meet its obligations through the wholesale energy market.</li> </ul>	<p>Documentation requires minor improvements as defined at EC4.2</p> <p>PERFORMANCE: 1</p> <p>Performing effectively</p>
<b>5</b>	<b>Asset Operations</b>	Operations plans adequately document the processes and knowledge of staff in the operation of assets so that service levels can be consistently achieved.	
5.1	Operational policies and procedures are documented and linked to service levels required.	<p>Operational policies and procedures are documented and reflect the objectives of optimisation of plant performance and compliance:</p> <ul style="list-style-type: none"> <li>a "Document Register" lists the operating procedures together with status and reviewer;</li> <li>the MEX database includes a section on operational procedures which includes operational rosters;</li> </ul> <p>The auditors examined a number of maintenance procedures:</p> <ul style="list-style-type: none"> <li>the "Management of Maintenance";</li> <li>"Day to Day Maintenance Management";</li> <li>operating procedures such as "Operation of the Plant Under Remote AGC via Western Power", (where AGC is Automatic Generation Control);</li> <li>emergency procedures such as "Main CW Emergency Hydraulic Valve 19PAB procedure", "Gas Emergency Shutdown Valve Operation Procedure", "Steam Turbine Lube Oil System Fire Response".</li> </ul> <p>The documentation includes;</p> <ul style="list-style-type: none"> <li>processes for raising Work Orders (WO) for preventive, planned, breakdown and defect maintenance;</li> <li>processes and formats for "Daily Production Morning Meeting" for scheduling high</li> </ul>	<p>ADEQUACY OF CONTROLS: A</p> <p>Adequately defined</p> <p>PERFORMANCE: 1</p> <p>Performing effectively</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		<p>priority safety, environmental and availability work and “Weekly Planning Meeting” to schedule maintenance WOs;</p> <ul style="list-style-type: none"> <li>records of daily and weekly meetings.</li> </ul>	
5.2	Risk management is applied to prioritise operations tasks.	<p>The Review has found that risk management is applied to prioritise operations tasks through a number of processes:</p> <ul style="list-style-type: none"> <li>risk based processes are defined in the “Risk Management Guideline” and the “Kwinana Asset Risk Management Policy”;</li> <li>risk based operation and maintenance scheduling is defined in the Day to Day Maintenance Management procedure;</li> <li>maintenance plans are prepared based on the Gas Turbine (GT) inspection intervals, statutory requirements for the plant Pressure systems and OEM recommendations with adjustments reflecting operating life and plant condition;</li> <li>maintenance scheduling is prioritised in terms of safety, environmental impact, availability, reliability in Weekly Planning Meetings;</li> <li>Daily Work Request Reports showing defect/breakdown tasks are reviewed in Daily Production Morning Meetings which schedule high priority safety, environmental and availability work;</li> </ul>	<p>ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively</p>
5.3	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.	<p>The Review found that the assets are documented in the MEX asset register:</p> <ul style="list-style-type: none"> <li>assets are registered under the KKS power station plant classification system which identifies the major items of plant and for each item, the components which make the asset in hierarchical parent/child relationship;</li> <li>asset information including details of asset, asset history such as inspections, asset physical condition and maintenance information is recorded;</li> <li>costs of work performed on the assets is recorded through the Work Order (WO) system;</li> </ul>	<p>ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively</p>



EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		<ul style="list-style-type: none"> <li>the asset accounting data is held in a spreadsheet which is structured on the KKS system and includes asset information such as asset description, date of acquisition, cost of asset, depreciation method, written down value and other accounting data .</li> </ul>	
5.4	Operational costs are measured and monitored.	<p>Operational costs are budgeted, measured and monitored. Both documentation and process are adequate.</p> <p>O&amp;M costs are measured through accounting software. Monitoring is maintained through the preparation of a comprehensive monthly “Maintenance Tracker” report which extracts its data from the accounting software, and through a monthly Maintenance tracker meeting:</p> <ul style="list-style-type: none"> <li>the Maintenance Tracker report is prepared by the Site Financial Officer and includes the budget, the actuals and the variance for OPEX and Administration (as well as CAPEX) for the month against cost codes from the budget; YTD is also reported as well as remaining spend;</li> <li>variances are discussed at the monthly Maintenance Tracker meeting and comments are entered in the Report;</li> <li>large cost items are identified in the reports such as the lost revenue incurred due to the HRSG pipe failure for the CUI;</li> <li>the Review examined both the EOY Maintenance Tracker for 2013 and 2014 and found that expenditure was under budget for both financial years.</li> </ul>	<p>ADEQUACY OF CONTROLS: A Adequately defined</p> <p>PERFORMANCE: 1 Performing effectively</p>
5.5	Staff resources are adequate and staff receive training commensurate with their responsibilities.	<p>The Review found adequate documentation and effective performance of the training processes.</p> <p>Through interviews with the Station Manager, the Engineering Manager, the Maintenance and Outage Supervisor and examination of documentation the Review found that:</p> <ul style="list-style-type: none"> <li>a “Training Matrix” is in use defining competency requirements for organisation functions;</li> <li>requirements for safety and operational training in areas such as Permit to Work, Confined Space, Working at Heights were documented in the Training Matrix as</li> </ul>	<p>ADEQUACY OF CONTROLS: A Adequately defined</p> <p>PERFORMANCE: 1 Performing effectively</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		<p>well as Basic Boiler Operation, Boiler Intermediate Ticket and Turbine Operator Ticket;</p> <ul style="list-style-type: none"> <li>staff training records showed that all staff have boiler and turbine training;</li> <li>new starts have to undertake a training package, including GT Mechanical Maintenance Training and GT Operational Maintenance. The training is provided, practiced and tested on site.</li> </ul> <p>In addition the auditors reviewed:</p> <ul style="list-style-type: none"> <li>monthly Health and Safety Operator General Site meeting minutes;</li> <li>records of training completion were viewed and were satisfactory;</li> <li>a sample testing module for Boiler NQ1 was examined.</li> </ul>	
<b>6</b>	<b>Asset Maintenance</b>	Maintenance plans cover the scheduling and resourcing of the maintenance tasks so that work can be done on time and on cost.	
6.1	Maintenance policies and procedures are documented and linked to service levels required.	<p>Maintenance policies and procedures have been documented and there was evidence to show that they are appropriate for the operation of the assets.</p> <p>The licensee has implemented a policy and a number of maintenance procedures:</p> <ul style="list-style-type: none"> <li>the Kwinana Asset Management Policy;</li> <li>the “Management of Maintenance” procedure;</li> <li>“Day to Day Maintenance Management” procedure;</li> <li>detailed maintenance procedures such as “Water Treatment Plant Regeneration” and “Plant Lubrication Chart Schedule” which are listed in the “Document Number Register”.</li> </ul> <p>The documentation includes;</p> <ul style="list-style-type: none"> <li>processes for raising Work Orders (WO) for preventive, planned, breakdown and</li> </ul>	<p>ADEQUACY OF CONTROLS: B Documentation requires minor improvements PERFORMANCE: 1 Performing effectively</p> <p>Refer to recommendation at items EC1.1 and EC1.2</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		<p>defect maintenance;</p> <ul style="list-style-type: none"> <li>processes and formats for “Daily Production Morning Meeting” for scheduling high priority safety, environmental and availability work and “Weekly Planning Meeting” to schedule maintenance WOs;</li> <li>records of daily and weekly meetings.</li> </ul> <p>Maintenance plans are entered into MEX Preventative Maintenance section which includes all planned maintenance for assets with maintenance intervals.</p> <p>► Up to date documentation and review of maintenance strategies, which is expected in an AMP, is not available. This finding has been documented in EC1.1 and EC1.2.</p>	
6.2	Regular inspections are undertaken of asset performance and condition.	<p>Regular inspections are undertaken of asset conditions. Monitoring and testing of asset performance is in place.</p> <ul style="list-style-type: none"> <li>Inspection plans are prepared based on the Gas Turbine (GT) inspection intervals which are timed to the GT Equivalent Operating Hours (EOH), statutory requirements for the plant Pressure systems and OEM recommendations, with adjustments reflecting operating life and plant condition;</li> <li>WOs corresponding to the inspection plan are entered into MEX and are generated two weeks ahead of the start date;</li> <li>several maintenance and inspection activities are lumped in the period of major outages so that the interruptions to the plant operation are minimised;</li> <li>results of WOs activities are entered in MEX and provide a historical and accounting record of the asset;</li> </ul> <p>From time to time Customer Information Bulletins (CIB) provided by the plant manufacturer provide advice for additional actions and inspections which are reviewed by the Engineering Manager and then added to the inspection schedules.</p>	<p>ADEQUACY OF CONTROLS: A</p> <p>Adequately defined</p> <p>PERFORMANCE: 1</p> <p>Performing effectively</p>

EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
		<p>The Review examined the plans for:</p> <ul style="list-style-type: none"> <li>Gas Turbine's (GT) A, B and C inspections;</li> <li>the MEX plan for inspection of Unit 18 (KKS ID) Steam Turbine B Inspection, starting 21 July and ending 1 August 2014. This plan included boroscope and visual inspections of LP, IP and HP blades and a report by Alstom.</li> </ul>	
6.3	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.	<p>The Review found that maintenance plans documentation needs minor improvement. Performance of the process was satisfactory.</p> <p>Planned Preventive Maintenance plans including Statutory Maintenance are entered in MEX. Emergency plans are also entered in MEX. These plans generate WOs around two weeks prior to work starting:</p> <ul style="list-style-type: none"> <li>planned, preventative and corrective maintenance is usually adjusted to fall within the window of a Planned Outage which is timed to correspond with the major inspection intervals of the GT, the statutory requirements of the plant pressure systems and OEM recommendations, with timing adjustments reflecting operating life and plant condition;</li> <li>maintenance scheduling is prioritised in terms of safety, environmental impact, availability, reliability in Weekly Planning Meetings;</li> <li>Daily Work Request Reports showing defect/breakdown tasks are reviewed in Daily Production Morning Meetings which schedule high priority safety, environmental and availability work.</li> </ul> <p>The GT and Steam Turbine maintenance and inspection plans were originally scheduled in the Asset Life Plan of July 2008. The scheduling of maintenance activities is dependent on the operating hours. Once operation started the plant was subjected to a more demanding operating regime requiring additional starts. The starts have affected the Equivalent Operating Hours of the plant so that maintenance and inspection activities have had to be brought forward between 6 to 12 months, for example:</p>	<p>ADEQUACY OF CONTROLS: B Documentation requires minor improvements. PERFORMANCE: 1 Performing effectively.</p> <p><b>13.</b> Maintenance procedures should be reviewed and updated to address forced outages.</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		<ul style="list-style-type: none"> <li>the first GT C inspection was scheduled for 30 June 2012 but was brought forward to replace a B inspection and was carried out over 23 days between 30 October and 23 November 2011;</li> <li>the following B inspection which was due June 2014 was carried out in June 2013;</li> <li>for the Steam Turbine (ST) there was no C inspection planned on the IP and LP stages until March 2016 whilst the HP C inspection had been planned for 2019. However the ST had experienced a forced repair outage before the Review period which appears to have impacted on the maintenance plans. The first ST C inspection (HP/ IP/ LP) was carried out in the same GT outage of November 2011, however it extended to a 50 day outage due to the required removal and cleaning of all stationary and rotating blades and installation of a new IP inner cylinder.</li> </ul> <p>In the auditor's view the maintenance plans have been rescheduled appropriately in response to changing plant operation and conditions.</p> <p>In view of the changes in the schedules the Business Services Report provides the EOH monthly and includes a forecast of the projected EOH for the following three years identifying the timing of the next major outage.</p> <p>► The Review noted that the maintenance procedures do not cover the management of forced outages.</p>	
6.4	Failures are analysed and operational/maintenance plans adjusted where necessary.	<p>The licensee has in place the "Incident Management and Reporting, Plant Operating Procedure" for the treatment of incidents, near misses and accidents. The scope include plant damage and dangerous occurrences such as fires, escape of gas, dangerous goods or steam and explosions. The procedures requires the initiation of an incident report if the incident falls within certain parameters.</p> <p>The Review examined a sample of failures:</p>	<p>ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively</p>

EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
		<ul style="list-style-type: none"> <li>incident involving a failed ignition of the Heat Recovery Steam Generator (HRSG) supplementary duct firing system. The system was reset, the flame was established and the duct firing put into service. An incident report was raised as part of the investigation with the actions being implemented;</li> <li>three operational incidents involved a trip of the Main Cooling Water Pump No1 on separate occasions. The first occasion led to the loss of both Main Cooling Water pumps which finally resulted in a full plant trip. The plant issues were quickly understood, systems were reset and the plant was ready to start-up within 60 minutes of the trip. On the following two occasions the operators were able to prevent the Steam Turbine from tripping and had the pump back in service within the hour. Incident reports and investigations were raised for all three of these related incidents, a number of actions have resulted from the root cause analysis, the Review examined the investigation of the incident of 4 July 2014: <ul style="list-style-type: none"> <li>the investigation was carried out by three supervisors, the causes and actions were entered in MEX;</li> <li>WO 17296 requires the replacement of temperature transmitters and is still open;</li> <li>WO 17297 was about incorrect logic tripping running pump, the WO showed that the Bad Data Quality (BDQ) alarms had been changed and the WO closed.</li> </ul> </li> <li>GT inspection was brought forward to April 2013 due to the finding by Alstom in February 2013 of cracked blades. The manufacturer recommended restricted number of operating hours prior to the next inspection. The hours were monitored and the inspection carried out in April 2013.</li> </ul> <p>The Review concluded that processes and sufficient controls are in place to manage incidents and modify maintenance activities.</p>	
6.5	Risk management is applied to prioritise maintenance tasks.	<p>Documentation and performance of the process meet requirements.</p> <p>Maintenance plans are scheduled according to the requirements of critical plant:</p> <ul style="list-style-type: none"> <li>maintenance plans are prepared based on the Gas Turbine (GT) inspection</li> </ul>	<p>ADEQUACY OF CONTROLS: A</p> <p>Adequately defined</p> <p>PERFORMANCE: 1</p>

EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
		<p>intervals, statutory requirements for the plant Pressure systems and OEM recommendations, adjustments to the schedules are made on the basis of operating life and plant condition;</p> <ul style="list-style-type: none"> <li>• maintenance scheduling is prioritised in terms of safety, environmental impact, availability, reliability in Weekly Planning Meetings;</li> <li>• Daily Work Request Reports showing defect/breakdown tasks are reviewed in Daily Production Morning Meetings which schedule high priority safety, environmental and availability work;</li> <li>• WOs utilise four priority codes, from urgent for direct business impact, to actions within 7 and 30 days and to shutdown work; the Review sighted the following priority levels both in the Day to Day procedure and in the MEX database: <ul style="list-style-type: none"> <li>◦ 1-Urgent</li> <li>◦ 2-Within 7 days</li> <li>◦ 3-30 days</li> <li>◦ 4-Shutdown work –overnight</li> <li>◦ further levels for A/B inspections and C inspection.</li> </ul> </li> </ul>	Performing effectively
6.6	Maintenance costs are measured and monitored.	<p>Documentation and performance of the process met requirements.</p> <p>Maintenance costs are measured through accounting software. Monitoring is maintained through the preparation of a comprehensive monthly “Maintenance Tracker” report which extracts its data from the accounting software, and a monthly Maintenance tracker meeting:</p> <ul style="list-style-type: none"> <li>• the Maintenance Tracker report is prepared by the Site Financial Officer and includes the budget, the actuals and the variance for OPEX and Administration (as well as CAPEX) for the month against cost codes from the budget; YTD is also reported as well as remaining spend;</li> <li>• variances are discussed at the monthly Maintenance Tracker meeting and</li> </ul>	<p>ADEQUACY OF CONTROLS: A</p> <p>Adequately defined</p> <p>PERFORMANCE: 1</p> <p>Performing effectively</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		<p>comments are entered in the Report;</p> <ul style="list-style-type: none"> <li>large cost items are identified in the reports such as the lost revenue incurred due to the HRSG pipe failure for the CUI;</li> <li>the Review examined both the EOY Maintenance Tracker for 2013 and 2014 and found that expenditure was under budget for both financial years.</li> </ul>	
<b>7</b>	<b>Asset Management Information system (MIS)</b>	The asset management information system provides authorised, complete and accurate information for the day-to-date running of the asset management system. The focus of the review is the accuracy of performance information used by the licensee to monitor and report on service standards.	
7.1	Adequate system documentation for users and IT operators.	<p>A document management system (DMS) is in use however it still needs further development.</p> <p>During the Review period an ERM Policy was in operation, the “Computer Systems and Network Usage Policy”. The change in ownership taking place post Review period will require a suitable policy to be implemented.</p> <p>At present all electronic documents are ‘filed’ in the DMS while MEX stores all work activities.</p> <p>Instructions for MEX operation are provided in MEX Help which is integral with the application.</p> <p>► Remaining AMS documentation is stored in the DMS however at present there are no controls on document management such as revision control. A basic set of instructions were provided in e-mails when the DMS started, with instructions on where to file documents and how to use it, however the operation of the DMS is still relatively informal.</p> <p>A “Document Register” exists logging operational, maintenance, safety and administrative procedures, policies, registers and forms. Some of the documents are drafts.</p>	<p>ADEQUACY OF CONTROLS: B Documentation requires some improvements PERFORMANCE: 1 Performing effectively</p> <p><b>14.</b> Complete the development of the Document Management System and ensure that controls are implemented for the management of documentation.</p> <p><b>15.</b> Ensure that, as appropriate, document in draft or under review are finalised and approved.</p>
7.2	Input controls include appropriate verification and validation of data	Process documentation is available and performance of the process meets requirements.	ADEQUACY OF CONTROLS: A Adequately defined



EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
	entered into the system.	<p>The Review found that there are a number of controls on data entered into the system;</p> <ul style="list-style-type: none"> <li>• Work Orders are generated in MEX for taking readings of data to be used in management reports. Data entered into the system is sourced externally and internally; readings are taken both of NPK equipment and meters such as the Western Power main and check electricity meters;</li> <li>• readings of instruments and meters are verified by the Maintenance Coordinator who assesses trends and checks that there are no spikes in the figures; any unusual readings are followed up by e-mail for confirmation;</li> <li>• data reports are circulated to key stakeholders in the business such as management and owners;</li> <li>• data such as meter readings is verified by the Engineering Manager against external reports.</li> </ul>	<p>PERFORMANCE: 1 Performing effectively</p>
7.3	Logical security access controls appear adequate, such as passwords.	<p>Logical security access controls and processes appear adequate however the processes and controls are not documented. Discussion with the Station Manager, the Maintenance and Outage Supervisor and the Site Administration Assistant showed that:</p> <ul style="list-style-type: none"> <li>• logical access control are based on user authorisation level, so that users are only allowed the minimum level of access for their function;</li> <li>• the Maintenance and Outage Supervisor has full Administration access and provides personnel the different levels of access to the AMIS; the Review did not find that the responsibility was documented;</li> <li>• financial files are password protected;</li> <li>• a range of sensitive files are password protected so that read-write access is only allowed to the owner of the file or authorised officers; other users have read-only access;</li> <li>• MEX provides menus and displays that are appropriate to the level of access of the user, so that some facilities are not available to all users.</li> </ul>	<p>ADEQUACY OF CONTROLS: B Documentation requires minor improvements PERFORMANCE: 1 Performing effectively</p> <p><b>16.</b> Control of access to AMIS including responsibility and process should be documented.</p>

EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
		<p>► Control of access to AMIS including responsibility for authorisations and process is not documented.</p>	
7.4	Physical security access controls appear adequate.	<p>The Review found that physical access controls appeared adequate both through policies, procedures and application on site, The AMS data is stored on servers located in the Power Station office. Access to the site server room is not restricted, however the office is well secured with two layers of security in place to control access to the site grounds and the office:</p> <ul style="list-style-type: none"> <li>• a Synergy front access gate at the entrance to the site which is manned;</li> <li>• a perimeter fence with locked gates and monitoring of visitors' entry.</li> </ul> <p>Visitors allowed within the site have to go through induction procedures and sign appropriate entry forms.</p>	<p>ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively</p>
7.5	Data backup procedures appear adequate and backups are tested.	<p>AMS data backup procedures are in place. Backups are performed weekly, tapes are rotated and stored in a fire proof safe. Completion of back ups are automatically documented through e-mails.</p> <p>► There was no evidence to show that the backups are tested; the backup procedure was not documented.</p>	<p>ADEQUACY OF CONTROLS: C Process documentation is not available PERFORMANCE: 1 Performing effectively</p> <p><b>17.</b> Document the Asset Management System data backup and backup testing procedures. Ensure there is verification and evidence of back up integrity.</p>
7.6	Key computations related to licensee performance reporting are materially accurate.	<p>There is evidence to show that the computations related to licence performance reporting are materially accurate. Representative performance standard was examined by the Review in respect of</p>	<p>ADEQUACY OF CONTROLS: A Adequately defined</p>

EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
		<p>generated power. Generated power is measured both by:</p> <ul style="list-style-type: none"> <li>Western Power through its metering station at the station boundary; these readings are also taken by NPK so as to use these figures for verification and computations;</li> <li>internal meters at the power station.</li> </ul> <p>The above readings are taken daily; figures are verified by the Engineering Manager prior to being entered in management reports.</p>	<p>PERFORMANCE: 1 Performing effectively</p>
7.7	Management reports appear adequate for the licensee to monitor licence obligations.	<p>Management reports appear adequate for the licensee to monitor licence obligations. Two sets of management reports are generated:</p> <ul style="list-style-type: none"> <li>the “NPK Business Services Report (Ops Section)” which is used to support the “NPK Business Services Report (Business Manager’s Report)” to the NewGen Power Kwinana Management Committee;</li> <li>the monthly “NewGen Power Kwinana Partnership Finance Management Report”.</li> </ul> <p>The “NPK Business Services Report (Ops Section)” is prepared by the site Operations Section and contains:</p> <ul style="list-style-type: none"> <li>description of events, outages and incidents;</li> <li>health and safety statistics;</li> <li>environmental statistics;</li> <li>operational statistics for: <ul style="list-style-type: none"> <li>the month;</li> <li>YTD;</li> <li>annually since the start of operation and</li> <li>total to date;</li> </ul> </li> </ul>	<p>ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively</p>

EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
		<p>some of the parameters include generated power, trips, forced outages, planned outages, equivalent operating hours;</p> <ul style="list-style-type: none"> <li>investigations on trips;</li> <li>status of Work Orders and</li> <li>inspection plan.</li> </ul> <p>The “NPK Business Services Report (Business Manager’s Report)” contains all of the above as well as financial reports on budget, Profit &amp; Loss (P&amp;L), Balance Sheet, Cashflow and Capital Expenditure.</p> <p>The NewGen Power Kwinana Partnership Finance Management Report contains some of the above information as well as financial information such as operating and maintenance expenditure in a P&amp;L report, commentary on variances between budget and actuals in revenue and expenditure, capital expenditure and cashflow.</p> <p>The NPK Business Services Report (Business Manager’s Report) is circulated to the NewGen Power Kwinana Management Committee.</p>	
<b>8</b>	<b>Risk Management</b>	An effective risk management framework is applied to manage risks related to the maintenance of service standards.	
8.1	Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system.	<p>An Asset Risk Management Policy exists and provides the policy settings for risk management whilst a Risk Management Guideline covers risk management procedures. Operating practice showed that both were understood however there was no formal evidence of their continuous application.</p> <p>Both the Risk Management Policy (RMP) and the Risk Management Guideline (RMG) are robust documents and provide a sound foundation for risk management and contingency planning. Notwithstanding their robustness both were put in place at the commencement of operations in 2008 and do not appear to have been subject to any subsequent review and consequentially may now be outdated.</p>	<p>ADEQUACY OF CONTROLS: B Documentation requires improvement PERFORMANCE: 3 Corrective action required. Performance of the process requires significant improvement.</p> <p><b>18.</b> Undertake a review of the Risk Management Policy and Risk Management Guideline to ensure they are current and up to date.</p>

EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
		<p>The general intent of the RMP and RMG has been applied in practice however, while there is evidence that the policies are understood there is no formal evidence that this has been maintained.</p> <ul style="list-style-type: none"> <li>In particular the Review noted that there was no formal application of the formal requirements of the RMP and RMG over recent years and of the asset risk analysis since 2010, even though sound practices have been maintained at an operational level.</li> </ul> <p>No evidence of staff training having been undertaken was provided and an assessment has not, therefore been made.</p>	<p><b>19.</b> Review the accountabilities and requirements of the Risk Management Policy and Risk Management Guideline to ensure they have been complied with. Evidence of ongoing compliance to be subsequently maintained.</p> <p><b>20.</b> Regular staff training on risk management requirements to be undertaken with appropriate records being maintained.</p>
8.2	Risks are documented in a risk register and treatment plans are actioned and monitored.	<p>The performance of the process required some improvement to meet the required level. Process effectiveness reviews were not performed regularly enough.</p> <ul style="list-style-type: none"> <li>Risk registers were established at the commencement of operations in 2008 however have not been subsequently reviewed or updated, a review is now warranted.</li> <li>Where appropriate, risk treatment plans were put in place at the same time as the risk registers were established. While these plans involved an initial amount of action and monitoring there is no evidence that this has occurred on a regular ongoing basis.</li> <li>As an observation it is noted that, within the risk evaluation matrix, the financial impact scale applicable to the differing levels of consequence/severity is considered too low for an operation with NPK's attributes. As a result, risks of all types are being assessed at a higher level of consequence than would normally be expected for this industry.</li> </ul>	<p>ADEQUACY OF CONTROLS: B Reviews of processes and policies are not conducted regularly enough PERFORMANCE: 3 Corrective action required</p> <p><b>21.</b> Undertake a review of the risk management process to ensure that it is relevant to the current plant operation and that it can be implemented.</p> <p><b>22.</b> Undertake a review of all risk registers and risk treatment plans to ensure all identified risks remain current, no new risks have emerged and all appropriate risk treatment plans are in place, actioned and regularly monitored.</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
			<p><b>23.</b> Undertake a review of the financial impact scale used in the risk evaluation model to ensure it is aligned with industry norms.</p>
8.3	The probability and consequences of asset failure are regularly assessed.	<p>The performance of the process required some improvement to meet the required level.</p> <p>► Probability and consequences of asset failure were assessed when the initial risk registers were established in 2008 and were further reviewed in 2010. No further systematic reviews were found for the entire plant.</p>	<p>ADEQUACY OF CONTROLS: B Reviews of processes and policies are not conducted regularly enough PERFORMANCE: 3 Corrective action required</p> <p><b>24.</b> Implement a process for ensuring the probability and consequences of asset failure are regularly assessed and maintain a record of such assessments having been made.</p>
<b>9</b>	<b>Contingency Planning</b>	Contingency plans have been developed and tested to minimise any significant disruptions to service standards	
9.1	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.	<p>The licensee has an “Emergency Response Plan” (ERP), last updated in February 2014. The ERP is a comprehensive document that details the response to several disruptive scenarios at the Power Station Site and includes appropriate information such as contact numbers and responsibilities in case of emergencies. Scenarios include fire, GT enclosure fire, gas release and explosion, steam release, spills, gas pipeline emergency, natural disasters and security threats.</p> <p>The ERP is subject to desktop and simulated exercises. The ERP requires:</p> <ul style="list-style-type: none"> <li>• annual evacuation exercise;</li> <li>• annual environmental exercise;</li> <li>• six monthly exercises to include the Emergency Services;</li> </ul>	<p>ADEQUACY OF CONTROLS: B Documentation requires review PERFORMANCE: 2 Performing effectively</p> <p><b>25.</b> Address the need for higher level Contingency Plans/ Business Continuity Plans to cover high level risks such as pandemics, critical asset failure and extreme weather</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		<ul style="list-style-type: none"> <li>recording in MEX of: <ul style="list-style-type: none"> <li>evaluation of the effectiveness of exercises;</li> <li>corrective actions when inadequacies are identified and</li> <li>closure of actions.</li> </ul> </li> </ul> <p>Full simulation tests of emergency plan were performed in May 2012 and 2013.</p> <p>► No Contingency/Business Continuity Plans are in place to cover higher risks such as loss of gas supplies, loss of IT infrastructure, loss of office facilities, pandemics, critical asset failure and extreme weather events (ie. extended high temperature).</p>	<p>events (ie. extended high temperature) and implement as necessary.</p>
<b>10</b>	<b>Financial Planning</b>	A financial plan that is reliable and provides for the long-term financial viability of the services.	
10.1	The financial plan states the financial objectives and strategies and actions to achieve the objectives.	<p>The financial plan requires some improvement and process performance meets requirements.</p> <p>A comprehensive Annual Budget containing highly detailed planned financial outcomes and the assumptions that underpin those outcomes is prepared yearly. This is, in effect, the Financial Plan.</p> <p>► The financial outcomes contained in the Annual Budget can reasonably be taken to be the financial objectives. However whilst the assumptions contained in the Annual Budget set out the assumed level of contract generation that will actually be required, the residual generation that will be made available to the market and the plant operating parameters to achieve this, they do not define specific plant operating strategies or actions that will be implemented as part of this process. For example, in the absence of stated strategies and actions, the pursuit of current year financial outcomes as per the Annual Budget may be to the long-term detriment of the plant. Whilst there is no evidence of this occurring in practice a broader and more clearly articulated approach to operating strategy would be beneficial.</p> <p>The budgeting process appears both robust and effective having a sound historical</p>	<p>ADEQUACY OF CONTROLS: B Documentation requires some improvement</p> <p>PERFORMANCE: 1 Performing effectively</p> <p><b>26.</b> Within the Annual Budget clearly define and articulate the operating strategies that will be implemented in order to achieve financial objectives. This should be linked to the AMP planning process.</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		foundation complimented by forward-looking inputs and is subject to an appropriate review and approval chain. Financial performance monitoring and reporting is also a routine process that is adhered to with an appropriate level of discipline.	
10.2	The financial plan identifies the source of funds for capital expenditure and recurrent costs.	<p>The financial plan identifies the sources of funding for capital expenditure and recurring costs.</p> <p>The only capital expenditure costs incurred or planned relate to plant maintenance which is funded out of a specific Maintenance Reserve Account. All known planned maintenance costs are progressively forward funded via the Maintenance Reserve Account to the extent that they are fully covered by the time they are incurred. The Annual Budget clearly identifies the amount of payments made into the Maintenance Reserve Account (MRA) out of ongoing cash flow.</p> <p>Recurrent costs are identified with a high level of granularity and included in the Annual Budget.</p> <p>The Annual Budgets examined by the Review demonstrate that in each of the current financial years and forward forecast years sufficient cash will be will generated to appropriately fund the MRA to the required level and also fund recurrent operating costs.</p>	<p>ADEQUACY OF CONTROLS: A Adequately defined</p> <p>PERFORMANCE: 1 Performing effectively</p>
10.3	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets).	High-level Profit and Loss projections are contained in the Annual Budget however projected statements of financial position are not prepared. Given NPK's attributes the latter is not considered to be of material concern.	<p>ADEQUACY OF CONTROLS: B Documentation requires minor improvements</p> <p>PERFORMANCE: 1 Performing effectively</p>
10.4	The financial plan provides firm predictions on income for the next five years and reasonable indicative	Both the documentation and the performance of the processes need some improvement.	<p>ADEQUACY OF CONTROLS: B Documentation requires minor</p>



EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
	predictions beyond this period.	<ul style="list-style-type: none"> <li>The Annual Budget contains highly detailed income projections for the immediate year ahead and high-level projections for the ensuing four years; ie five years in total.</li> <li>The Annual Budget does not include any detail on the basis of how the year 2-5 projections have been determined and it is considered appropriate for this to be included in future budget documents.</li> <li>The Annual Budget does not contain any predictions beyond five years. In view of the operation of the plant the Review did not consider this to be of material concern.</li> </ul>	<p>improvements PERFORMANCE: 2 Performance requires some improvement</p> <p>27. Within the Annual Budget clearly define and articulate the assumptions applying to longer-term revenue projections in order that the level of reasonableness applicable to them can be determined.</p>
10.5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services.	<p>Both the documentation and the performance of the processes were adequate.</p> <p>The Annual Budget includes appropriate detailed projections for the cost of operations and maintenance, administration and capital expenditure requirements of the services for the immediate year ahead.</p>	<p>ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively</p>
10.6	Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary.	<p>Both the documentation and the performance of the processes were adequate.</p> <p>Variances in actual to budget outcomes are identified in the monthly Finance Management reports however other than being identified as a variance source the reports do not contain details of any operational matters.</p> <ul style="list-style-type: none"> <li>Variance reporting was considered to be of a high quality however could be enhanced by the inclusion of corrective operational and trading actions to be taken to recover lost ground if possible and where necessary.</li> </ul>	<p>ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively</p> <p>28. (OFI) Variance commentary in monthly Finance Management reports should identify corrective action that has been or will be taken where necessary.</p>

EC No.	AMS Element / Criteria	Review summary (Findings)	Recommendations
11	<b>Capital Expenditure Planning</b>	A capital expenditure plan that provides reliable forward estimates of capital expenditure and asset disposal income, supported by documentation of the reasons for the decisions and evaluation of alternatives and options.	
11.1	There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates.	<p>No new works or rehabilitation are anticipated and hence are not contemplated in the capital expenditure plan that is contained in the Annual Budget. The main components of the plan relate to plant maintenance and are well detailed for the immediate year ahead and for the five year major maintenance cycle. The plan does not, however, provide a 5+ year forward view.</p> <p>Maintenance costs are scheduled in the capital expenditure plan have been determined in consultation with suppliers and/or are based on generally accepted industry norms for work of the type scheduled.</p> <ul style="list-style-type: none"> <li>The capital expenditure planning process appears to be robust however it is compromised by the absence of a detailed five year forward view of expenditure to be incurred albeit the inclusion of four year major maintenance events does ensure that all significant expenditure items are captured.</li> <li>Of greater concern is the misalignment that currently exists between the Required Maintenance Reserve Account Balance Schedule and the timing of major maintenance events. Notwithstanding that the Maintenance Reserve Account currently appears to be overfunded and has been able to cover all actual planned maintenance costs to date this disparity should be remedied in order to provide certainty.</li> </ul> <p>Other than as described above the capital expenditure plan is being followed.</p>	<p>ADEQUACY OF CONTROLS: B Documentation requires some improvements PERFORMANCE: 2 Performance requires some improvement</p> <p>29. The capital expenditure plan within the Annual Budget needs to provide schedules for planned capital expenditure on maintenance on an annual basis for the current budget year and each of the ensuing 4 years to provide a 5 year forward view in total.</p> <p>30. Arrange for the Lenders Engineer to review and reset the Required Maintenance Reserve Account Balance Schedule to reflect the planned timing of major maintenance events.</p>
11.2	The plan provides reasons for capital expenditure and timing of expenditure.	All items listed in the capital expenditure plan within the Annual Budget show relevant reasons against each however for minor maintenance expenditure timing is limited to the immediate year ahead whilst the timing of major maintenance is on a rolling 4 year	ADEQUACY OF CONTROLS: A Documentation meets requirements

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		cycle. The Review did not consider this to be of material concern.	PERFORMANCE: 1 Performance meets requirements
11.3	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan.	Both the documentation and the performance of the processes were adequate.  All planned capital expenditure / maintenance is scheduled in accordance with the time frames set out in the original Asset Life Plan 2008-2038 unless condition monitoring or other relevant factors dictate otherwise.  Misalignment currently exists between the Required Maintenance Reserve Account Balance Schedule and the timing of major maintenance events.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively  Recommendation as per EC11.1
11.4	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned.	Both the documentation and the performance of the processes were adequate.  Capital expenditure planning is reviewed annually as a component of the Annual Budget process with revisions to forward estimates made as necessary.	ADEQUACY OF CONTROLS: A Adequately defined PERFORMANCE: 1 Performing effectively
12	<b>Review of AMS</b>	Review of the Asset Management System to ensure the effectiveness of the integration of its components and their currency.	
12.1	A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current.	► While aspects of the asset management system and of the asset management plan were subject to review, there has been no formal review of the AMS or of the AMP during the Review period. There was no evidence that a structured review of the AMS has been carried out at regular intervals.  (It is noted that the operational and maintenance activities in MEX will be an outcome of the strategy and operational review to be documented in the AMP).  The AMS was last described in August 2008, and has not been formally reviewed since. The AMS document needs further expansion to include: <ul style="list-style-type: none"> <li>a measurable description of the planning and review process (where measurable identifies outcomes, timing, responsibilities);</li> <li>clear definitions of objectives and measurable targets which can be used to set the</li> </ul>	ADEQUACY OF CONTROLS: C Process documentation is not complete and does not document the required performance PERFORMANCE: 3 Corrective action required  <b>31.</b> Document the process for review of the asset management system (AMS) and the asset management plan (AMP).  <b>32.</b> Carry out a formal review of the

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
		<p>strategy and monitor the performance of the plant;</p> <ul style="list-style-type: none"> <li>description of the asset creation and replacement processes;</li> <li>a clear definition of the processes that are in place to maintain the system, ie. meetings, purpose of meetings;</li> <li>information on the Asset Management Information system, including reference to the DMS, training and the back up systems;</li> <li>a definition of the process for maintaining the focus on asset risks, including timing for any review activity;</li> <li>a definition of the tools that are in place for monitoring the performance of the plant, operationally, financially, against safety, environmental targets etc and the level of management that needs to receive the information.</li> </ul> <p>Where the AMS documents specifies processes that are not yet implemented, the AMP should document the activities necessary to implement those processes.</p> <p>► The AMS document states that the “The Asset Mission Statement and Asset Life Plan are reviewed as part of the yearly business planning process”, however the Asset Life Plan had not been updated since the initial issue, July 2008.</p> <p>The review process should lead to an updated AMP, preferably annually, which can build up on the past plant performance, on lessons learnt in the 12 months and the changing internal and external operating conditions.</p>	<p>AMS and the AMP. Update the AMS and the AMP as per review findings. (Refer to EC 1.1 for additional recommendation; a review of the above may also require a review and update of the Asset Life Plan).</p>
12.2	Independent reviews (e.g. internal audit) are performed of the asset management system.	<p>An independent review of the AMS was completed in August 2011 as part of the requirements of the licence.</p> <p>No other independent reviews were evident for the Review period.</p>	<p>ADEQUACY OF CONTROLS: B Documentation requires improvement PERFORMANCE: 2 Performance requires some improvement</p>

EC No.	AMS Element / Criteria	Review summary (► Findings)	Recommendations
			<b>33. (OFI)</b> The asset management system review process should include independent reviews.

### 3 CHANGES TO THE LICENCE

No changes to the licence conditions are recommended.

