



McGill Engineering Services Pty Ltd

Engineering, Adjudication & Arbitration Services ABN 45 106 691 169

ATCO POWER AUSTRALIA (KARRATHA) PTY LTD

ELECTRICITY GENERATION LICENCE EGL 21
ASSET MANAGEMENT SYSTEM REVIEW



Prepared By Kevan McGill
31 January 2012

McGill Engineering Services Pty Ltd

Engineering, Adjudication & Arbitration Services ABN 45 106 691 169



Dean Rodgers
Station Manager
ATCO Power Australia (Karratha) Pty Ltd
Stovehill Road
Karratha WA 6714

Dear Mr Rodgers

Asset Management System Review Electricity Licence

The fieldwork on the asset management system review of Generation Licence EGL 21 for the review period (19 December 2008 to 30 August 2011) is complete and I am pleased to submit the report to you.

In my opinion, the Licensee maintained, in all material aspects, effective control procedures and an effective asset management system in relation to the Generation Licence EGL 21 for the review period on the relevant clauses referred to within the scope section of this report.

There are no items to address.

Yours sincerely

Kevan McGill
Director

Date 31 January 2012

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Executive Summary

ATCO Power Australia (Karratha) Pty Ltd (ATCO) holds Generation Licence EGL 21 issued by the Economic Regulation Authority under the Electricity Industry Act 2004 (WA). The Electricity Industry Act 2004 (WA) requires the holder of Generation Licence to undertake a Review, and provide the Authority a report, by an independent expert on the effectiveness of their Asset Management System. This Review of the ATCO Asset Management System was conducted in accordance with the guidelines issued by the Economic Regulation Authority (*Authority*) for the review period (19 December 2008 to 30 August 2011) to assess the Licensee's asset management systems.

Following development of an Asset Management System Review Plan and its approval by the *Authority*, ATCO appointed McGill Engineering Services to undertake the Review.

OVERALL CONCLUSION

In my opinion, the Licensee maintained, in all material aspects, an effective asset management system in relation to the Generation Licence EGL 21 for the review period based on the relevant clauses referred to within the asset management review objectives (Page 7) of this report.

There are no items to address.

LICENCE

The Licensee is a special purpose entity established by the owners to operate and maintain the licensed plant. The Licensee does not have the role, capacity or resources to carry out the strategic asset management roles or any strategic decisions on customers.

AMS REVIEW – METHODOLOGY AND SUMMARY

The overall effectiveness rating for an asset management process is based on a combination of the process and policy adequacy rating and the performance rating. The rating systems are given below followed by a summary table of the Asset Management Effectiveness

RATING SYSTEM

The definition tables for process and policy adequacy rating and the performance rating are provided below.

Asset management process and policy definition adequacy ratings

Rating	Description	Criteria
A	Adequately defined	<ul style="list-style-type: none">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

		<ul style="list-style-type: none"> updated where necessary The asset management information system(s) are adequate in relation to the assets that are being managed.
B	Requires some improvement	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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).

Asset management review effectiveness rating scale

Rating	Description	Criteria
1	Performing effectively	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Process is not performed, or the performance is so poor that the process is considered to be ineffective.

ASSET MANAGEMENT EFFECTIVENESS SUMMARY

A summary of the auditor’s assessment of both the process and policy definition rating and the performance rating for each key process in the Licensee’s asset management system using the scales described below.

Asset management effectiveness summary

ASSET MANAGEMENT SYSTEM	Asset management process and policy definition adequacy rating	Asset management performance rating
1. Asset planning	A	1
2. Asset creation/ acquisition	A	1
3. Asset disposal	A	NR ¹
4. Environmental analysis	A	1
5. Asset operations	A	1
6. Asset maintenance	A	1
7. Asset Management Information System	A	1
8. Risk management	A	1
9. Contingency planning	A	1
10. Financial planning	A	1
11. Capital expenditure planning	B	2
12. Review of AMS	A	1

A Not Rated (NR) score is given when there was insufficient evidence relevant within the audit period to make a determination.

It is not implied that any assessment at “A” or “1” means that there is not scope for continuous improvement, rather that no recommendations for improvement have been recommended in this report.

RECOMMENDATIONS

There are no recommendations.

POST REVIEW IMPLEMENTATION PLAN

The Licensee will provide a post review implementation plan. However there are no items to address.

¹ NR – Not Rated

Asset Management System Review

ASSET MANAGEMENT SYSTEM REVIEW OBJECTIVES

Under the *Electricity Industry Act 2004* (the Act) section 14, the holder of a Generation Licence must develop an Asset Management Plan and maintain an asset management system to manage the assets accordingly for delivery of a reliable service to its customers. The Act requires a review of the asset management system every two years (or other time approved by the *Authority*).

This report is an impartial review of the Licensee's asset management effectiveness under the Audit Guidelines: Electricity, Gas and Water Licence published by the ERA.

The review was conducted in November/December 2011 and examined the asset management processes used by the Licensee in delivering the services to its customers. These services include lifecycle processes for:

- Asset planning;
- Asset creation/acquisition;
- Asset disposal;
- Environmental analysis;
- Asset operations;
- Asset maintenance;
- Asset management information system (AMIS);
- Risk management;
- Contingency planning;
- Financial planning;
- Capital expenditure planning; and
- Review of the asset management system.

As well as the processes, the asset management supporting systems were tested as to their use and effectiveness. Data used by the Licensee was also examined with respect to its effectiveness for asset management and the delivery of outcomes.

