ATCO Power Australia (Karratha) Pty Ltd

Electricity Generation Licence (EGL21)

2014 Asset Management System Review

December 2014

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Mr Roy Zylstra
General Manager Operations
ATCO Australia Pty Ltd
Level 12, 2 Mill Street
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9 December 2014

Dear Roy

Electricity Generation Licence (EGL21) Asset Management System Review report

We have completed the Electricity Generation Licence Asset Management System review for ATCO Power Australia (Karratha) Pty Ltd for the period 1 September 2011 to 31 Australia 2014 and are pleased to submit our report to you.

I confirm that this report is an accurate presentation of the findings and conclusions from our review procedures.

If you have any questions or wish to discuss anything raised in the report, please contact Andrew Baldwin on 9365 7236 or me on 9365 7024.

Yours sincerely

Richard Thomas
Partner
Deloitte Touche Tohmatsu

Contents

1 Independent Reviewer's Report

With the Economic Regulation Authority's (**the Authority**) approval, Deloitte Touche Tohmatsu (**Deloitte**) was engaged to conduct a limited assurance review relating to ATCO Power Australia (Karratha) Pty Ltd's (**APAK**) Electricity Generation Licence (EGL21) (the **Licence**) asset management system.

The review was conducted as a limited assurance engagement in accordance with the specific requirements of the Licence and the April 2014 issue of the *Audit and Review Guidelines: Electricity and Gas Licences* (**Guidelines**).

APAK's responsibility for maintaining an effective asset management system

APAK is responsible for establishing and maintaining an effective asset management system (including relevant policies, procedures and controls) for assets subject to the Licence, as measured by the effectiveness criteria in the Guidelines.

Deloitte's responsibility

Our responsibility is to express a conclusion on the effectiveness of APAK's asset management systems to meet Licence requirements based on our procedures. We conducted our engagement in accordance with Australian Standard on Assurance Engagements (**ASAE**) 3500 *Performance Engagements* issued by the Australian Auditing and Assurance Standards Board and the Guidelines, in order to state whether, in all material respects, based on the work performed, anything has come to our attention to indicate that APAK had not established and maintained an effective asset management system for assets subject to the Licence, as measured by the effectiveness criteria in the Guidelines and in operation for the period 1 September 2011 to 31 August 2014.

ASAE 3500 also requires us to comply with the relevant ethical requirements of the Australian professional accounting bodies.

Our procedures consisted primarily of:

- Utilising the Guidelines as a guide for development of a risk assessment and document review to assess controls
- Development of a Review Plan for approval by the Authority and an associated work program
- Interviews with and representations from relevant APAK staff to gain an understanding of the development and maintenance of policy and procedural type documentation
- Examination of documented policies and procedures for key functional requirements and consideration of their relevance to APAK's asset management system requirements and standards
- Physical visit to the Karratha power station
- Consideration of reports and references evidencing activity
- Consideration of the installation's function, normal modes of operation and age
- Reporting of findings to APAK for review and response.

Limitations of use

This report is made solely for the information and internal use of APAK and is not intended to be, and should not be, used by any other person or entity. No other person or entity is entitled to rely, in any manner, or for any purpose, on this report.

We understand that a copy of this report will be provided to the Authority for the purpose of reporting on the asset management system review for APAK's electricity generation licence. We agree that a copy of this report may be provided to the Authority for its information in connection with this purpose but only on the basis that we accept no duty, liability or responsibility to the Authority in

relation to the report. We accept no duty, responsibility or liability to any party, other than APAK, in connection with the report or this engagement.

Inherent limitations

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement conducted in accordance with ASAE 3500 and consequently does not allow us to obtain assurance that we would become aware of all significant matters that might be identified in a reasonable assurance engagement. Accordingly, we will not express an opinion providing reasonable assurance.

We cannot, in practice, examine every activity and procedure, nor can we be a substitute for management's responsibility to maintain adequate controls over all levels of operations and its responsibility to prevent and detect irregularities, including fraud. Accordingly, readers of our reports should not rely on the report to identify all potential instances of asset management system deficiencies, which may occur.

Any projection of the evaluation of the effectiveness of asset management system processes and procedures to future periods is subject to the risk that the processes and procedures may become inadequate because of changes in conditions, or that the degree of compliance with management procedures may deteriorate.

Independence

In conducting our engagement, we have complied with the independence requirements of the Australian professional accounting bodies.

Conclusion

Based on our work described in this report, in all material respects, nothing has come to our attention to indicate that APAK had not established and maintained an effective asset management system for assets subject to the Licence, as measured by the effectiveness criteria in the Guidelines and in operation during the period 1 September 2011 to 31 August 2014.

Table 3 of this report provides effectiveness ratings for each of the 12 key processes in the asset management life-cycle assessed by this engagement. For those aspects of APAK's asset management system that were assessed as having opportunities for improvement, relevant observations, recommendations and action plans are summarised at section 2.4 of this report and detailed at section 4 of this report.

DELOITTE TOUCHE TOHMATSU

Richard Thomas
Partner
Perth, December 2014

2 Executive Summary

2.1 Introduction and background

The Economic Regulation Authority (the **Authority**) has, under the provisions of the *Electricity Industry Act 2004* (the **Act**), issued to ATCO Power Australia (Karratha) Pty Ltd (**APAK**) an Electricity Generation Licence (EGL21) (the **Licence**) to operate the Karratha Power Station (**KPS**), which is connected to the North West Interconnected System (**NWIS**).

Section 14 of the Act requires APAK to provide to the Authority an asset management system review (the **review**) conducted by an independent expert acceptable to the Authority not less than once in every 24 month period (or any longer period that the Authority allows). The Authority set the period to be covered by the review as 1 September 2011 to 31 August 2014.

At the request of APAK, Deloitte Touche Tohmatsu (**Deloitte**) has undertaken a limited assurance review of APAK's asset management system.

The review has been conducted in accordance with the April 2014 issue of the *Audit and Review Guidelines: Electricity and Gas Licences* (**Guidelines**), which sets out 12 key processes in the asset management life-cycle. The limited assurance review was undertaken in order to state whether, in all material respects, based on the work performed, anything has come to our attention to indicate that APAK had not established and maintained an effective asset management system for assets subject to the Licence, as measured by the effectiveness criteria in the Guidelines and in operation during the period 1 September 2011 to 31 August 2014.

The objective of this report is to:

(a) Provide a summary of the background to the review and of the procedures performed by us

(b) Communicate our review findings and associated recommendations to you.

Our Independent Reviewer's Report is also contained in section 1 of this report.

ASAE 3500 also requires us to comply with the relevant ethical requirements of the Australian professional accounting bodies.

2.2 Findings

In considering APAK's internal control procedures, structure and environment, its compliance arrangements and its information systems specifically relevant to those effectiveness criteria subject to review, we observed that:

- Throughout the period subject to review, APAK had maintained consistent procedures and controls within its asset management system
- APAK staff appeared to have a good understanding of their roles, particularly displaying an understanding of the asset management processes within their area of responsibility.

This review assessed that of the 55 elements of APAK's asset management system:

- For the asset management process and policy definition adequacy ratings:
  - 50 are rated as "Adequately defined"
  - Three elements are rated as "Requires some improvement"
  - Two elements are not rated
- For the asset management performance ratings:
  - 44 are rated as "Performing effectively"
  - Two elements are rated as "Opportunity for improvement"
  - Nine elements are not rated.
- There are two opportunities for improvement where further action is recommended.

Specific assessments for each criterion are summarised at **Table 3** in section 3 "Summary of ratings" of this report.

Detailed findings, including relevant observations, recommendations and action plans are located in section 4 "Detailed findings, recommendations and action plans" of this report.

2.3 APAK's response to previous review recommendations

No recommendations were made during the previous (2011) review.

2.4 Recommendations and action plans

AMS Key Process and Effectiveness Criteria	Adequacy rating	Issue 1/2014
9(a) Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.	B **Performance rating** 1	APAK's contingency plans and arrangements are currently maintained/described in different processes and documents.
Recommendation 1/2014 APAK identify and record all of its contingency planning arrangements in a single document such as the KPS Contingency Plan.		**Action Plan 1/2014** APAK will identify and record all of its contingency planning arrangements in the KPS Contingency Plan. **Responsible person:** KPS Station Manager **Target date:** July 2015

AMS Key Process and Effectiveness Criteria	Adequacy rating	Issue 2/2014
12(a) A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current. *12(b) Independent reviews (e.g. internal audit) are performed of the asset management system.*	B **Performance rating** 2	APAK has not developed a formal process for ensuring the currency of the AMP, including the need for independent review of the AMP and any other references that describes the asset management system, or supports the AMP.
Recommendation 2/2014 APAK implement a: • Requirement for its asset management system to be subject to an independent review on a regular basis • Register or record to capture the reviews conducted on its asset management system and the independence of the associated reviewer.		**Action Plan 2/2014** APAK will implement a: • Requirement for its asset management system to be subject to an independent review on a regular basis • Register or record to capture the reviews conducted on its asset management system and the independence of the associated reviewer. **Responsible person:** KPS Station Manager **Target date:** July 2015

2.5 Scope and objectives

The objective of the review was to independently examine the effectiveness and performance of the asset management system established for APAK's assets subject to APAK's electricity generation licence for the period 1 September 2011 to 31 August 2014.