## 4 RECOMMENDATIONS

### 4.1 CURRENT AUDIT NON-COMPLIANCES AND RECOMMENDATIONS

Recommendations on the actions to be taken by the licensee to address performance audit non-compliances are listed in Table 10 and Table 11.

**Table 10 - Current audit non-compliances and recommendations (Resolved)**

Table of Current Audit Non Compliances/Recommendations (Resolved)			
A. Resolved during current Audit period			
Manual Ref	Non Compliance/Controls Improvement (Rating / Legislative Obligation / Details of Non Compliance or inadequacy of controls)	Date Resolved (& management action taken)	Auditors Comments
	No actions resolved during current audit period.		

**Table 11 - Current audit non-compliances and recommendations (Unresolved)**

Table of Current Audit Non Compliances/Recommendations (Unresolved)			
B. Unresolved during current Audit period			
Ref. No/ Year	Non Compliance/Controls Improvement (Rating / Legislative Obligation / Details of Non Compliance or inadequacy of controls)	Auditors' Recommendation	Management action taken by end of Audit period
1/2014	A2 Obligation 124 Electricity Industry Act section 11 A licensee must provide the Authority, in the manner prescribed, any information the Authority requires in connection with its functions under the Electricity Industry Act.	<b>1/2014</b> The 2014 submission of the annual generation licence compliance report was five days late as it was due on the 31 August 2014 and was submitted on the 5 September 2014. A non compliance will need to be recorded for the reporting	

Table of Current Audit Non Compliances/Recommendations (Unresolved)			
B. Unresolved during current Audit period			
Ref. No/ Year	Non Compliance/Controls Improvement  (Rating / Legislative Obligation / Details of Non Compliance or inadequacy of controls)	Auditors' Recommendation	Management action taken by end of Audit period
	The 2014 submission of the annual generation licence compliance report was five days late as it was due on the 31 August 2014 and was submitted on the 5 September 2014	year 1 July 2014-30 June 2015.	

## 4.2 CURRENT REVIEW ASSET SYSTEM DEFICIENCIES/RECOMMENDATIONS

Recommendations on the actions to be taken by the licensee to address process deficiencies are listed in Table 12 and Table 13.

**Table 12-Current Review Asset System Deficiencies / Recommendations (Resolved)**

Table of Current Review Asset System Deficiencies/ Recommendations				
A. Resolved during current Review period				
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Date Resolved (& management action taken)	Auditors Comments
		No actions resolved during current review period.		

**Table 13- Current Review Asset System Deficiencies / Recommendations (Unresolved)**

Table of Current Review Asset System Deficiencies/ Recommendations				
B. Unresolved during current Review period				
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Auditors' Recommendation	Management action taken by end of Review period
1	1.1	B2 Asset management plan covers key requirements.	<b>1/2014</b> Prepare a suitable Asset Management Plan (AMP). The AMP should provide clear	The licensee was reviewing and updating the "Asset Life Plan

Table of Current Review Asset System Deficiencies/ Recommendations				
B. Unresolved during current Review period				
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Auditors' Recommendation	Management action taken by end of Review period
		<p>Whilst MEX provides the individual list of maintenance tasks, there is no evidence of the planning process, the decisions, reasons and formulation of a maintenance strategy. There is documentation demonstrating various aspects of an asset management plan however the Review did not find a comprehensive document dealing with the review of strategy at regular intervals.</p> <p>The Review did not find a clear definition and review of service levels and objectives within the asset management plan (AMP) documentation, the review of performance against those objectives, the results analysed and the resulting corrective actions clearly defined.</p>	<p>definition of measurable objectives and strategies implemented to achieve those objective. The AMP should indicate the processes used to review plant performance and plan strategies and activities, manage the costs, risk and performance of the assets, the creation, acquisition or enhancement of assets, the utilisation, maintenance, replacement and disposal of assets; it should indicate the means to monitor performance and report it to management. The AMP should report on past performance.</p>	(2008-2032) 30 Year Life Plan" at the end of the Review period.
2	1.2	<p>C2</p> <p>Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning.</p> <p>There is a process however there is no formal documented description of the planning process, so that the scope, consideration of operating objectives, stakeholder needs review are not formally defined.</p>	<p><b>2/2014</b> Planning process should be documented either in the AMS documentation or in a stand alone procedure.</p>	
3	1.3	<p>B/NR</p> <p>Service levels are defined.</p> <p>Under the Tradeable Purchase Agreement the source of the electricity is not stipulated so that, if generation fails, electricity can be sourced elsewhere and the service levels maintained. However this will severely impact the internal performance and commercial viability</p>	<p><b>3/2014</b> Provide a clear and measurable definition of service levels. Review the definition of the plant objectives.</p>	



Table of Current Review Asset System Deficiencies/ Recommendations				
B. Unresolved during current Review period				
Item No	EC Ref	Rating / AMS Component Effectiveness Criteria / Details of Deficiency	Auditors' Recommendation	Management action taken by end of Review period
		of the asset.  The Review did not find in the AMS documents or in the Business Services Reports clear information on quantifiable service levels and objectives.		
-	1.5	B2  Lifecycle costs of owning and operating assets are assessed. (also at 2.2).  The Asset Life Plan was issued in July 2008 and had not been reviewed since. This finding is further addressed under EC1.9 (the Review has noted that the Asset Life Plan was reviewed after the Review period, in September 2014).	Recommendations made under EC1.9	The Asset Life Plan was updated and reissued after the Review period, in September 2014.
4	1.6	B2  Funding options are evaluated.  No procedure was found of the process of proposing, reviewing and approving major projects and evaluation of funding options. No procedure for review of funding options for unbudgeted items was found.	4/2014 Document a procedure for proposal, review and approval of projects and for evaluation of funding options. Procedure should include Life Cycle Costing in new asset evaluations.	
5	1.8	B2  Likelihood and consequences of asset failure are predicted.  Likelihood and consequences of asset failure were analysed in 2010, actions were identified however the Review noted that some of actions had not been followed up since 2010. Further findings and recommendations are raised at EC8.	5/2014 Documentation on risk management, asset failure likelihood and consequences should be reviewed, updated where necessary and integrated so that documents are all made part of a working risk management system which is subject to management overview.	

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6	1.9	<p>C3</p> <p>Plans are regularly reviewed and updated.</p> <p>The AMS document states that the Asset Life Plan is to be reviewed as part of the yearly business planning process and as part of a review of the production over the preceding 12 months, however there was no documentary evidence that a formal review had taken place since the issue date of the Asset Life Plan (July 2008) or during the Review period (the Review has noted that the Asset Life Plan was reviewed after the Review period, in September 2014).</p> <p>In general events may occur during the life of the plant that cannot be fully predicted. In addition the operation of the plant is subject to external factors which affect the operating regime which, in turn affects the life and maintenance requirements of the plant. This necessitates a review of the plant performance and operation at regular intervals, as well of a review of the strategies in place for the plant operation. External factors such as client demand, carbon policies, environmental constraints can affect the use of the plant. The demand of external and internal change need to be addressed in reviews which need to be demonstrated formally so that a trail is available of strategy development. The reviews need to be carried out at regular intervals, say on an annual basis, due to the increased speed of change that is taking place.</p>	<p>6/2014 Document the process of review and updating of the asset management plan (AMP). The AMP needs to be reviewed and updated at regular intervals.</p>	
-	2.1	<p>C2</p> <p>Full project evaluations are</p>	Refer to Recommendation 4/2014 at EC1.6	

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		undertaken for new assets, including comparative assessment of non-asset solutions.  While the Operator Services Agreement (OSA) provides some high level directives on asset acquisition the process of project evaluation is not documented.		
7		A spare Cooling Water (CW) pump motor was included in the budget 2013-14 as a DCS Spare Parts List line item for Critical Spares (as per Budget 31 August 2013) as no spare had been purchased previously.  The increase in the line items was entered in the Budget and the cause identified. Some documentation was available however a full justification/ case for the item had not been formally processed.	7/2014 While the case for the CW Pump Motor appears sound, there should be evidence of justification of the costs and the process should be formalised.	
-	2.2	C/NR  Evaluations include all life-cycle costs.  Not applicable during the Review period however no documented procedure was evident showing the inclusion of life cycle cost evaluations in new asset project assessment.	Recommendation as per 4/2014, EC1.6	
8	3.1	B1  Under-utilised and under-performing assets are identified as part of a regular systematic review process.  Whilst there are processes in place for the review of plant performance, these processes are not clearly identified in the AMP documentation (or in procedures).	8/2014 Whilst there are processes in place for the review of plant performance, these processes are not clearly identified in the AMP documentation (or in procedures). There should be a definition of the systematic monitoring and review of asset performance and a definition of the replacement/ disposal process in the AMP documentation and in procedures.	