The recommendations identified in the previous review were examined and the outcomes included in this report.

Tests were undertaken through interviews and investigation of the processes to assess whether they were being performed as documented.

The Licensee appointed McGill Engineering Services Pty Ltd to conduct the review of its Generation Licence with approval from the *Authority*. A preliminary assessment was conducted with the Licensee's management to determine the inherent risk and the state of control for each compliance element of the Licence obligation. McGill Engineering Services Pty Ltd then prioritised the audit coverage based on the risk profile of the

Licensee with an emphasis on providing greater focus and depth of testing for areas of higher risk to provide reasonable assurance that the Licensee had complied with the standards, outputs and outcomes under the Licence obligations.

STATEMENT OF INDEPENDENCE

To the best of my knowledge and belief, there is no basis for contraventions of any professional code of conduct in respect of the review.

I have not done or contemplate undertaking any other work with the Licensee.

There are no independence threats due to:

- self-interest – as the review company or a member of the review team have no financial or non-financial interests in the Licensee or a related entity;
- self-review – no circumstance has occurred:
 - where the review company or a member of the review team has undertaken other non-audit work for the Licensee that is being evaluated in relation to the audit/review; or
 - when a member of the audit team was previously an officer or director of the Licensee; or
 - where a member of the review team was previously an employee of the Licensee who was in a position to exert direct influence over material that will be subject to audit during an audit/review.

There is no risk of a self-review threat as:

- no work has been undertaken by the reviewer, or a member of the audit/review team, for the Licensee within the previous 24 months; or
- the reviewer is currently undertaking for the Licensee; or
- the reviewer has submitted an offer, or intends to submit an offer, to undertake for the Licensee within the next 6 months; and
- there is no close family relationship with a Licensee, its directors, officers or employees, and
- the reviewer is not, nor is perceived to be too sympathetic to the Licensee's interests.

REVIEW (AUDIT) PERIOD

The review (audit) period is 19 December 2008 to 30 August 2011.

SCOPE LIMITATION

The review was undertaken by examination of documents, interviews with key persons and observations and is not a detailed inspection of physical items.

PREVIOUS ACTIONS

There are no previous actions to review as this is a first review.

CONTACTS

The key contacts were:

- Licensee
 - Dean Rodgers, Station Manager,
 - Gordon Owili, Manager Commercial & Risk, ATCO Australia and
- McGill Engineering Services Pty Ltd
 - Kevan McGill, John McLoughlin

The review was conducted during November & December 2011. Kevan McGill and John McLoughlin took approximately 60 (50/10) hours on the review.

LICENSED SYSTEMS

Generation

ATCO have an open cycle Gas Turbine at Karratha. Horizon Power is the sole customer.

REVIEW EVIDENCE

The following was considered in the review.

- Generation Licence
- Asset Management Plan
- Risk procedures
- Risk register
- Financial plan samples (sighted)
- MEX V12.5
- Operations and maintenance manual contents
- ATCO Australia asset acquisition policy
- Long term maintenance agreement contents

OVERALL CONCLUSION

In my opinion, the Licensee maintained, in all material aspects, effective control procedures and an effective asset management system in relation to the Generation Licence EGL 21 for the review period based on the relevant clauses referred to within the asset management review objectives (Page 7) of this report.

FINDINGS

The conclusions of each of the elements of the licence are summarised in the following tables.

ASSET MANAGEMENT SYSTEM REVIEW RESULTS AND RECOMMENDATIONS

Asset Planning	Process/Policy rating A	Effectiveness rating 1
<p>1. <i>Asset planning</i></p> <p>Asset planning strategies are focused on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price).</p>		
<p>Observations</p>		
<p><i>Asset Planning Process/Plan and its currency</i></p> <p>The Licensee is an entity established by the owning company to operate and maintain the plant and accordingly the full scope of asset management is not able to be carried out by the Licensee. The Licensee's business model and resources are those consistent with operating and maintaining gas turbine generation plant and does not have the capacity to undertake strategic asset management functions. The Licensee cannot require the owning company to carry out these strategic functions and if the owning company does, at their discretion, carry out these functions they may or may not involve the Licensee. The owners make the decisions if and when to invest and will make the disposal decisions.</p> <p>There is an Asset Management Plan (AMP) that covers the asset management obligations of the Licensee to be carried for the owning company.</p> <p>The Licensee's owners (ATCO Australia Pty Ltd) are an asset infrastructure company which assets include a gas pipeline and the licensee's gas turbine electricity generation station. Asset Planning is core business function of ATCO Australia.</p> <p><i>Allocation of responsibilities / statutory obligations</i></p> <p>The organisational arrangements allocate responsibilities. There is documentation (requiring compliance with statutory obligations (AMP)). Staff responsibilities are assigned in local plan and policy documents.</p> <p><i>Evaluation Criteria summary Licensee</i></p> <ul style="list-style-type: none"> • Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning <p>Response: The Licensee cannot carry out these functions and if they are carried out it will be by the owning company. For the operating/maintaining functions carried out by the Licensee the AMP meets the requirement.</p> <ul style="list-style-type: none"> • Service levels are defined <p>Response: The AMP defines service levels. The owners require service level to be delivered. The Power purchase agreement also specifies service levels.</p> <ul style="list-style-type: none"> • Non-asset options (e.g. demand management) are considered <p>Response: The Licensee cannot carry out these and if they are carried out it will be by the owning company.</p> <ul style="list-style-type: none"> • Lifecycle costs of owning and operating assets are assessed <p>Response: The AMP meets this criterion as lifecycle costs of owning and operating</p>		