In accordance with the Guidelines, the review considered the effectiveness of APAK's existing control procedures within the following 12 key processes in the asset management life-cycle.

#	Key processes	Effectiveness criteria
1	Asset planning	(a) Planning processes and objectives reflect the needs of all stakeholders and is integrated with business planning (b) Service levels are defined (c) Non-asset operations (e.g. demand management) are considered (d) Lifecycle costs of owning and operating assets are assessed (e) Funding options are evaluated (f) Costs are justified and cost drivers identified (g) Likelihood and consequences of asset failure are predicted (h) Plans are regularly reviewed and updated.
2	Asset creation and acquisition	(a) Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions (b) Evaluations include all life-cycle costs (c) Projects reflect sound engineering and business decisions (d) Commissioning tests are documented and completed (e) Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood.
3	Asset disposal	(a) Underutilised and underperforming assets are identified as part of a regular systematic review process (b) The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken (c) Disposal alternatives are evaluated (d) There is a replacement strategy for assets.
4	Environmental analysis (all external factors that affect the system)	(a) Opportunities and threats in the system environment are assessed (b) Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved (c) Compliance with statutory and regulatory requirements (d) Achievement of customer service levels.
5	Asset operations	(a) Operational policies and procedures are documented and linked to service levels required (b) Risk management is applied to prioritise operations tasks (c) 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 (d) Operational costs are measured and monitored (e) Staff receive training commensurate with their responsibilities.

#	Key processes	Effectiveness criteria
6	Asset maintenance	(a) Maintenance policies and procedures are documented and linked to service levels required (b) Regular inspections are undertaken of asset performance and condition (c) Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule (d) Failures are analysed and operational/maintenance plans adjusted where necessary (e) Risk management is applied to prioritise maintenance tasks (f) Maintenance costs are measured and monitored.
7	Asset management information system	(a) Adequate system documentation for users and IT operators (b) Input controls include appropriate verification and validation of data entered into the system (c) Logical security access controls appears adequate, such as passwords (d) Physical security access controls appear adequate (e) Data back-up procedures appear adequate (f) Key computations related to licensee performance reporting are materially accurate (g) Management reports appear adequate for the licensee to monitor licence obligations.
8	Risk management	(a) Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system (b) Risks are documented in a risk register and treatment plans are actioned and monitored (c) The probability and consequences of asset failure are regularly assessed.
9	Contingency planning	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks
10	Financial planning	(a) The financial plan states the financial objectives and strategies and actions to achieve the objectives (b) The financial plan identifies the source of funds for capital expenditure and recurrent costs (c) The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets) (d) The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period (e) The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services (f) Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary.
11	Capital expenditure planning	(a) There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates (b) The plan provide reasons for capital expenditure and timing of expenditure (c) The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan (d) There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned.

#	Key processes	Effectiveness criteria
12	Review of Asset Management System	(a) A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current (b) Independent reviews (e.g. internal audit) are performed of the asset management system.

Each key process and effectiveness criterion is applicable to APAK's Licence and as such was individually considered as part of the review.

2.6 Approach

Our approach for this review involved the following activities, which were undertaken during the period August to October 2014:

- Utilising the Guidelines and Reporting Manual as a guide, development of a risk assessment, which involved discussions with key staff and document review to assess relevant controls
- Development of a Review Plan for approval by the Authority
- Correspondence and interviews with APAK staff to gain understanding of process controls in place (see **Appendix A** for staff involved)
- Visited APAK's power station with a focus on understanding the facility, its function and normal mode of operation, its age and an assessment of the facility against the AMS review criteria
- Review of relevant documents and walkthrough of relevant controls processes and controls (see **Appendix A** for reference listing)
- Consideration of the resourcing applied to maintaining those controls and processes
- Reporting of findings to APAK for review and response.

2.7 Inherent limitations

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement conducted in accordance with ASAE 3500 and consequently does not allow us to obtain assurance that we would become aware of all significant matters that might be identified in a reasonable assurance engagement. Accordingly, we will not express an opinion providing reasonable assurance.

Because of the inherent limitations of any procedure, it is possible that fraud or error may occur and not be detected. We cannot, in practice, examine every activity and procedure, nor can we be a substitute for management's responsibility to maintain adequate controls over all levels of operations and its responsibility to prevent and detect irregularities, including fraud. Accordingly, readers of our reports should not rely on the report to identify all potential instances of non-compliance which may occur.

Any projection of the evaluation of the effectiveness of asset management system processes and procedures to future periods is subject to the risk that the processes and procedures may become inadequate because of changes in conditions, or that the degree of compliance with management procedures may deteriorate.

3 Summary of ratings

In accordance with the Guidelines, the assessment of both the process and policy definition rating (refer to **Table 1**) and the performance rating (refer to **Table 2**) for each of the key asset management system processes is performed using the below ratings.

For avoidance of doubt, these ratings do not provide reasonable assurance.

Table 1: Asset management process and policy definition adequacy ratings

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

Table 2: Asset management performance ratings

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

This report provides:

- A breakdown of each function of the asset management system into sub-components as described in the Guidelines. This approach is taken to enable a more thorough review of key processes where individual components within a larger process can be of greater risk to the business therefore requiring different review treatment
- A summary of the ratings applied by the review (**Table 3**) for each of:
    - Asset management process and policy definition adequacy (**definition adequacy rating**)
    - Asset management performance (**performance rating**).
- Detailed findings, including relevant observations, recommendations and action plans (**Section 4**). Descriptions of the effectiveness criteria can be found in section 4.

Table 3: Asset management system effectiveness summary

						Ratings	
Criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Review Priority	Definition adequacy	Performance
1. Asset planning						**A**	**1**
1(a)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
1(b)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
1(c)	Minor	Probable	Low	Moderate	Priority 5	NR	NR
1(d)	Moderate	Unlikely	Medium	Moderate	Priority 4	A	1
1(e)	Minor	Unlikely	Low	Moderate	Priority 5	NR	NR
1(f)	Moderate	Unlikely	Medium	Moderate	Priority 4	A	1
1(g)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
1(h)	Minor	Probable	Low	Moderate	Priority 5	A	1
2. Asset creation and acquisition						**A**	**1**
2(a)	Moderate	Unlikely	Medium	Moderate	Priority 4	A	NR
2(b)	Moderate	Unlikely	Medium	Moderate	Priority 4	A	NR
2(c)	Moderate	Unlikely	Medium	Moderate	Priority 4	A	NR
2(d)	Moderate	Unlikely	Medium	Moderate	Priority 4	A	NR
2(e)	Major	Unlikely	High	Moderate	Priority 2	A	1
3. Asset disposal						**A**	**1**
3(a)	Moderate	Unlikely	Medium	Moderate	Priority 4	A	NR
3(b)	Minor	Unlikely	Low	Moderate	Priority 5	A	NR
3(c)	Minor	Unlikely	Low	Moderate	Priority 5	A	NR
3(d)	Moderate	Unlikely	Medium	Moderate	Priority 4	A	1
4. Environmental analysis						**A**	**1**
4(a)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
4(b)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
4(c)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
4(d)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
5. Asset operations						**A**	**1**
5(a)	Moderate	Probable	Medium	Strong	Priority 4	A	1
5(b)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
5(c)	Minor	Probable	Low	Strong	Priority 5	A	1
5(d)	Minor	Probable	Medium	Strong	Priority 4	A	1
5(e)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
6. Asset maintenance						**A**	**1**
6(a)	Moderate	Probable	Medium	Strong	Priority 4	A	1
6(b)	Moderate	Probable	Medium	Strong	Priority 4	A	1
6(c)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
6(d)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
6(e)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
6(f)	Minor	Probable	Low	Strong	Priority 5	A	1
7. Asset management information system						**A**	**1**
7(a)	Minor	Probable	Low	Moderate	Priority 5	A	1