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-	3.3	B1 Disposal alternatives are evaluated.  Refer to EC3.1 for finding on documentation of disposal process.	Refer to recommendation 8/2014 at EC3.1	
-	3.4	B2 There is a replacement strategy for assets.  The replacement strategy should be subject to a systematic review within the AMP review. This was not evident during the Review period and has been noted under EC3.1.	Refer to recommendation 8/2014 at EC3.1	
9	4.1	B2 Opportunities and threats in the system environment are assessed.  While there was evidence of reporting and review of plant operation and financial performance, there was no clear evidence of a systematic assessment by the asset management system of the external opportunities and threats and of corrective actions taken to maintain requirements.	<b>9/2014</b> Provide a methodology in the AMS for the assessment of opportunities and threats in the system environment.	
10	4.2	B1 Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved.  The documentation does not clearly identify the required operating performance standards, while some variances are discussed it is not possible to review the achievement of performance standards as those standards are not clearly set. For	<b>10/2014</b> There should be a definition of target operating performance standards, reviewed and updated at regular intervals (possibly annually) and regular assessment of plant operating performance against those standards (possibly monthly).	

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		example the OSA stipulates an availability factor for the payment of incentives to the operator however that target is not shown in the monthly Business Services Reports.		
11, 12	4.3	<p>B2</p> <p>Compliance with statutory and regulatory requirements.</p> <p>Annual power testing for the Certified Reserve Capacity was not included in the Calendar.</p> <p>The Review noted that the Compliance calendar indicates "ERA AMS Review" requirement; however there is no mention of Performance Audit, at times the Performance Audit timing is not synchronised with the AMS Review.</p> <p>There should be identification of the process for maintaining the currency of the "Compliance Calendar".</p> <p>One Environmental incident report was raised during February 2013: the annual audit on the ministerial statement 698 was not submitted to the Office of Environmental Protection Authority (OEPA) by the due date. The Audit had been completed by an external consultant before the due date of April 1 2012, but the Audit report was subsequently submitted to the OEPA in February 2013 when the OEPA contacted NPK due to an administrative error.</p>	<p><b>11/2014</b> The Compliance Calendar should be reviewed to check if it is up to date and whether it should include the annual power testing for the Certified Reserve Capacity.</p> <p><b>12/2014</b> The process for maintaining the currency of the "Compliance Calendar" should be documented.</p>	
-	6.1	<p>B1</p> <p>Maintenance policies and procedures are documented and linked to service levels required.</p> <p>Up to date documentation and review</p>	Refer to recommendation at items EC1.1 and EC1.2	

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		of maintenance strategies, which is expected in an AMP, is not available. This finding has been documented in EC1.1 and EC1.2		
13	6.3	<p>B1</p> <p>Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.</p> <p>The Review noted that the maintenance procedures do not cover the management of forced outages.</p>	<b>13/2014</b> Maintenance procedures should be reviewed and updated to address forced outages.	
14, 15	7.1	<p>B1</p> <p>Adequate system documentation for users and IT operators.</p> <p>Remaining AMS documentation is stored in the DMS however at present there are no controls on document management such as revision control. A basic set of instructions were provided in e-mails when the DMS started, with instructions on where to file documents and how to use it, however the operation of the DMS is still relatively informal.</p>	<p><b>14/2014</b> Complete the development of the Document Management System and ensure that controls are implemented for the management of documentation.</p> <p><b>15/2014</b> Ensure that, as appropriate, document in draft or under review are finalised and approved.</p>	
16	7.3	<p>B1</p> <p>Logical security access controls appear adequate, such as passwords.</p> <p>Control of access to AMIS including responsibility for authorisations and process is not documented.</p>	<b>16/2014</b> Control of access to AMIS including responsibility and process should be documented.	

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17	7.5	C1 Data backup procedures appear adequate and backups are tested.  There was no evidence to show that backups are tested; the backup procedure was not documented.	<b>17/2014</b> Document the Asset Management System data backup and backup testing procedures. Ensure there is verification and evidence of back up integrity.	
18, 19, 20	8.1	B3 Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system.  The general intent of the Risk Management Policy (RMP) and Risk Management Guideline (RMG) has been applied in practice however, while there is evidence that the policies are understood there is no formal evidence that this has been maintained.  In particular the Review noted that there was no formal application of the formal requirements of the RMP and RMG over recent years and of the asset risk analysis since 2010, even though sound practices have been maintained at an operational level.	<b>18/2014</b> Undertake a review of the Risk Management Policy and Risk Management Guideline to ensure they are current and up to date. <b>19/2014</b> Review the accountabilities and requirements of the Risk Management Policy and Risk Management Guideline to ensure they have been complied with. Evidence of ongoing compliance to be subsequently maintained. <b>20/2014</b> Regular staff training on risk management requirements to be undertaken with appropriate records being maintained.	
21, 22, 23	8.2	B3 Risks are documented in a risk register and treatment plans are actioned and monitored.  Risk registers were established at the commencement of operations in 2008 however have not been subsequently reviewed or updated, a review is now warranted.  Where appropriate, risk treatment plans were put in place at the same	<b>21/2014</b> Undertake a review of the risk management process to ensure that it is relevant to the current plant operation and that it can be implemented.  <b>22/2014</b> Undertake a review of all risk registers and risk treatment plans to ensure all identified risks remain current, no new risks have emerged and all appropriate risk treatment plans are in place, actioned and regularly monitored.  <b>23/2014</b> Undertake a review of the	

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		<p>time as the risk registers were established. While these plans involved an initial amount of action and monitoring there is no evidence that this has occurred on a regular ongoing basis.</p> <p>As an observation it is noted that, within the risk evaluation matrix, the financial impact scale applicable to the differing levels of consequence/severity is considered too low for an operation with NPK's attributes. As a result, risks of all types are being assessed at a higher level of consequence than would normally be expected for this industry.</p>	financial impact scale used in the risk evaluation model to ensure it is aligned with industry norms.	
24	8.3	<p>B3</p> <p>The probability and consequences of asset failure are regularly assessed.</p> <p>Probability and consequences of asset failure were assessed when the initial risk registers were established in 2008 and were further reviewed in 2010. No further systematic reviews were found for the entire plant.</p>	<b>24/2014</b> Implement a process for ensuring the probability and consequences of asset failure are regularly assessed and maintain a record of such assessments having been made.	
25	9.1	<p>B1</p> <p>Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.</p> <p>No Contingency/Business Continuity Plans are in place to cover higher risks such as loss of gas supplies, loss of IT infrastructure, loss of office facilities, pandemics, critical asset failure and extreme weather events (ie. extended high temperature).</p>	<b>25/2014</b> Address the need for higher level Contingency Plans/ Business Continuity Plans to cover high level risks such as loss of gas supplies, loss of IT infrastructure, loss of office facilities, pandemics, critical asset failure and extreme weather events (ie. extended high temperature) and implement as necessary.	