<p>assets are assessed.</p> <ul style="list-style-type: none"> • Funding options are evaluated <p>Response: The Licensee cannot carry out evaluation of funding options for development outside this plant and if it is carried out it will be by the owning company. The Licensee has been given a funding model by the owning company for the licensed plant but this does not extend beyond this scope.</p> <ul style="list-style-type: none"> • Costs are justified and cost drivers identified <p>Response: Costs of the plant are monitored and costs are justified and cost drivers identified for the licensed plant.</p> <ul style="list-style-type: none"> • Likelihood and consequences of asset failure are predicted <p>Response: The AMP meets this criterion as there are risk assessments of asset failure and consequences.</p> <ul style="list-style-type: none"> • Plans are regularly reviewed and updated <p>Response: The review of the broader aspects cannot be undertaken by the Licensee but the AMP for this asset can be reviewed.</p> <p><i>Evaluation Criteria summary - ATCO Australia</i></p> <ul style="list-style-type: none"> • Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning <p>Response: Asset planning is a core business function. The needs of stakeholders are part of the process. Horizon Power's operations staff appear satisfied with the performance.</p> <ul style="list-style-type: none"> • Service levels are defined <p>Response: The AMP defines service levels. The Gas pipeline has service levels defined. The power purchase agreement also specifies service levels.</p> <ul style="list-style-type: none"> • Non-asset options (e.g. demand management) are considered <p>Response: As an asset infrastructure entity, non asset solutions are a rejection of an acquisition decision.</p> <ul style="list-style-type: none"> • Lifecycle costs of owning and operating assets are assessed <p>Response: The process meets this criterion as lifecycle costs of owning and operating assets are assessed.</p> <ul style="list-style-type: none"> • Funding options are evaluated <p>Response: The policy has a compressive evaluation of funding options.</p> <ul style="list-style-type: none"> • Costs are justified and cost drivers identified <p>Response: Costs of the plant are monitored and costs are justified and cost drivers identified.</p> <ul style="list-style-type: none"> • Likelihood and consequences of asset failure are predicted <p>Response: There are risk assessments of asset failure and consequences.</p> <ul style="list-style-type: none"> • Plans are regularly reviewed and updated <p>Response: There are regular reviews, such as the acquisition policy has a 12 months post completion review of all assumptions in the acquisition.</p>			
<p>Asset management process and policy definition</p>			
Process	<input type="checkbox"/>	Policy	<input type="checkbox"/>
<p>Evidence: interviewed Dean Rodgers and Gordon Owili. Inspected site and Horizon Power's operations centre. Documents: Include Asset Management agreement (AMP) , Financial statements (sighted), Job safety and environmental analysis procedure, Risk policy and specific risk management procedures. ATCO Australia asset acquisition</p>			

policy, long term maintenance agreement, Operations and maintenance manual contents							
Asset management performance							
Process	<input type="checkbox"/>	Documentation	<input type="checkbox"/>	Availability	<input type="checkbox"/>	Use	<input type="checkbox"/>
Issues							
<p>The Licensee has an agreement with the owners (AMP) to carry out the asset management of the plant to defined service levels. The Licensee conducts the shorter timeframe asset management elements, (operations and maintenance) and longer term issue for the licensed assets such as the environment and whole of life of the plant issues.</p> <p>The owning bodies carry out the long term and strategic elements of an asset management system. The Licensee does not carry out these functions as it is not within their capacity to undertake this work. There has been no broad asset planning activity in the review period.</p> <p>The owners would be rated A/1.</p> <p>For the roles within the capacity of the Licensee to undertake the rating would be A/1 but this cannot reflect the broader roles, so a Not rated/ Not Rated rating is appropriate. It is worth noting that whilst a rating has provided above, this function is not undertaken by the Licensee i.e. ATCO Power Australia (Karratha) Pty Ltd but by ATCO Australia Services Pty Ltd. .</p>							
Recommendation							
None - as the Licensee will never have the capacity to undertake the strategic roles.							

Asset Creation	Process/Policy rating A	Effectiveness rating 1
<p><i>2 Asset creation and acquisition</i></p> <p>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.</p>		
<p>Observations</p>		
<p><i>Policies and procedures for asset creation / sample creation activities</i></p> <p>Procurement of major electricity plant is a very significant exercise taking considerable time. There has been no asset creation of the generation plant in the audit period. The responsibility for asset creation does not belong to the Licensee as the Licensee's business model and resources are those consistent with operating and maintaining gas turbine generation plant and they do not have the capacity to undertake asset creation functions. There has not been any major capital development since commissioning.</p> <p>The owners (ATCO Australia) have made an asset creation in the audit period (gas pipeline) but no electricity assets.</p> <p><i>Meeting statutory obligations</i></p> <p>There are documents (AMP) requiring employees and contractors to meet statutory obligations.</p> <p><i>Evaluation Criteria summary - Licensee</i></p> <ul style="list-style-type: none"> • Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions <p>Response: The Licensee cannot carry out these functions as the Licensee's business model and resources are those consistent with operating and maintaining gas turbine generation plant and they do not have the capacity to undertake asset creation functions.</p> <ul style="list-style-type: none"> • Evaluations include all life-cycle costs <p>Response: The Licensee cannot carry out these functions as the Licensee's business model and resources are those consistent with operating and maintaining gas turbine generation plant and they do not have the capacity to undertake asset creation functions. The AMP includes life cycle costing of this asset.</p> <ul style="list-style-type: none"> • Projects reflect sound engineering and business decisions <p>Response: There will be no asset creation by the Licensee.</p> <ul style="list-style-type: none"> • Commissioning tests are documented and completed <p>Response: This will be the outcome of the owning company deciding to create an asset and when the operating and maintenance contract with the Licensee is put in place – before or after commissioning. The commissioning of this plant was completed and documented with acceptance testing and handover checklists.</p> <ul style="list-style-type: none"> • Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood <p>Response: These responsibilities are assigned to the Licensee in the AMP.</p> <p><i>Evaluation Criteria summary -ATCO Australia</i></p> <ul style="list-style-type: none"> • Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions 		