						Ratings	
Criteria	Consequence	Likelihood	Inherent Risk	Control Risk	Review Priority	Definition adequacy	Performance
7(b)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
7(c)	Minor	Probable	Low	Moderate	Priority 5	A	1
7(d)	Minor	Probable	Low	Moderate	Priority 5	A	1
7(e)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
7(f)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
7(g)	Minor	Probable	Low	Moderate	Priority 5	A	1
8. Risk management						**A**	**1**
8(a)	Major	Probable	High	Moderate	Priority 2	A	1
8(b)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
8(c)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
9. Contingency planning						**B**	**1**
9(a)	Major	Probable	High	Moderate	Priority 2	B	1
10. Financial planning						**A**	**1**
10(a)	Minor	Probable	Low	Moderate	Priority 5	A	1
10(b)	Minor	Unlikely	Low	Moderate	Priority 5	A	1
10(c)	Minor	Probable	Low	Moderate	Priority 5	A	1
10(d)	Minor	Probable	Low	Moderate	Priority 5	A	1
10(e)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
10(f)	Minor	Probable	Low	Moderate	Priority 5	A	1
11. Capital expenditure planning						**A**	**1**
11(a)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
11(b)	Minor	Probable	Low	Moderate	Priority 5	A	1
11(c)	Moderate	Probable	Medium	Moderate	Priority 4	A	1
11(d)	Minor	Probable	Low	Moderate	Priority 5	A	1
12. Review of AMS						**B**	**2**
12(a)	Moderate	Probable	Medium	Moderate	Priority 4	B	2
12(b)	Moderate	Probable	Medium	Moderate	Priority 4	B	2

4 Detailed findings, recommendations and action plans

Summary of generation works subject to review

APAK owns and operates a generating asset which forms an integral part of providing power to Horizon Power on the North West Interconnected System (**NWIS**). The generating works has a combined maximum rated output of 96 MW utilising two gas turbine generators and associated ancillaries, considered to represent best practice technology.

The plant site is located adjacent to Horizon Power's Karratha Terminal facility at Stove Hill, Karratha in Western Australia. Operation of the plant is via a remote 24 hour Horizon Power operations control centre.

The power station assets have originated from a contract awarded by Horizon Power to APAK to supply power as an Independent Power Producer. APAK has entered into a Power Purchase Agreement (**PPA**) with Horizon Power on the condition that APAK agrees to build, own and operate the power station and to convert natural gas supplied by Horizon Power into a reliable and continuous supply of electricity in the Pilbara region.

The following tables contain:

- *Findings*: the reviewer's understanding of the process and any issues that have been identified during the review
- *Recommendations (where applicable)*: recommendations for improvement or enhancement of the process or control
- *Action plans (where applicable)*: APAK's formal response to review recommendations, providing details of action to be implemented to address the specific issue raised by the review.

4.1 Asset planning

Key process: Asset planning strategies are focused on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price)

Expected outcome: 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

Overall Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

No	Effectiveness criteria	Findings	
1(a)	Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	Through discussions with the Senior Engineer and consideration of APAK's business and asset planning processes, we determined that APAK's business model and allocation of resources relate to operating and maintaining a power station in accordance with contractual arrangements with GE Packaged Power Inc. From a business planning perspective, we determined that APAK has established asset management processes and mechanisms to assimilate the requirements of its various stakeholders. In particular, we observed that APAK has: • Developed an Asset Management Plan (AMP) for operating and maintaining the various components of the power station to achieve optimum performance over its entire life • Contracted with Horizon Power to effect a Power Purchase Agreement (PPA), which outlines APAK's role as the electricity generator on behalf of Horizon Power and the associated full cost recovery operating model • Established a Long Term Service Agreement (LTSA) with GE Packaged Power Inc in relation to site maintenance of certain assets located in the power station.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
1(b)	Service levels are defined	Through discussions with the Senior Engineer and examination of APAK's AMP and contractual documentation, we determined that the plant's required service levels are: • Agreed and defined within the LTSA agreement with GE Packaged Power Inc • Referenced in the AMP and the PPA.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
1(c)	Non-asset options (e.g. demand management) are considered	As APAK's PPA with Horizon Power stipulates that the power station's availability and generation schedule will be entirely directed by Horizon Power, there is no requirement or opportunity for APAK to consider non-asset options.	
		Adequacy Rating: Not rated	**Performance Rating:** Not rated

No	Effectiveness criteria	Findings	
1(d)	Lifecycle costs of owning and operating assets are assessed	Through discussions with the Senior Engineer and examination of APAK's AMP and contractual documentation, we determined that assessment of lifecycle costs of owning and operating the power station assets is undertaken by means of APAK's financial planning processes, which addresses for each major item of equipment: • Operating and maintenance philosophy • Capex projects and planned upgrades • Key life cycle issues and how they are addressed • Life cycle plan including critical outages • Performance improvement opportunities • Critical reinvestments. APAK is currently in the process of developing a financial plan that considers budgeted income and expenditure for the life of the plant, as well as consideration for any disposal costs/options.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
1(e)	Funding options are evaluated	Due to the nature of APAK's full cost recovery model effected in its PPA with Horizon Power, APAK does not currently have need to consider alternative funding arrangements.	
		Adequacy Rating: Not rated	**Performance Rating:** Not rated
1(f)	Costs are justified and cost drivers identified	Through discussions with the Senior Engineer and Finance Manager - Power; and consideration of APAK's AMP and contractual documentation, we determined that the: • AMP includes a detailed life cycle plan that identifies life cycle costs and cost drivers associated with each major equipment at the facility • Power Station site is managed using APAK systems and processes, including SAP, to plan, schedule and track costs. • LTSA agreement with GE Packaged Power Inc outlines certain requirements for ongoing assessment and maintenance of generation assets. Any upgrades or improvements required for long term sustainability and efficiency are identified early via monitoring of assets to assist with expenditure planning.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

No	Effectiveness criteria	Findings	

1(g)	Likelihood and consequences of asset failure are predicted	Through discussion with the Senior Engineer and consideration of APAK's AMP and relevant supporting documentation, we observed that:
		• The AMP considers each major item of power station equipment and provides specific details of:
		  o The item's operation and maintenance strategy
		  o Key life cycle issues
		  o Remedial plans
		• Specific risks relating to power station assets have been highlighted within the AMP and are regularly assessed during periodic risk workshops
		• A LTSA has been established with GE Packaged Power Inc to perform planned maintenance in accordance with the manufacturer's guidelines and expert experience
		• A detailed forward maintenance program in accordance with the manufacturer's guidelines and expert experience is maintained by APAK with input from GE Packaged Power Inc
		• Condition monitoring techniques are employed by GE Packaged Power Inc.	

		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
1(h)	Plans are regularly reviewed and updated	Through discussions with Senior Engineer and consideration of APAK's AMP and relevant supporting documentation, we determined that APAK's asset and business plans are subject to review and update on a regular basis. We also observed that the: • AMP was most recently reviewed in August 2014 to include relevant updates made to the applicable Codes • AMP provides for review at a minimum of once every two years • Detailed maintenance program is maintained as a forward-looking document to avoid unplanned outages and subjected to revision in accordance with continuous improvement principles, with a view to maintain its required heat rate and to align outages to coincide with off-peak and off-season periods • Operational and project expenditure budget is tracked on a monthly basis and any variances analysed to determine impact on the scheduled maintenance and outage plans.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.2 Asset creation and acquisition

Key process: Asset creation/acquisition means the provision or improvement of an asset where the outlay can be expected to provide benefits beyond the year of outlay

Expected outcome: A more economic, efficient and cost-effective asset acquisition framework which will reduce demand for new assets, lower service costs and improve service delivery

Overall Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

No	Effectiveness Criteria	Findings	
2(a)	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions	Through discussion with the Finance Manager – Power and Senior Engineer, we determined that APAK has developed procedures for approval of new assets, including comparisons for alternative options. Those procedures provide for the following activities to be undertaken as part of the new asset purchase process: • A full business case, which outlines the considerations for instigating new projects including environmental considerations, asset alternatives, the approval requirements, financial and capital requirements, current state assessment and timeline • Economic evaluation modelling as part of the business case • Consideration of non-asset options. During the period 1 September 2011 to 31 August 2014, as no new assets were planned to be created or acquired in relation to the KPS, the above processes were not required to be performed.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Not rated