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26	10.1	<p>B1</p> <p>The financial plan states the financial objectives and strategies and actions to achieve the objectives.</p> <p>The financial outcomes contained in the Annual Budget can reasonably be taken to be the financial objectives. However whilst the assumptions contained in the Annual Budget set out the assumed level of contract generation that will actually be required, the residual generation that will be made available to the market and the plant operating parameters to achieve this, they do not define specific plant operating strategies or actions that will be implemented as part of this process. For example, in the absence of stated strategies and actions, the pursuit of current year financial outcomes as per the Annual Budget may be to the long-term detriment of the plant. Whilst there is no evidence of this occurring in practice a broader and more clearly articulated approach to operating strategy would be beneficial.</p>	<p><b>26/2014</b> Within the Annual Budget clearly define and articulate the operating strategies that will be implemented in order to achieve financial objectives. This should be linked to the AMP planning process.</p>	
27	10.4	<p>B2</p> <p>The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period.</p> <p>The Annual Budget does not include any detail on the basis of how the year 2-5 projections have been determined and it is considered appropriate for this to be included in future budget documents.</p>	<p><b>27/2014</b> Within the Annual Budget clearly define and articulate the assumptions applying to longer-term revenue projections in order that the level of reasonableness applicable to them can be determined.</p>	
28	10.6	<p>A1</p> <p>Significant variances in actual/budget income and expenses are identified</p>	<p><b>28/2014 (OFI)</b> Variance commentary in monthly Finance Management reports should identify corrective action that has been or will be</p>	

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		and corrective action taken where necessary.  Variance reporting was considered to be of a high quality however could be enhanced by the inclusion of corrective operational and trading actions to be taken to recover lost ground if possible and where necessary.	taken where necessary.	
29, 30	11.1	<p>B2</p> <p>There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates.</p> <p>The capital expenditure planning process appears to be robust however it is compromised by the absence of a detailed five year forward view of expenditure to be incurred albeit the inclusion of four year major maintenance events does ensure that all significant expenditure items are captured.</p> <p>There is currently a misalignment between the Required Maintenance Reserve Account Balance Schedule and the timing of major maintenance events. Notwithstanding that the Maintenance Reserve Account currently appears to be overfunded and has been able to cover all actual planned maintenance costs to date this disparity should be remedied in order to provide certainty.</p>	<p><b>29/2014</b> The capital expenditure plan within the Annual Budget needs to provide schedules for planned capital expenditure on maintenance on an annual basis for the current budget year and each of the ensuing 4 years to provide a 5 year forward view in total.</p> <p><b>30/2014</b> Arrange for the Lenders Engineer to review and reset the Required Maintenance Reserve Account Balance Schedule to reflect the planned timing of major maintenance events.</p>	
31, 32	12.1	<p>C3</p> <p>A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current.</p>	<p><b>31/2014</b> Document the process for review of the asset management system (AMS) and the asset management plan (AMP).</p> <p><b>32/2014</b> Carry out a formal review of the AMS and the AMP. Update the AMS and the AMP as per review</p>	

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		While aspects of the asset management system and of the asset management plan were subject to review, there has been no formal review of the AMS or of the AMP during the Review period. There was no evidence that a structured review of the AMS has been carried out at regular intervals.	findings. (Refer to EC 1.1 for additional recommendation; a review of the above may also require a review and update of the Asset Life Plan).	
33	12.2	<p>B2</p> <p>Independent reviews (e.g. internal audit) are performed of the asset management system.</p> <p>An independent review of the AMS was completed in August 2011 as part of the requirements of the licence.</p> <p>No other independent reviews were evident for the Review period.</p>	<b>33/2014 (OFI)</b> The asset management system review process should include independent reviews.	

## 5 POST AUDIT AND REVIEW IMPLEMENTATION PLAN

The Post Audit And Review Implementation Plan (PAIP) is a document prepared by the licensee in response to the recommendations made in the audit and review. As it represents the licensee's views and actions it does not form part of the audit and review report, however it includes all key audit and review findings and recommendations that have been made in the audit and review. For each recommendation the licensee has recorded responses and corrective actions, responsibility for the actions and a proposed date for completion.

## Appendix A - Documentation reviewed

## Key Documentation Reviewed

1. Asset Planning and Performance Audit
  - 1.1. NewGen Generation Licence EGL3 Non Compliances Record
  - 1.2. NPK Business Services Reports
  - 1.3. Electricity Generation Licence Performance Audit Report, McGill Engineering Service Pty Ltd, 22 February 2012
  - 1.4. Electricity Generation Licence, (Licence Version 3, 13 January 2011)
  - 1.5. Electricity Generation Licence Asset Management System Review Report, McGill Engineering Service Pty Ltd, 22 February 2012
  - 1.6. Newgen Kwinana Power Station (NPK) Asset Management System (Submission)
  - 1.7. Kwinana Asset Management Policy
  - 1.8. Generation Organisational Charts - August 2013
2. Asset Creation and Acquisition
  - 2.1. NGKH board minutes (signed) (00057304)
3. Asset Disposal
  - 3.1. x
4. Environmental Analysis
  - 4.1. DER Environmental Licence Annual Report 2013
  - 4.2. 120810 NPK RPT ADM ERA Non-Compliance Report 2011-2012
  - 4.3. 130822 NPK RPT ADM ERA Compliance Report 2012 2013
  - 4.4. Minutes of NewGen Power Kwinana Management Committee Meeting
  - 4.5. NPK REG ADM 149 NPK Licence Requirements
5. Asset Operations
  - 5.1. ERM Policy Manual
  - 5.2. NPK Health Safety Environment & Sustainability Policy
  - 5.3. NPK Site Operations organisation structure
  - 5.4. 091101 NPK RPT ENG PB Steam Turbine Asset Management Plan November 09
  - 5.5. NPK POP OPS 187 Plant Operating Procedure Operations Shift Guidelines
  - 5.6. Operator Services Agreement
6. Asset maintenance
  - 6.1. Kwinana RBI and Maintenance Planner
  - 6.2. NPK MP MAI 150 Maintenance Procedure Management of Maintenance
7. Asset Management Information System
  - 7.1. Document Number Register

- 8. Risk Management
  - 8.1. Corporate Risk Management Guideline
  - 8.2. Kwinana Asset Risk Management Policy
  - 8.3. NPK REG SAF 059 Safety Incident Register
  - 8.4. KWIN NPK-RAF-001 Risk Assessment ST Valves Inspection July 2014
  - 8.5. FM Global Insurance Fire and Natural Hazards Special Risk Report Sept 09
  - 8.6. FM Global Combined All in One Risk Report October 2013
  - 8.7. Chemical storage risk assessment
  - 8.8. KWIN Classified Pressure Vessel Database
  - 8.9. WIN NPK-RAF-001 Risk Assessment ST Valves Inspection July 2014
  - 8.10. NPK SWP OPS 178 Safe Work Procedure Management of Risk Assessment
  - 8.11. NPK-RAW-001 - Risk assessment worksheet security breach
  - 8.12. NPK-REG- Risk Assessment Register [OHS]
  - 8.13. Outage activities options defined by risk assessment
  - 8.14. Risk Assessment Acid and Caustic tanks
- 9. Contingency Planning
  - 9.1. NPK PL SAF 004 Emergency Response Plan-Rev 3
  - 9.2. NPK POP OPS 017 Plant Operating Procedure Incident Management and Reporting Rev1
  - 9.3. Exercise Alpha agenda
  - 9.4. Exercise Alpha Plan
  - 9.5. Exercise Alpha Report
- 10. Financial Planning
  - 10.1. 23052013 NPK Combined Budget-Version3
  - 10.2. NPK Budget Approved 30 June 2013
  - 10.3. NPK SPFS Special Purpose Financial Report 30 June 2014 signed with audit report
  - 10.4. NPK FRM FIN Fixed Asset Accounting & Capitalisation Policy - Management
  - 10.5. NPK Weekly Trading Reports
  - 10.6. NPK Finance Management report
- 11. Capital Expenditure Planning
  - 11.1. As above
- 12. AMS Review
  - 12.1. Electricity Generation Licence Asset Management System Review Report, McGill Engineering Service Pty Ltd, 22 February 2012