<p>Response: The acquisition policy has full project assessments with testing of worst case downside case. Non asset solutions will result in not proceeding with the project.</p> <ul style="list-style-type: none"> Evaluations include all life-cycle costs <p>Response: The project evaluations include life cycle costing.</p> <ul style="list-style-type: none"> Projects reflect sound engineering and business decisions <p>Response: There is a comprehensive project evaluation of engineering and business decisions.</p> <ul style="list-style-type: none"> Commissioning tests are documented and completed <p>Response: The commissioning of this plant was completed and documented with acceptance testing and handover checklists.</p> <ul style="list-style-type: none"> Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood <p>Response: These responsibilities are assigned and understood.</p>							
Asset management process and policy definition							
Process	<input type="checkbox"/>	Policy	<input type="checkbox"/>				
<p>Evidence interviewed Dean Rodgers and Gordon Owili. Inspected site. Documents: Include Asset Management agreement (AMP) , Financial statements (sighted), Job safety and environmental analysis procedure, Risk policy and specific risk management procedures. . ATCO Australia asset acquisition policy, long term maintenance agreement, Operations and maintenance manual contents.</p>							
Asset management performance							
Process	<input type="checkbox"/>	Documentation	<input type="checkbox"/>	Availability	<input type="checkbox"/>	Use	<input type="checkbox"/>
Issues							
<p>The owning bodies such as ATCO Australia carry out the long term and strategic elements of an asset management system. The Licensee does not carry out these functions. There has been no asset creation activity in the review period.</p> <p>The owner would be rated A/1 but as the Licensee is unable to carry out all the roles defined in the Audit Guidelines the ratings are Not Rated/ Not Rated. It is worth noting that whilst a rating has provided above, this function is not undertaken by the Licensee i.e. ATCO Power Australia (Karratha) Pty Ltd but by ATCO Australia</p>							
Recommendation							
None - as the Licensee will never have the capacity to undertake the asset creation roles.							

Asset Disposal	Process/Policy rating A	Effectiveness rating Not Rated
<p><i>3. Asset disposal</i></p> <p>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.</p>		
<p>Observations</p>		
<p><i>Policies and procedures for asset disposal / sample disposal activities</i></p> <p>There is no disposal action in the audit period to form an opinion about effectiveness. The plans to decommission the site on disposal have been sighted – but disposal is the owner’s responsibility. The responsibility for asset disposal belongs with the owners and not the Licensee. The owning company have commitments with their financiers about disposal of significant assets..</p> <p>The owner (ATCO Australia) has disposal and remediation obligations/processes but no activity in the review period</p> <p><i>Meeting statutory obligations</i></p> <p>There are documented obligations of the Licensee’s employees to comply with statutory obligations.</p> <p><i>Evaluation Criteria summary - Licensee</i></p> <ul style="list-style-type: none"> • Under-utilised and under-performing assets are identified as part of a regular systematic review process <p>Response: The Licensee is responsible for the utilisation of the existing plant but the client (Horizon Power) determines loading levels (utilization). The operation and maintenance arrangement with the owners (AMP) has a focus on performance.</p> <ul style="list-style-type: none"> • The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken <p>Response: The operation and maintenance arrangement with the owners has a focus on performance.</p> <ul style="list-style-type: none"> • Disposal alternatives are evaluated <p>Response: There is no likelihood of disposal of the plant as it is the sole asset and will not be a decision by the Licensee but by the owning company.</p> <ul style="list-style-type: none"> • There is a replacement strategy for assets <p>Response: The arrangement (AMP) with the owners meets this criterion and allow for equipment replacement but not plant replacement.</p> <p>The owner (ATCO Australia) has disposal and remediation processes but no activity in the review period.</p> <p><i>Evaluation Criteria summary - ATCO Australia</i></p> <ul style="list-style-type: none"> • Under-utilised and under-performing assets are identified as part of a regular systematic review process <p>Response: There are regular systematic review processes of performance.</p> <ul style="list-style-type: none"> • The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken 		