No	Effectiveness Criteria	Findings	
2(b)	Evaluations include all life-cycle costs	Through discussions with the Finance Manager - Power and the Senior Engineer and an examination of the procedures for expenditure approval and associated forms and templates, we determined that APAK has the following process in place to assess lifecycle costs of owning and operating assets: • The majority of costs for owning and operating the plant are recouped from Horizon Power based on the contracted mark-up percentages within the PPA, which provides for APAK to achieve a suitable margin • Details of lifecycle costs relating to owning and operating the power station assets are included in the AMP and include: ▪ Operating and maintenance philosophy ▪ Key life cycle issues and how they are addressed ▪ Life cycle plan and critical outages ▪ Performance improvement opportunities ▪ Criticality studies for asset failure. • An economic evaluation model is utilised as part of the budgeting and forecasting process to assess the cost associated with the overall plant life and to generate projections for the next 3 years • Project evaluations provide for estimates of the investment required as well as identifying the source of funds. During the period 1 September 2011 to 31 August 2014, as no new assets were planned to be created or acquired in relation to the APAK plant, the above processes were not required to be performed.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Not rated
2(c)	Projects reflect sound engineering and business decisions	Through discussions with the Finance Manager – Power and the Senior Engineer, and examination of APAK's AMP, PPA and other contractual documentation, we determined that APAK has the following procedures in place to assess the commercial and technical competence of projects: • All major projects are referred to APAK's/ATCO's procurement team, who will undertake detailed analyses of project options and tendering. A detailed business case will then be created for approval and will include: ▪ Input from site representatives, including those with engineering expertise ▪ Costing models and financial evaluations ▪ Needs analysis for the project/expansion ▪ Other considerations such as HSE, environmental impact and risk management. Note that as APAK's capacity is driven by demand from Horizon Power, any requirement to increase capacity is entirely determined by Horizon Power and will result in a request from Horizon Power for the change to occur. During the period 1 September 2011 to 31 August 2014, as no new assets were planned to be created or acquired in relation to the APAK plant, the above processes were not required to be performed.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Not rated

No	Effectiveness Criteria	Findings	
2(d)	Commissioning tests are documented and completed	Through discussions with the Finance Manager – Power and the Senior Engineer and consideration of relevant procedures, we observed that APAK has the following processes for performing commissioning tests: • Commissioning tests are required for any components added to the KPS assets • Full documentation of commissioning tests is required. During the period 1 September 2011 to 31 August 2014, as no new assets were established or commissioned in relation to the APAK plant, no commissioning tests were undertaken.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Not rated
2(e)	Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood	Through discussion with the Senior Engineer and the HSSE Specialist, and consideration of relevant supporting documentation, we observed that: • APAK has assigned responsibility to the HSSE Manager for managing its compliance with environmental and safety-related obligations, which includes the development and review of a KPS specific: ▪ Environmental Management Plan (EMP) ▪ Safety Case • APAK operates and monitors its operations in accordance with the following statutory legislation and licences: ▪ Environmental Protection Act ▪ Environmental Noise Regulations, which specify the permissible noise levels as measured at site boundary locations ▪ Water/liquid discharge, managed through the implementation of APAK's EMP ▪ Greenhouse emissions under the NGER Act ▪ Occupational Health and Safety Regulations ▪ Pressure vessel inspection requirements. • The KPS Station Manager has been formally assigned responsibility, within APAK's HSSE Roles and Responsibilities Procedure, for managing site specific obligations (under its Licence).	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.3 Asset disposal

Key process: Effective asset disposal frameworks incorporate consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets. Alternatives are evaluated in cost-benefit terms

Expected outcome: Effective management of the disposal process will minimise holdings of surplus and under-performing assets and will lower service costs

Overall Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

<table>
<tr><th>No</th><th>Effectiveness Criteria</th><th colspan="2">Findings</th></tr>
<tr><td>3(a)</td><td>Underutilised and underperforming assets are identified as part of a regular systematic review process</td><td colspan="2" rowspan="3">Criteria 3(a), (b) and (c)
The APAK power station is in the early phase of its life-cycle, having been commissioned in 2010. No plans have been made to dispose of any of the power station’s assets and there is a low likelihood of APAK disposing of its assets in the short-term.
Through discussions with the Senior Engineer and consideration of APAK’s asset planning, monitoring and maintenance processes in place, we determined that:
The AMP considers each major item of power station equipment and provides specific details of the item’s operation and maintenance strategy, key life cycle issues and remedial plans
APAK is incentivised through its PPA to meet a specified heat rate (level of efficiency) and therefore actively seeks to identify any issues, via routine condition monitoring, prior to it having any major impact on asset efficiency
The results of these assessments and inspections are included in the rolling three year plan and drive the need for any short-term CAPEX upgrades
APAK is currently in the process of developing a long term financial plan which will incorporate costs for disposal or replacement at the end of the plant’s life.
During the period 1 September 2011 to 31 August 2014 (the period subject to review), no assets were determined to be significantly underutilised or underperforming and no disposal options were considered or taken by APAK.</td></tr>
<tr><td>3(b)</td><td>The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken</td></tr>
<tr><td>3(c)</td><td>Disposal alternatives are evaluated</td></tr>
<tr><td></td><td></td><td>Adequacy Rating: Adequately defined (A)</td><td>Performance Rating: Not rated</td></tr>
</table>

No	Effectiveness Criteria	Findings	
3(d)	There is a replacement strategy for assets	Through discussions with the Senior Engineer and consideration of APAK's asset management plans and strategies, we observed that: • The AMP: ▪ Considers each major item of equipment and provides specific details of its operation and maintenance strategy and key life cycle issues and remedial plans ▪ Provides a brief estimate of the replacement value of the plant, together with estimated design, engineering and construction costs • Rolling three year plans provide details of the major CAPEX projects planned for each asset in the coming financial year, including any equipment replacement requirements • Each project is monitored in a CAPEX project tracker spreadsheet and any timing or cost variances are followed up. Owing to the age of the power station and APAK's arrangement with Horizon Power, no detailed plans and assessments have been conducted for the replacement/disposal of APAK's assets.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.4 Environmental analysis

Key process: Environmental analysis examines the asset system environment and assesses all external factors affecting the asset system

Expected outcome: The asset management system regularly assesses external opportunities and threats and takes corrective action to maintain performance requirements

Overall Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

No	Effectiveness Criteria	Findings	
4(a)	Opportunities and threats in the system environment are assessed	Through discussion with the Senior Engineer and HSSE Specialist, and consideration of relevant supporting documentation, we determined that: • New updates to legislation are captured via regular emails from SAI Global ▪ New legislation will be captured within APAK's Statutory Compliance Register, Environmental Management System and Work, Health and Safety Management System ▪ Changes will then be made to relevant plans, procedures and documents • APAK's environmental licence obligations are captured and managed by the HSSE Specialist • The HSSE Specialist and HSSE Manager have been assigned responsibility for environmental compliance • A specific position has been created for NGERs reporting.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
4(b)	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved	Through discussion with the Senior Engineer and HSSE Specialist, and consideration of relevant supporting documentation, we determined that: • APAK's EMP outlines the actions required to be taken for any breach in performance standards, including reporting to the relevant regulator • APAK is required to report any breaches of SOx emission limits to the Department of Environment. APAK appears to utilise an effective reporting system, including having a dedicated staff member for NGERs reporting • A monthly reporting mechanism has been established, which includes details regarding operational and environmental performance.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
4(c)	Compliance with statutory and regulatory requirements	Through discussions with the HSSE Specialist and consideration of APAK's processes for managing compliance, we identified that: • Responsibility for compliance has been assigned to the HSSE Manager and HSSE Specialist • A compliance framework has been created to capture and manage compliance with APAK's obligations relevant to: ▪ Occupational Health and Safety legislation ▪ Environmental Protection legislation	

No	Effectiveness Criteria	Findings	
		▪ Licence compliance regulations • Compliance obligations are formally captured in APAK's Statutory Compliance Register, which is regularly updated for any changes to compliance obligations • Compliance obligations are also captured in APAK's EMP, which is communicated to operational staff.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
4(d)	Achievement of customer service levels	Through discussion with the Senior Engineer and HSSE Specialist, and consideration of relevant supporting documentation, we observed that: • APAK has a PPA with its sole customer, Horizon Power, for which APAK is required to achieve a specified efficiency level (heat rate) • Horizon Power provides APAK with scheduled run times, which are incorporated into APAK's financial planning mechanisms • GE Packaged Power Inc is contracted to conduct routine condition monitoring in order to ensure APAK's assets are in good working order and to identify any maintenance required. • In relation to community obligations, APAK operates and monitors its operations in accordance with 4(c) above.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.5 Asset operations

Key process: Operations functions relate to the day-to-day running of assets and directly affect service levels and costs

Expected outcome: Operations plans adequately document the processes and knowledge of staff in the operation of assets so that service levels can be consistently achieved