<p>Response: The performance assessments include reasons for poor performance, utilization of the licensed plant is the responsibility of the client (Horizon Power). The operation and maintenance arrangement has a focus on performance. The turbine manufacturer has a maintenance contract.</p> <ul style="list-style-type: none"> • Disposal alternatives are evaluated <p>Response: The assets have defined contract life and will not be disposed within that period.</p> <ul style="list-style-type: none"> • There is a replacement strategy for assets <p>Response: The assets have defined contract life and will not be disposed within that period. Opportunities for expansion would be explored. The plant is maintained for contract life. There are remediation obligations post contract.</p>							
Asset management process and policy definition							
Process	<input type="checkbox"/>	Policy	<input type="checkbox"/>				
<p>Evidence: interviewed Dean Rodgers and Gordon Owili. Inspected site. Documents: Include Asset Management agreement (AMP) , Financial statements (sighted), Job safety and environmental analysis procedure, Risk policy and specific risk management procedures. ATCO Australia asset acquisition policy, long term maintenance agreement, Operations and maintenance manual contents.</p>							
Asset management performance							
Process	<input type="checkbox"/>	Documentation	<input type="checkbox"/>	Availability	<input type="checkbox"/>	Use	<input type="checkbox"/>
Issues							
<p>The owning bodies such as ATCO Australia carry out the long term and strategic elements of an asset management system. The Licensee does not carry out these functions. There has been no asset disposal activity in the review period.</p> <p>The owner would be rated A/Not Rated but as the Licensee is unable to carry out all the roles defined in the Audit Guidelines the ratings are Not Rated/ Not Rated. It is worth noting that whilst a rating has provided above, this function is not undertaken by the Licensee i.e. ATCO Power Australia (Karratha) Pty Ltd but by ATCO Australia</p>							
Recommendation							
None - as the Licensee will never have the capacity to undertake the asset disposal roles.							

Environmental analysis	Process/Policy rating A	Effectiveness rating 1
<p><i>4. Environmental analysis</i></p> <p>Environmental analysis examines the asset system environment and assesses all external factors affecting the asset system.</p>		
<p>Observations</p>		
<p><i>Standards / monitoring / reporting / breaches</i></p> <p>The Licensee does not have the role, capacity or resources to carry out the strategic environmental assessment roles. The Licensee has environmental management policies. Reporting and monitoring tools are appropriate.</p> <p>The Licensee has air and water discharge environmental licences.</p> <p>The owners have the responsibility for market surveillance for expansion opportunities or threats. The AMP addresses the economic, technological, market, political and regulatory risks from the perspective of this asset.</p> <p>The principal external threat is gas availability but this is the responsibility of Horizon Power as the Power Purchase Agreement allows for Horizon Power to provide the fuel so this is not a responsibility of the Licensee. There are major spares holdings for critical plant failures such as a spare engine. Critical minor spares are held.</p> <p>The input of the external environment to asset planning is carried out by the Licensee for this plant but not strategic environmental issues.</p> <p>There have been no environmental issues.</p> <p><i>Evaluation Criteria summary - Licensee</i></p> <ul style="list-style-type: none"> • Opportunities and threats in the system environment are assessed Response: Opportunities/threats for this plant are part of the arrangement with the owning company (AMP). The Licensee cannot carry out the external functions as the Licensee's business model and resources are those consistent with operating and maintaining gas turbine generation plant and they do not have the capacity to undertake external environmental functions outside those affecting this plant. • Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved Response: The arrangement with the owner meets this criterion with service standards defined and measured and achieved. • Compliance with statutory and regulatory requirements Response: The arrangement with the owner meets this criterion and the Licensee's policy documents require compliance with statutory and regulatory obligations. There have been no environmental breaches. • Achievement of customer service levels Response: The plant has achieved the required performance targets. 		

<i>Evaluation Criteria summary - ATCO Australia</i>							
<ul style="list-style-type: none"> • Opportunities and threats in the system environment are assessed Response: Opportunities and threats assessment is part of the acquisition policy. • Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved Response: The service standards are defined and measured and achieved. • Compliance with statutory and regulatory requirements Response: The policy documents require compliance with statutory and regulatory obligations. • Achievement of customer service levels Response: The plant has achieved the required performance targets. 							
Asset management process and policy definition							
Process	<input type="checkbox"/>	Policy	<input type="checkbox"/>				
<p>Evidence: interviewed Dean Rodgers and Gordon Owili. Inspected site. Documents: Include Asset Management agreement (AMP) , Financial statements (sighted), Job safety and environmental analysis procedure, Risk policy and specific risk management procedures. ATCO Australia asset acquisition policy, long term maintenance agreement, Operations and maintenance manual contents.</p>							
Asset management performance							
Process	<input type="checkbox"/>	Documentation	<input type="checkbox"/>	Availability	<input type="checkbox"/>	Use	<input type="checkbox"/>
Issues							
<p>There are no environmental breaches reported.</p> <p>The owner would be rated A/1 but as the roles defined in the Audit Guidelines are not performed the rating is Not Rated /Not Rated. For the roles that are within the capacity of the Licensee the rating would be A/1 but this cannot reflect the broader roles, so a Not rated/ Not Rated rating is appropriate. It is worth noting that whilst a rating has provided above, this function is not undertaken by the Licensee i.e. ATCO Power Australia (Karratha) Pty Ltd but by ATCO Australia.</p>							
Recommendation							
None							

Asset operations	Process/Policy rating A	Effectiveness rating 1				
<p><i>5. Asset operations</i></p> <p>Operations functions relate to the day-to-day running of assets and directly affect service levels and costs.</p>						
<p>Observations</p>						
<p><i>Policies and procedures for asset operation / sample activities</i></p> <p>The generation assets are 2 open cycle gas turbines. The plant is constructed to appropriate standards. The operational policies are well documented. However the plant is remotely operated by Horizon from their operations centre (adjacent). Horizon make all the key decisions such as loading and stop and start decisions on the plant.</p> <p>The asset register is part of the Licensee’s maintenance IT system.</p> <p><i>Training/ resources / exceptions</i></p> <p>Horizon operates the plant with the Licensee’s operators mainly providing surveillance and maintenance functions.. The resourcing is appropriate and ongoing training is evident as are the operating procedures and practices.</p> <p><i>Evaluation Criteria summary</i></p> <ul style="list-style-type: none"> • Operational policies and procedures are documented and linked to service levels required Response: The arrangement with the owner meets this criterion with service standards defined. Operational procedures are documented. • Risk management is applied to prioritise operations tasks Response: The arrangement with the owner meets this criterion with operations (maintenance predominantly) based on risk assessment. • 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 Response: Asset registers are contained with the appropriate information in the IT system. • Operational costs are measured and monitored Response: Operational costs – equipment, fuel, staffing, contracts and materials are measured and monitored. • Staff receive training commensurate with their responsibilities Response: Staff receive training commensurate with their responsibilities • Performance measures such as unplanned outages Response: Outage log including forced outages has been sighted. 						
<p>Asset management process and policy definition</p>						
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	
<p>Evidence: interviewed Dean Rodgers and Gordon Owili. Inspected site. Documents: Include Asset Management agreement (AMP) , Financial statements (sighted), Job safety and environmental analysis procedure, Outage reports, Risk policy and specific</p>						

risk management procedures.							
Asset management performance							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
Issues							
The asset operation is appropriate for the duty. The rating based on the scope of asset management available to the Licensee is A/1. On the roles defined in the Audit Guidelines the rating is A/1.							
Recommendation							
None							

Asset Maintenance	Process/Policy rating A	Effectiveness rating 1
<p><i>6. Asset maintenance</i></p> <p>Maintenance functions relate to the upkeep of assets and directly affect service levels and costs.</p>		
<p>Observations</p>		
<p><i>Policies and procedures for asset maintenance / sample activities</i></p> <p>Maintenance costs are closely monitored as they are a key indicator of performance.</p> <p>Maintenance is controlled by an IT system (MEX - V12) that coordinates tasks, incorporates condition, risk, breakdown and time based maintenance. Work orders are prioritised on the basis of the works impact on safety, environment and operational availability. Spare parts required for standard jobs and inventories are being developed as part of the system.</p> <p>The asset plan for operations, maintenance and contingencies contains performance measures. The equipment manufacturer requires maintenance to their standard and frequency to validate warrantee conditions.</p> <p><i>Training / resources / exceptions</i></p> <p>Maintenance is scheduled well into the future and these actions appear appropriate for the type of equipment. The resourcing is appropriate and ongoing training is evident as are the operating procedures and practices. High Voltage training occurs. Plant maintenance appears to take due allowance of any exceptions in the licensed plant.</p> <p><i>Evaluation Criteria summary</i></p> <ul style="list-style-type: none"> • Maintenance policies and procedures are documented and linked to service levels required Response: The arrangement with the owner meets this criterion with service standards defined. Policies and procedures are documented. • Regular inspections are undertaken of asset performance and condition Response: The arrangement with the owner meets this criterion with inspections undertaken as part of manufacturer’s maintenance conditions. • Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule Response: The arrangement with the owner meets this criterion. Maintenance plans are documented and completed on schedule. The plant is very new, so condition is good. The equipment manufacturer requires maintenance to their standard and frequency to validate warrantee conditions. • Failures are analysed and operational/maintenance plans adjusted where necessary Response: Failures are analysed and adjustments made where necessary. • Risk management is applied to prioritise maintenance tasks Response: Risk management is the key method of prioritising maintenance tasks. • Maintenance costs are measured and monitored Response: Maintenance costs are measured and monitored. • System maintenance strategy, including the methodology used to maintain the system and frequency of maintenance activities. 		

Response: The AMS meets this criterion with maintenance strategies defined. • Performance measures such as unplanned outages Response: Outage log including forced outages has been sighted.							
Asset management process and policy definition							
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>		
Evidence: interviewed Dean Rodgers and Gordon Owili. Inspected site. Documents: Include Asset Management agreement (AMP) , Financial statements (sighted), Job safety and environmental analysis procedure, Outage reports, Risk policy and specific risk management procedures.							
Asset management performance							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
Issues							
The maintenance is appropriate for the duty required. The rating based on the scope of asset management available to the Licensee is A/1. On the roles defined in the Audit Guidelines the rating is A/1.							
Recommendation							
None.							

Asset Management Information System	Process/Policy rating A	Effectiveness rating 1
<p><i>7. Asset Management Information System (MIS)</i></p> <p>An asset management information system is a combination of processes, data and software that support the asset management functions.</p>		
<p>Observations</p>		
<p><i>Policies and procedures</i></p> <p>The Licensee has a competent asset management information system with a number of elements.</p> <p>It has complex spreadsheets managing expenditure and a dedicated maintenance management database (MEX V12) to control a complex list of items. The maintenance system links project management to scheduled tasks to standard work plans (assisting with safety and change management), asset register and parts inventory. Documentation is appropriate.</p> <p>Access to write to the database is controlled (passwords) and changes are tracked. There is good documentation for data recovery procedures which include operating on the Perth office server to ensure data integrity. There is a backup server on site which automatically backs up every 24hrs. There is also a backup tape drive, which is changed weekly. The power station is a controlled access site which provides adequate physical security for IT systems.</p> <p><i>Exceptions</i></p> <p>The plant has not operated sufficiently to determine exceptions.</p> <p><i>Evaluation Criteria summary</i></p> <ul style="list-style-type: none"> • Adequate system documentation for users and IT operators Response: The MEX system is sufficiently documented. It is easy to use and reasonably intuitive, there are user manuals. • Input controls include appropriate verification and validation of data entered into the system Response: The system is easy to use with a maintenance focus rather than a database focus and includes appropriate verification and validation of data entered into the system. • Logical security access controls appear adequate, such as passwords Response: Logical control is adequate with hierarchical access by password. • Physical security access controls appear adequate Response: Physical security is adequate with the system on access controlled generation site. • Data backup procedures appear adequate Response: Data backup is robust. • Key computations related to Licensee performance reporting are materially accurate Response: Key computations related to Licensee performance reporting are materially accurate, to the extent possible to assess with visual inspection. • Management reports appear adequate for the Licensee to monitor licence obligations 		