Overall Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

No	Effectiveness Criteria	Findings
5(a)	Operational policies and procedures are documented and linked to service levels required	Through discussions with the KPS Station Manager, Senior Engineer and on duty Production Specialist in Charge, and consideration of relevant supporting documentation, we observed that: • APAK has documented procedures in place to cover operational and maintenance tasks, which include: ▪ Raising of work orders from its maintenance system (**MEX**) for planned or unplanned work (as appropriate) for action by the rostered Production Specialist in Charge ▪ Updating its backlog and fortnightly maintenance plan ▪ Prioritising discussions and decision making ▪ Weekly maintenance meetings that are attended by the KPS Station Manager, Productions Specialists and Senior Engineer (when on site) ▪ Preparation of a work pack that includes work permits and Job Safety Analysis (**JSA**) documentation ▪ Completion of a work order after the relevant task has been completed (or rescheduling, if required) • APAK's PPA specifies the expected service levels and incorporates a performance-based payment/penalty program supported by close monitoring to ensure that resources are directed towards improvements in plant operation and maintenance and implementing action plans that minimise costs and improve reliability and operating efficiency/performance • APAK's LTSA includes penalties for under-performance/under-reliability, as well as bonuses for exceptional performance/reliability, so that GE Packaged Power Inc: ▪ Directs its resources toward providing improvements in gas turbine operation and maintenance ▪ Implements action plans aimed at minimising costs and improving reliability and operating efficiency • Out of hours operation is managed as follows: ▪ The plant is controlled by Horizon Power, who will contact the relevant Production Specialist on call, should any incident or fault occur ▪ The Production Specialist on call and the KPS Station Manager will receive SMS alerts automatically should the system detect a fault ▪ The Production Specialist on call must be able to attend the site within 15 minutes at all times to investigate the fault ▪ Health and safety is maintained by the Production Specialist wearing an "alert tag", which will automatically detect if the wearer is in trouble and will automatically dial the emergency number, should the wearer be

No	Effectiveness Criteria	Findings	
		unresponsive for a period of time. We note that depending on the nature of the fault, the KPS Station Manager may, in addition, respond to the call.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
5(b)	Risk management is applied to prioritise operations tasks	Through discussions with the KPS Station Manager, Senior Engineer and on duty Production Specialist in Charge, and consideration of relevant supporting documentation, we observed that: • The plant's assets are managed by APAK using risk-based processes to maintain agreed performance targets with Horizon Power • Performance and availability of the plant is tracked by APAK and Horizon Power (in normal operation, Horizon Power will control the plant and APAK will track performance and availability) • APAK reports any plant failures and any consequential production loss internally and to Horizon Power when appropriate (e.g. inability to meet agreed power demand to within 2MW) • Priority tasks are tracked on a whiteboard in the APAK control room for staff to track progress and prioritise plans.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
5(c)	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	Through discussions with the KPS Station Manager, Senior Engineer and on duty Production Specialist in Charge, and consideration of relevant supporting documentation, we observed that: • The MEX and SAP systems hold detailed information for each major component of the plant, such as scheduled maintenance tasks and past work orders performed • The site risk register, used in conjunction with the AMP, outlines the major components of the plant and applies a risk rating to any associated issues. The register serves as a high-level asset register for the plant's higher risk components and systems • Event tracking for the plant monitors faults and highlights any areas of concern (e.g. multiple faults occurring over a period of time), which serves as another high-level asset register for the plant's potentially higher failure components based on past performance • MEX is used as a spare parts cost tracker, with SAP being used to document all other accounting data for assets within the plant.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

No	Effectiveness Criteria	Findings	
5(d)	Operational costs are measured and monitored	Through discussions with the KPS Station Manager, Senior Engineer, Administration Officer and on duty Production Specialist in Charge, and consideration of relevant supporting documentation, we observed that APAK tracks relevant operating costs for the plant on a monthly basis using a SAP based system, including: • Staff time dedicated to performing operation tasks using SAP timesheets • SAP-based PO system to track supplier-related costs (including costs to be recouped from Horizon Power) • Site operating budgets as agreed with the ATCO Perth office and in accordance with the PPA.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
5(e)	Staff receive training commensurate with their responsibilities	Through discussions with the KPS Station Manager, Senior Engineer, Administration Officer and on duty Production Specialist in Charge, and consideration of APAK's Training Matrix and sample work packs), we determined that: • Each work pack contains relevant procedures and checklists to enable the worker to perform the required task • APAK maintains a training record for all staff, showing qualifications and training completed, along with required training scheduled to be conducted in the future • APAK maintains records of all personnel inducted, as appropriate to their role. For example, a maintenance contractor is required to undergo a more detailed induction than an escorted visitor, to ensure they understand the procedures for working on site, such as emergency response and safety protocols • Owing to the small number of staff on site, staff are required to be involved in all aspects of the plant, which assists in confirming that staff possess the skills to perform their role.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.6 Asset maintenance

Key process: Maintenance functions relate to the upkeep of assets and directly affect service levels and costs

Expected outcome: Maintenance plans cover the scheduling and resourcing of the maintenance tasks so that work can be done on time and on cost

Overall Adequacy/Performance rating: Adequately defined (A)/ Performing effectively (1)

No	Effectiveness Criteria	Findings	
6(a)	Maintenance policies and procedures are documented and linked to service levels required	Through discussions with the KPS Station Manager, Senior Engineer and on duty Production Specialist in Charge, and consideration of relevant supporting documentation, we observed that: • APAK has documented procedures in place to cover operational and maintenance tasks, which include: ▪ Raising of work orders from MEX for planned or unplanned work (as appropriate) for action by the rostered Production Specialist in Charge ▪ Maintenance of backlog and fortnightly maintenance plans ▪ Prioritising discussions and decision making ▪ Weekly maintenance meetings that are attended by the KPS Station Manager, Productions Specialists and Senior Engineer (when on site) ▪ Preparation of a work pack that includes work permits and JSA documents ▪ Completion of a work order after a task has been completed (or rescheduling, if required) • APAK's PPA specifies the expected service levels and incorporates a performance-based payment/penalty program supported by close monitoring to ensure that resources are directed towards improvements in plant operation and maintenance and implementing action plans that minimise costs and improve reliability and operating efficiency/performance • APAK's LTSA includes penalties for under-performance/under-reliability, as well as bonuses for exceptional performance/reliability, so that GE Packaged Power Inc: ▪ Directs its resources toward providing improvements in gas turbine operation and maintenance ▪ Implements action plans aimed at minimising costs and improving reliability and operating efficiency.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

<table>
<tr><th>No</th><th>Effectiveness Criteria</th><th colspan="2">Findings</th></tr>
<tr><td>6(b)</td><td>Regular inspections are undertaken of asset performance and condition</td><td colspan="2">Through discussions with the KPS Station Manager, Senior Engineer and on duty Production Specialist in Charge, and consideration of relevant supporting documentation, we observed that:
As part of APAK’s LTSA with GE Packaged Power Inc, asset performance of the gas turbines is monitored on a regular basis by GE personnel as part of routine maintenance, to ensure that the gas turbines are operating at an optimal efficiency level
Monitoring processes include inspections using specialist equipment such as Borescopes to check condition of key components. Any deviations from normal operations are required to be highlighted to APAK and appropriately investigated where relevant
Regular third party inspections of relevant equipment such as pressure vessels are performed when required
APAK uses condition-based monitoring processes for certain key components, e.g.
Oil samples from the main components of the plant are sent to an external lab for detailed analysis
The analysis will highlight any potential issues with equipment that require preventive maintenance such as, at a minimum, an oil change.</td></tr>
<tr><td></td><td></td><td>Adequacy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td>6(c)</td><td>Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule</td><td colspan="2">Through discussions with the KPS Station Manager, Senior Engineer and on duty Production Specialist in Charge, and consideration of relevant supporting documentation, we observed that:
The MEX system is used to record all work schedules and work orders for the plant
Schedules and work orders are tracked on a daily basis by the Production Specialist in Charge to monitor maintenance of the plant and to organise daily work tasks
Production Specialists and the KPS Station Manager meet on a weekly basis to discuss maintenance plans for the past two weeks (for any lessons learned) and the upcoming two weeks.
Based on examination of the MEX system, we noted that all outstanding work orders had either been completed or had been intentionally rescheduled to meet current day demands, indicating APAK’s proactive approach to maintenance task scheduling.</td></tr>
<tr><td></td><td></td><td>Adequacy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