Response: Management reports appear adequate for the Licensee to monitor licence obligations to the extent possible to assess with visual inspection. Licence obligations are met by systems other than the maintenance IT system							
Asset management process and policy definition							
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>		
Evidence: interviewed Dean Rodgers and Gordon Owili. Inspected site. Documents: Include Asset Management agreement (AMP) , Financial statements (sighted), Job safety and environmental analysis procedure, Outage reports, Risk policy and specific risk management procedures.							
Asset management performance							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
Issues							
The rating based on the scope of asset management available to the Licensee is A/1.							
Recommendation							
None							

Risk management	Process/Policy rating A	Effectiveness rating 1					
<p><i>8. Risk management</i></p> <p>Risk management involves the identification of risks and their management within an acceptable level of risk.</p>							
<p>Observations</p>							
<p><i>Policies and procedures</i></p> <p>There is evidence that risk based approaches being carried out particularly as it affects security of the plant. Risk assessment documents, risk plans and risk register have been sighted. The AMP addresses the economic, technological, market, political and regulatory risks from the perspective of this asset. The risk of lack of fuel is carried by the customer - Horizon Power</p> <p><i>Training</i></p> <p>There is evidence of training and awareness by staff of risk based approaches particularly in approaches to tasks where JSA (Job Safety Analysis) are prepared for all work.</p> <p><i>Evaluation Criteria summary</i></p> <ul style="list-style-type: none"> • Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system Response: The arrangement with the owner meets this criterion. Risks are assessed and drive maintenance in particular. • Risks are documented in a risk register and treatment plans are actioned and monitored Response: The arrangement with the owner meets this criterion. The risk register has been sighted. • The probability and consequences of asset failure are regularly assessed Response: The AMS meets this criterion. The probability and consequences of asset failure are regularly assessed. 							
<p>Asset management process and policy definition</p>							
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>		
<p>Evidence: interviewed Dean Rodgers and Gordon Owili. Inspected site. Documents: Include Asset Management agreement (AMP) , Financial statements (sighted), Job safety and environmental analysis procedure, Outage reports, Risk policy and specific risk management procedures.</p>							
<p>Asset management performance</p>							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
<p>Issues</p>							
<p>The rating based on the scope of asset management available to the Licensee is A/1.</p>							

Recommendation
None

Contingency planning	Process/Policy rating	Effectiveness rating					
	A	1					
<p><i>9. Contingency planning</i></p> <p>Contingency plans document the steps to deal with the unexpected failure of an asset.</p>							
<p>Observations</p>							
<p><i>Development of contingency plans / currency</i></p> <p>The Licensee has detailed maintenance scheduled out for several years, with minor and major shutdowns allowed to deal with potential issues.</p> <p>The maintenance regime is geared to keeping the plant operational without forced outages.</p> <p><i>Testing of contingency plans</i></p> <p>The Licensee tests safety systems routinely.</p> <p><i>Evaluation Criteria summary</i></p> <ul style="list-style-type: none"> Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks <p>Response: The Licensee has documented procedures for plant failure. The plant had a plant failure and the contingency of a spare engine was exercised by a live action.</p> <p>Horizon power carry the risks of loss of fuel.</p>							
<p>Asset management process and policy definition</p>							
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>		
<p>Evidence: interviewed Dean Rodgers and Gordon Owili. Inspected site. Documents: Include Asset Management agreement (AMP) , Financial statements (sighted), Job safety and environmental analysis procedure, Outage reports, Risk policy and specific risk management procedures.</p>							
<p>Asset management performance</p>							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
<p>Issues</p>							
<p>The rating based on the scope of asset management available to the Licensee is A/1.</p>							
<p>Recommendations</p>							
<p>None</p>							

Financial planning	Process/Policy rating A	Effectiveness rating 1
<p><i>10. Financial planning</i></p> <p>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.</p>		
<p>Observations</p>		
<p><i>Financial planning process / plans</i></p> <p>The Licensee has financial plans, budgeting and monitoring processes. These are on an annual basis and upgraded year by year.</p> <p>The owning company provide guidance and approve the Licensee’s budget and then monitor financial progress. The Licensee’s managers are responsible for reporting actual versus budget. Revenue is retained for maintenance (and any potential capital) expenditure where that is within the retained funds capacity.</p> <p><i>Evaluation Criteria summary</i></p> <ul style="list-style-type: none"> • The financial plan states the financial objectives and strategies and actions to achieve the objectives <p>Response: The arrangement with the owner meets the obligations as it states the financial objectives and strategies and actions to achieve the objectives.</p> <ul style="list-style-type: none"> • The financial plan identifies the source of funds for recurrent costs and any potential capital expenditure <p>Response: The arrangement with the owner meets the requirement with retained earnings used for capital expenditure and recurrent costs where that is within the retained funds capacity.</p> <ul style="list-style-type: none"> • The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets) <p>Response: The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets).</p> <ul style="list-style-type: none"> • The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period <p>Response: The financial plan provides predictions on income for the next three years and indicative predictions beyond this period.</p> <ul style="list-style-type: none"> • The financial plan provides for the operations and maintenance, administration and any potential capital expenditure requirements of the services <p>Response: The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services.</p> <ul style="list-style-type: none"> • Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary <p>Response: Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary.</p>		
<p>Asset management process and policy definition</p>		
Process	<input checked="" type="checkbox"/>	Policy
<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>
<p>Evidence: interviewed Dean Rodgers and Gordon Owili. Inspected site. Documents:</p>		