No	Effectiveness Criteria	Findings	
6(d)	Failures (including the significance of the failure) are analysed and operational/maintenance plans adjusted where necessary	Through discussions with the KPS Station Manager, Senior Engineer and on duty Production Specialist in Charge, and consideration of relevant supporting documentation, we observed that: • Unplanned outages that result in a loss of production greater than 2MW (i.e. APAK's inability to supply Horizon Power's demand to within 2MW) result in a penalty under the PPA. Such outages are required to be investigated and reported internally, with an explanation of the cause, and where appropriate to Horizon Power • As part of normal operations of the plant, APAK maintains an Events Register that lists all faults for the plant including faults or events that would not have resulted in a loss of 2MW to Horizon Power • APAK tracks events and uses features within the Events Register to highlight faults occurring frequently for the same area of the plant. Highlighted areas will be investigated further and serve as a risk action plan to outline any key plant issues • In conjunction with the six monthly/annual AMP review, adjustments are made, where necessary, to the risk action plan prepared to address any significant issues. Any changes made to the plant as a result of modification of the risk action plan may also require changes to be made to operational or maintenance plans • APAK's LTSA specifies the expected service levels and incorporates a performance-based incentive program supported by close monitoring, to ensure that resources are directed towards improvements in plant operation and maintenance, as well as implementing action plans to minimise costs and improve reliability, operating efficiency and environmental performance of the gas turbines.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

No	Effectiveness Criteria	Findings	
6(e)	Risk management is applied to prioritise maintenance tasks	Through discussion with the KPS Station Manager, Senior Engineer and on duty Production Specialist in Charge, and consideration of relevant supporting documentation, we observed that: • Weekly meetings are used to: ▪ Arrange maintenance plans for the upcoming fortnight ▪ Track maintenance/performance for the past fortnight ▪ Contribute to outage plans for major scheduled outages • Maintenance tasks are performed in a sequential manner and ordered according to the following priorities: ▪ Safety and people-related tasks precede environment and customer-related tasks ▪ Higher risk maintenance tasks precede lower risk tasks • Work orders within MEX are given priorities to define the number of days after the work order date that the item must be actioned e.g. faults would be given the following priorities: ▪ Priority 1 (less than 24h) ▪ Priority 2 (between 48 to 72h) ▪ Priority 5 (next outage) • Priorities are based on selections within MEX and guidance in APAK's Work Initialisation Procedure that has a risk matrix of priorities to help users prioritise tasks.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
6(f)	Maintenance costs are measured and monitored	Through discussions with the KPS Station Manager, Senior Engineer, Administration Officer and on duty Production Specialist in Charge, and consideration of relevant supporting documentation, we observed that APAK tracks relevant maintenance costs for the plant on a monthly basis using a SAP-based system, including: • Staff time dedicated to maintenance tasks using SAP timesheets • SAP-based PO system to track contractor costs (costs charged under the LTSA with GE Packaged Power Inc) • Site maintenance budgets as agreed with the ATCO Perth office and in accordance with the PPA.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.7 Asset management information system

Key process: An asset management information system is a combination of processes, data and software that support the asset management functions

Expected outcome: 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

Overall Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

<table>
<tr><th>No</th><th>Effectiveness Criteria</th><th colspan="2">Findings</th></tr>
<tr><td rowspan="2">7(a)</td><td rowspan="2">Adequate system documentation for users and IT operators</td><td colspan="2">APAK utilises the multi-module SAP computerised management system for its finance and administrative functions and the MEX system for maintenance management.
Through discussions with the Senior Engineer and consideration of relevant system documentation, we determined that APAK has contracted MEX and WIPro as providers of its Information Management systems. In particular, we observed that:
• A service agreement is in place with WIPro for SAP support
• Documents such as SAP user guides, change control registers and digital certificates are maintained and tracked in APAK’s document management system and made available to users and operators
• User guides and other key documentation are version controlled, reviewed and updated
• The MEX system is hosted offsite (from November 2013) and has built in user guides and procedures
• MEX also offers IT support as part of its rolling annual licence.
We note that APAK is planning to integrate the MEX and SAP systems to allow for easier connectivity and sharing of documentation.</td></tr>
<tr><td>Adequacy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td rowspan="2">7(b)</td><td rowspan="2">Input controls include appropriate verification and validation of data entered into the system</td><td colspan="2">Through discussion with the Senior Engineer, we determined that:
• Input controls are integrated into SAP and support the validation of data entry
• Processes are in place to verify and validate data entered into the IT system, including data reconciliation between old and new systems, checking data transferred between one system to another is accurate, timely and complete and validating data as close as possible to the point of origin, which includes the ability to trace data to the source document.</td></tr>
<tr><td>Adequacy Rating: Adequately defined (A)</td><td>Performance Rating: Performing effectively (1)</td></tr>
</table>

No	Effectiveness Criteria	Findings	
7(c)	Logical security access controls appears adequate, such as passwords	Through discussions with the Senior Engineer and consideration of relevant supporting documentation, we observed that: • Passwords are used by all staff to access the SAP and MEX systems • Staff are assigned levels of access appropriate to the staff member's role and location (e.g. operational staff on site are assigned different access to administrative staff on site) • End-users are granted the minimum level of access privileges required to perform their job function and to prevent segregation of duties conflicts • Access is granted only on receipt of a request form duly signed by the relevant departmental head • Password requirements are maintained to authenticate user access to the APAK network and the SAP and MEX systems, including a minimum number of characters and type of characters and restrictions on use of most recent passwords • Issue and management of passwords is undertaken by MEX and WIPro for the MEX and SAP systems respectively.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
7(d)	Physical security access controls appear adequate	Through discussions with the Senior Engineer, consideration of relevant supporting documentation and observations made during our visit to APAK premises, we observed that processes and procedures relating to the access of facilities and the physical protection of information assets and systems are in use at the ATCO Perth office as well as on site. Physical security for the ATCO Perth office is maintained by the contracted building services company, Chubb. Security was recently upgraded in 2013, including the provision of swipe card access to the building. We also observed that: • Access swipe cards are used to restrict and record physical access to the Perth Office and on site • The KPS Station Manager keeps a log of access provided to staff and other contractors • CCTV cameras have been installed on site and monitor the premises on a 30 day recording cycle • All recordings from the site are backed up onto the virtual server • All contractors are required to complete a full contractor induction, including medical checks, prior to obtaining access to the site. Note that during the review period, APAK moved its IT servers to a virtual server provided by its IT service provider. Prior to the virtual server, APAK's servers were located in the Perth head office and were controlled via swipe card access.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

No	Effectiveness Criteria	Findings	
7(e)	Data backup procedures appear adequate	Through discussions with the Senior Engineer and consideration of relevant supporting documentation, we observed that procedures for managing data backup and data restore of servers have been established. In particular, we observed that: • Owing to the nature of the virtual servers, a local back-up of the document is created, as well as an additional image that is saved to the virtual drive • Management of the virtual servers has been outsourced to WIPro (service provider), who also provide 24 hour support services to APAK. Prior to the implementation of the virtual server system, APAK backed up its documents on tapes, which were stored in a secure location to protect from damage or theft.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
7(f)	Key computations related to licensee performance reporting are materially accurate	APAK's asset management information system does not directly provide data used in any computation related to APAK's licence performance reporting.	
		Adequacy Rating: Not rated	**Performance Rating:** Not rated
7(g)	Management reports appear adequate for the licensee to monitor licence obligations	Through discussions with the Senior Engineer and consideration of relevant supporting documentation and management reporting procedures, we determined that site management is undertaken by APAK. We also observed that the SAP and MEX systems are capable of generating a variety of scheduled reports. In particular, we observed that: • Management reports are generated to provide performance information on plant operations and routine and first line intervention maintenance • MEX reports are used by the KPS Station Manager and other relevant staff to track maintenance tasks performed/required to be performed • SAP reports are used to track the status of work orders • The Manager, Commercial and Risk prepares reports for the parent company (ATCO Ltd) to highlight any changes to APAK's risks.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.8 Risk management

Key process: Risk management involves the identification of risks and their management within an acceptable level of risk
Expected outcome: An effective risk management framework is applied to manage risks related to the maintenance of service standards
Overall Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

No	Effectiveness Criteria	Findings	
8(a)	Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system.	*Criteria 8(a) and (b)* Through discussions with the Manager, Commercial & Risk and the Senior Engineer, and consideration of APAK's risk management practices, we observed that: • ATCO group has a well-defined risk philosophy, which is communicated and applied throughout its business structure, including ATCO Australia and APAK • From an operational perspective, APAK incorporates risk management as a fundamental aspect of its decision making processes to support and enhance its business activities. In particular: ▪ A Risk Management policy (last reviewed May 2014), Risk Management procedure (last reviewed August 2014) and Contingency plan have been created and are applied ▪ Risks were originally identified when the plant was commissioned and were captured in a risk register, which is reviewed: o By the Manager, Commercial & Risk and communicated to APAK executive, ATCO Australia's Risk Management Committee (RMC) and to ATCO Ltd o Twice each year during Business Unit risk workshops, where existing risks are assessed for relevance and any new risks are identified ▪ Toolbox meetings are performed monthly and focus on targeted risks, however new risks can also be raised during these meeting. Furthermore, any changes in legislation that are likely to affect APAK are communicated to staff through these meetings ▪ Monthly operational meetings held with the KPS Station Manager, Senior Engineer and other relevant operational staff, include risk management as a standing agenda item ▪ Area and task-based risk assessments have been developed for work completed on site. GE Packaged Power Inc applies its own risk assessment processes, which are shared with APAK staff ▪ APAK's insurer FM Global conducts annual risk studies on the KPS site and makes recommendations where required. We understand that no risk-related recommendations have been made during the period subject to this review. The insurer's annual consolidated report is provided to ATCO Ltd.	
8(b)	Risks are documented in a risk register and treatment plans are actioned and monitored			
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