Include Asset Management agreement (AMP) Financial statements (sighted), Job safety and environmental analysis procedure, Risk policy and specific risk management procedures.							
Asset management performance							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
Issues							
None The rating based on the scope of asset management available to the Licensee is A/1.							
Recommendation							
None							

Capital expenditure planning	Process/Policy rating B	Effectiveness rating 2				
<p><i>11. Capital expenditure planning</i></p> <p>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.</p> <p>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.</p>						
<p>Observations</p>						
<p><i>Capital expenditure process / plans</i></p> <p>The Licensee has financial plans, budgeting and monitoring processes.</p> <p>Revenue is retained for potential capital expenditure where that is within the retained funds capacity. There has been no budget for any capital expenditure funding.</p> <p><i>Evaluation Criteria summary</i></p> <ul style="list-style-type: none"> • There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates Response: The arrangement with the owner meets the obligations. The expenditure is that required to maintain to the manufacturer's requirements or any breakdowns is scheduled. • The plan provide reasons for capital expenditure and timing of expenditure Response: The arrangement with the owner meets the obligations, capital expenditure is scheduled according to the service frequency (blade replacement etc) as required by the manufacturer. The long term service agreement (LTSA) with the manufacturer covers major planned works. • The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan Response: The arrangement with the owner meets the obligations. The plant is very new and capital expenditure is that required to maintain to the manufacturer's requirements or any breakdowns. • There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned Response: The arrangement with the owner meets the obligations as the capital expenditure plan is updated annually. 						
<p>Asset management process and policy definition</p>						
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	
<p>Evidence: interviewed Dean Rodgers and Gordon Owili. Inspected site. Documents: Include Asset Management agreement (AMP), Financial statements (sighted), Job safety and environmental analysis procedure, Outage reports, Risk policy and specific risk management procedures.</p>						
<p>Asset management performance</p>						

ATCO Power Australia (Karratha) Generation Licence – Asset Management System Review

Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
Issues							
None. The rating based on the scope of asset management available to the Licensee is B/2.							
Recommendation							
None							

Review of AMS	Process/Policy rating A	Effectiveness rating 1				
<p>12. Review of AMS</p> <p>The asset management system is regularly reviewed and updated.</p>						
<p>Observations</p>						
<p>As a supplier of electricity the service delivery is heavily asset based and needs an AMS. There is ongoing review of asset issues relating to operations, maintenance and contingencies.</p> <p><i>Evaluation Criteria summary - Licensee</i></p> <ul style="list-style-type: none"> A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current Response: The review of the strategic level aspects cannot be undertaken by the Licensee but by the owning company. Independent reviews (e.g. internal audit) are performed of the asset management system Response: The review of the broader aspects cannot be undertaken by the Licensee. Review of the arrangement with the owner is assigned to the Station Manager. <p><i>Evaluation Criteria summary - ATCO Australia</i></p> <ul style="list-style-type: none"> A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current Response: Reviews are regular (monthly). Independent reviews (e.g. internal audit) are performed of the asset management system Response: There are reviews of the Owner by its parent in Canada. 						
<p>Asset management process and policy definition</p>						
Process	<input type="checkbox"/>	Policy	<input type="checkbox"/>	Documentation	<input type="checkbox"/>	
<p>Evidence: interviewed Dean Rodgers and Gordon Owili. Inspected site. Documents: Include Asset Management agreement (AMP) , Financial statements (sighted), Job safety and environmental analysis procedure, Outage reports, Risk policy and specific risk management procedures. ATCO Australia asset acquisition policy, long term maintenance agreement, Operations and maintenance manual contents.</p>						
<p>Asset management performance</p>						
Process	<input type="checkbox"/>	Documentation	<input type="checkbox"/>	Availability	<input type="checkbox"/>	Use <input type="checkbox"/>
<p>Issues</p>						
<p>Strategic asset planning is carried out by the owning company and they carry out continuous review of the process. There is a division of an asset management system where the owners carry out the strategic asset planning and the Licensee carries out the whole of plant life functions including shorter term and operational functions. The Licensee cannot carry out strategic functions as the Licensee's business model and</p>						

resources are those consistent with operating and maintaining gas turbine generation plant and they do not have the capacity to undertake asset review functions outside the licensed plant.

The local AMP / AMS can be reviewed but is too new for review in this review period.

The arrangement with the owner has scheduled reviews. The owner would be rated A/1 and for the roles that are within the capacity of the Licensee the rating would be A/1 but this cannot reflect the broader roles, so a Not rated/ Not Rated rating is appropriate. It is worth noting that whilst a rating has provided above, this function is not undertaken by the Licensee i.e. ATCO Power Australia (Karratha) Pty Ltd but by ATCO Australia

Recommendation

None - as the Licensee will never have the capacity to undertake the strategic roles.