No	Effectiveness Criteria	Findings	
8(c)	The probability and consequences of asset failure are regularly assessed.	Through discussions with the Manager, Commercial & Risk and the Senior Engineer, and consideration of APAK's asset planning and risk management practices, we observed that APAK has applied the following mechanisms for identifying and assessing the consequence and likelihood of power station asset failure (as per Asset Planning s.1(g)): • The LTSA with GE Packaged Power Inc provides for regular assessment and maintenance of asset performance, which addresses the risk of asset failure and includes: ▪ Asset condition monitoring techniques ▪ Any issues identified during routine assessments, which are raised in service bulletins that identify certain maintenance required to be performed ▪ Maintenance frequencies and activities, which are based on long term studies from similar turbines. • GE Packaged Power Inc also has the ability to monitor asset performance remotely. Any issues identified are communicated to the KPS Station Manager for remedy • The AMP considers each major item of power station equipment and provides specific details of its operation and maintenance strategy, key life cycle issues and remedial plans • During scheduled outages, main components of the facility's plant are inspected for defects by APAK or external consultants • A high level of priority is afforded to minimising instances of asset failure and the duration of any such failure. The management structures, skills and resources assigned to APAK's asset management processes appear to be appropriate for enabling the regular assessment of the probability and consequences of asset failure.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.9 Contingency planning

Key process: Contingency plans document the steps to deal with the unexpected failure of an asset
Expected outcome: Contingency plans have been developed and tested to minimise any significant disruptions to service standards
Overall Adequacy/Performance rating: Requires some improvement (B) / Performing effectively (1)

No	Effectiveness Criteria	Findings
9(a)	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.	Through discussion with the Senior Engineer and the Manager, Commercial & Risk; consideration of relevant supporting documentation and examination of scenario test records we determined that: • APAK maintains a range of emergency planning documents, including an emergency response plan, a confined space rescue plan and a fire emergency plan • APAK maintains IT support arrangements with WIPro in the event of system unavailability • A KPS Contingency Plan has been developed. The plan: ▪ Covers ATCO's group wide contingency planning processes as well as specific processes relating to KPS ▪ Addresses specific activities required for APAK to manage its business continuity needs ▪ Addresses the loss of business critical functions ▪ Specifies that the ownership of contingency planning lies with all staff and the plan should be used as a guide, not a point of reliance ▪ Lists possible threats relating to (for example): o Unit outage o Critical spares o IT functions ▪ Provides information regarding desktop reviews and the requirement for a comprehensive test to be performed every three years ▪ Provides an event-specific contingency plan template for completion during annual site scenario tests and in the event of a significant event. The plan template has not yet been required to be used, outside of a test scenario, as all unplanned outages have not lasted for a sufficient time requiring a plan to be developed. The plan template is reviewed and updated on an annual basis • Annual scenario testing is conducted at the site to confirm that plans have been adequately designed to manage an event: ▪ The last test was performed in November 2013 ▪ A report containing recommendations for improvement is created and recommendations are assigned timeframes and responsibilities for completion. We also observed that: • APAK has provided for contingencies for its main businesses operational risks through the design and setup of the power station and the contractual agreements in place with Horizon Power (PPA), GE Packaged Power Inc (LTSA) and FM Global (insurance arrangements). Such operational risks focus on plant availability and

<table>
<tr><th>No</th><th>Effectiveness Criteria</th><th colspan="2">Findings</th></tr>
<tr><td></td><td></td><td colspan="2">interruption; and include items such as availability of spare parts, gas supply, water supply and availability of restoration capability
• APAK has an emergency response plan and a crisis management plan in place, which covers emergencies such as fire, explosion, major spills, gas leaks, civil disturbances, acts of terrorism and natural disasters. Those plans are subject to annual testing, where site personnel are run through a live scenario. We sighted evidence of such tests being performed in 2013
• APAK has a number of measures in place to minimise the impact of an event, such as:
▪ Maintenance of a spare turbine
▪ Access to a pool system of spare parts under its LTSA with GE Packaged Power Inc
▪ Arrangements with other businesses within its locality to access parts (if required parts cannot be obtained via the pool system)
▪ Holding mandatory stock on hand, such as critical spares
▪ Training and awareness of all staff on the procedures to be performed in response to an emergency.
• In addition to the normal operational processes and procedures for the plant (as mentioned above) the risks relating to operational emergencies (such as catastrophic failure of plant) are managed by:
▪ The LTSA with GE to undertake required maintenance and inspections on certain assets
▪ Yearly tests on assets to identify any signs of possible failure.
The preceding description of the contingency plans and arrangements in place indicates APAK has broad and strong mechanisms to manage its contingency requirements. As those plans and arrangements are currently maintained/described in different processes and documents, APAK has the opportunity to further ensure the completeness and consistency of its contingency planning arrangements by capturing all of its plans and processes in one single reference.</td></tr>
<tr><td></td><td></td><td>Adequacy Rating: Requires some improvement (B)</td><td>Performance Rating: Performing effectively (1)</td></tr>
<tr><td></td><td colspan="2">Recommendation 1/2014
APAK identify and record all of its contingency planning arrangements in a single document such as the KPS Contingency Plan.</td><td>Action Plan 1/2014
APAK will identify and record all of its contingency planning arrangements in the KPS Contingency Plan.
Responsible person: KPS Station Manager
Target date: July 2015</td></tr>
</table>

4.10 Financial planning

Key process: The financial planning component of the asset management plan brings together the financial elements of the service delivery to ensure its financial viability over the long term

Expected outcome: A financial plan that is reliable and provides for the long-term financial viability of the services

Overall Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

No	Effectiveness Criteria	Findings	
10(a)	The financial plan states the financial objectives and strategies and actions to achieve the objectives	Through discussion with the Finance Manager - Power and consideration of APAK's financial planning mechanisms, we observed that: • APAK's business plan takes the form of an operational income and expenditure model, including a rolling three year forecast that is updated monthly • APAK plans to develop a forecast model that runs for the 20-year life of the PPA with Horizon Power • APAK's objectives and strategies are based on contractual agreements with Horizon Power and reflect its 'cost recoup plus margin' operating model • The financial plan puts together the financial elements of the plant's operations to reflect its financial viability over the long term.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
10(b)	The financial plan identifies the source of funds for capital expenditure and recurrent costs	Through discussion with the Finance Manager - Power and consideration of APAK's financial planning mechanisms, we determined that: • APAK's revenues are contracted with Horizon Power and are based on Horizon Power's demand • Fluctuations in demand only affect APAK in terms of the additional margin foregone, however all other costs are directly recouped and based on fixed agreements (O&M via an LTSA with GE Packaged Power Inc and running costs via a PPA with Horizon Power) • APAK also has access to support from its parent company and is able to access additional funding if required.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

No	Effectiveness Criteria	Findings	
10(c)	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	Through discussion with the Finance Manager - Power and consideration of APAK's financial planning mechanisms, we determined that: • APAK's business plan summarises its performance on an ongoing basis and is updated daily to reflect current income and expenditure. The model is reviewed monthly and includes a number of key inputs such as: ▪ Profit and loss ▪ Revenue ▪ Operating expenditure ▪ Capital expenditure (considered as projects) • Full audited financial statements (including income statement and statement of financial position) are prepared as part of statutory financial statements for the end of the financial year.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
10(d)	The financial plan provides firm predictions on income for the next five years and reasonable indicative predictions beyond this period	Through discussions with the Finance Manager - Power and consideration of APAK's financial planning mechanisms, we observed that APAK's business plan: • Is prepared on a monthly basis and updated continuously for projections of income and expenses based on estimates for three years: ▪ Horizon Power provides APAK with running hour projections for a 24 month period, which is used when estimating costs to be recouped ▪ O&M and other expenses are escalated for CPI ▪ The LTSA with GE Packaged Power Inc includes provisions for increasing the escalation factors in future periods ▪ Note that although APAK's financial plan specifically projects income and expenditure estimates for a three year period, the long term nature of the PPA and LTSA provides a relatively high degree of certainty around expected income over at least the next five year period • Includes a summary of planned capital expenditure projects for the next three years. The Finance Manager – Power advised that APAK is currently developing a new model that provides projections to the full 20 year life of the PPA. This model will supplement the current three year rolling model, which can then focus on short term financial planning.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

No	Effectiveness Criteria	Findings	
10(e)	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Through discussions with the Finance Manager - Power and examination of APAK's business plan for the three years relevant to this review, we observed that the plan: • Provides a detailed monthly view of operational expenditure (e.g. operations maintenance and administration expenses on a rolling three year basis) • Includes a summary of current and planned capital expenditure projects over the following three years: ▪ Each capital expenditure project has a project justification of expenditure form detailing the description of the need for the works to be completed ▪ A monthly project report is prepared, which includes details on the status of each project ▪ The KPS Station Manager is required to sign off on the detailed project description ▪ Expenses on projects are tracked against budgeted costs to limit any overruns • Includes forecast estimates of maintenance costs, which are adjusted for any incremental CPI increases.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
10(f)	Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary	Through discussions with the Finance Manager - Power and examination of APAK's financial planning mechanisms, we observed that: • On a monthly basis, a variance analysis report is produced to: ▪ Assess actual versus budgeted income and expenditure ▪ Identify areas that are over budget or problematic and determine necessary corrective action • A summary financial report is prepared and reported to the parent company, which includes details of any variances identified • Audited financial statements are prepared on an annual basis as part of APAK's statutory requirements • Key financial performance indicators are assessed for variances and reported internally.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.11 Capital expenditure planning

Key process: The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure on each over the next five or more years. Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer. Projections over the next five years would usually be based on firm estimates

Expected outcome: 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

Overall Adequacy/Performance rating: Adequately defined (A) / Performing effectively (1)

No	Effectiveness Criteria	Findings	
11(a)	There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates	Through discussions with the Finance Manager - Power and consideration of APAK's business planning procedures and examination of the comprehensive business plan for the three years relevant to this review, we determined that: • A capital expenditure component is included within the APAK business plan and includes details on forecasted capital projects • Capital expenditure (CAPEX) allocations are incorporated into the LTSA with GE Packaged Power Inc • Any additional capital expenditure requirement is presented to the KPS Station Manager for approval • For each capital expenditure project, a project justification expenditure form is required to be completed and include reference to the timing, estimated cost and description of the capital works: ▪ The form is approved by the KPS Station Manager, Finance Manager – Power and the Senior Engineer ▪ Once approved, capital projects are incorporated into CAPEX work schedules and monthly project reports • A CAPEX project tracker has been developed that outlines costs incurred on a monthly basis • The Finance Manager - Power will review the CAPEX plans monthly and provide the plan to the Managing Director for additional review and approval.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
11(b)	The plan provides reasons for capital expenditure and timing of expenditure	Through discussions with the Finance Manager - Power, consideration of APAK's capital planning procedures and examination of the comprehensive business plan for the three years relevant to this review, we determined that the capital expenditure plan outlines the: • Details of the financial year in which the capital expenditure amount is planned • Reasons for the capital expenditure • Status of completion and spend on each project.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

No	Effectiveness Criteria	Findings	
11(c)	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Through discussions with the Finance Manager - Power, consideration of APAK's capital planning procedures and examination of the comprehensive business plan for the three years relevant to this review, we determined that: • APAK's procedures require life cycle costs of assets to be assessed and recorded in the AMP for each major item of equipment • The capital expenditure plan concurs with the assessed life cycle costs of the plant's assets.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)
11(d)	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	Through discussions with the Finance Manager - Power, consideration of APAK's capital planning procedures and examination of the comprehensive business plan for the three years relevant to this review, we determined that: • The capital expenditure budget is tracked on a monthly basis and any variances are analysed to determine impact on cash flow • An economic evaluation model is utilised as part of the budgeting and forecasting process to assess the costs associated with the overall plant life and to generate cost predictions over the life of the PPA: ▪ Forecast run hours are provided by Horizon Power 24 months in advance, which are used to forecast capital expenditure required ▪ Any capital expenditure related to O&M costs are recouped from Horizon Power • For all capital expenditure, a project justification expenditure form is required to be completed, which outlines the project rationale in conjunction with the economic evaluation model • Ongoing tracking of capital expenditure projects is performed via CAPEX work schedules and any variances from budgeted costs are monitored and followed up • The KPS Station Manager has been assigned responsibility for monitoring any capital expenditure projects.	
		Adequacy Rating: Adequately defined (A)	**Performance Rating:** Performing effectively (1)

4.12 Review of Asset Management System

Key process: The asset management system is regularly reviewed and updated

Expected outcome: Review of the Asset Management System to ensure the effectiveness of the integration of its components and their currency

Overall Adequacy/Performance rating: Requires some improvement (B) / Opportunity for improvement (2)

No	Effectiveness Criteria	Findings	
12(a)	A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current	APAK's AMP, which is the main reference to the asset management system, was most recently reviewed and updated in August 2014. The Senior Engineer and relevant APAK staff (when required) have been assigned responsibility for conducting the review of the AMP. However, a formal process has not been established for ensuring the currency of the AMP, including the need for independent review of the AMP and any other references which describe the asset management system, or feed into the AMP.	
		Adequacy Rating: Requires some improvement (B)	**Performance Rating:** Opportunity for improvement (2)
12(b)	Independent reviews (e.g. internal audit) are performed of the asset management system	Although components of APAK's asset management system are subject to regular review and update, as noted at 12(a) above, the reviews are not always conducted by independent reviewers. Also, a register outlining the responsible reviewer and the reviewer's independence has not been established to demonstrate that a sufficient degree of independence has been achieved.	
		Adequacy Rating: Requires some improvement (B)	**Performance Rating:** Opportunity for improvement (2)
	Recommendation 2/2014 APAK implement a: • Requirement for its asset management system to be subject to an independent review on a regular basis • Register or record to capture the reviews conducted on its asset management system and the independence of the associated reviewer.	**Action Plan 2/2014** APAK will implement a: • Requirement for its asset management system to be subject to an independent review on a regular basis • Register or record to capture the reviews conducted on its asset management system and the independence of the associated reviewer. **Responsible person:** KPS Station Manager **Target date:** July 2015	

5 Follow-up of previous review action plans

No recommendations were made during the previous (2011) review.

Appendix A – References

APAK staff and representatives participating in the review

- Senior Engineer
- Finance Manager – Power
- KPS Station Manager
- Manager Commercial and Risk
- HSSE Specialist

Deloitte staff participating in the review

Name	Position	Hours
Richard Thomas	Partner	4
Andrew Baldwin	Account Director	20
Emlyn King	Senior Analyst	62
Shailesh Tyagi	Principal Engineer	1
Bryn Durrans	Engineer	20
Darren Gerber	QA Partner	1

Key documents and other information sources examined

- KPS Asset Management Plan
- PPA with Horizon Power
- LTSA with GE Packaged Power Inc
- KPS Contingency Plan and Template
- Documentation from MEX system upgrade
- CAPEX Tracker Spreadsheet
- Project justification request form
- Expenditure approval form
- Documentation regarding acquisition of spare turbine
- APAK financials – minutes from Board meetings
- KPS Budget 2014-2016
- Monthly financial (including operational and CAPEX) reports
- KPS Environmental Management Plan
- APAK Risk register (multiple screenshots)
- ATCO Risk Management Policy and Procedures
- APAK Statutory Compliance Register
- APAK Power Station measurement manual
- Events Register
- APAK Training Matrix
- Example reports from GE Packaged Power Inc
- Written representations from APAK staff representatives.

Appendix B – Post Review Implementation Plan

Issue 1/2014 APAK's contingency plans and arrangements are currently maintained/described in different processes and documents.	
Recommendation 1/2014 APAK identify and record all of its contingency planning arrangements in a single document such as the KPS Contingency Plan.	**Action Plan 1/2014** APAK will identify and record all of its contingency planning arrangements in the KPS Contingency Plan. **Responsible person:** KPS Station Manager **Target date:** July 2015

Issue 2/2014 APAK has not developed a formal process for ensuring the currency of the AMP, including the need for independent review of the AMP and any other references that describes the asset management system, or supports the AMP.	
Recommendation 2/2014 APAK implement a: • Requirement for its asset management system to be subject to an independent review on a regular basis • Register or record to capture the reviews conducted on its asset management system and the independence of the associated reviewer.	**Action Plan 2/2014** APAK will implement a: • Requirement for its asset management system to be subject to an independent review on a regular basis • Register or record to capture the reviews conducted on its asset management system and the independence of the associated reviewer. **Responsible person:** KPS Station Manager **Target date:** July 2015