



McGill Engineering Services Pty Ltd

Engineering, Adjudication & Arbitration Services ABN 45 106 691 169

NEWGEN POWER KWINANA PTY LTD ELECTRICITY GENERATION LICENCE EGL 3 ASSET MANAGEMENT SYSTEM REVIEW

Prepared By Kevan McGill 22 February 2012

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McGill Engineering Services Pty Ltd

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Simon Ganley Plant Manager NewGen Kwinana Pty Ltd Leath Road Kwinana

Dear Mr Ganley

Asset Management System Review Electricity Licence

The fieldwork on the asset management system review of Generation Licence EGL 3 for the review period (1 August 2009 to 31 July 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 3 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 22 February 2012

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Executive Summary

NewGen Power Kwinana (NGK) holds Generation Licence EGL 3 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 NGK Asset Management System was conducted in accordance with the guidelines issued by the Economic Regulation Authority (*Authority*) for the review period (1 August 2009 to 31 July 2011) to assess the Licensee's asset management systems.

Following development of an Asset Management System Review Plan and its approval by the *Authority*, NGK 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 3 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	ing 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.		

В	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).
С	Requires significant improvement	 Process and policy documentation is incomplete or requires significant improvement. Processes and policies do not document the required perfonnance 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).

Asset management review effectiveness rating scale

Rating	Description	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. 				

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	Α	1
2. Asset creation/ acquisition	Α	1

3. Asset disposal	À	NR ¹
4. Environmental analysis	Α	1
5. Asset operations	Α	1
6. Asset maintenance	A	1
7. Asset Management Information System	. A	1
8. Risk management	Α	1
9. Contingency planning	Α	1
10. Financial planning	Α	1
11. Capital expenditure planning	Α	1
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.

Note 1. Elements 1,2,3,4 and 12 are not performed by the licensee as a special purpose entity formed to run the plant. The majority owning corporation Summit (wholly owned by Sumitomo) was assessed against these elements scoring an A1 rating for these elements

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 Licensee published by the ERA.

The review was conducted in September/October 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 audit.

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

There are no independence threats due to:

- self-interest as the audit company or a member of the audit team have no financial or non-financial interests in the Licensee or a related entity;
- o self-review no circumstance has occurred:
 - where the audit company or a member of the audit 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 audit 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:

- o no work has been undertaken by the auditor, or a member of the audit/review team, for the Licensee within the previous 24 months; or
- o the auditor is currently undertaking for the Licensee; or
- the auditor 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 auditor is not, nor is perceived to be too sympathetic to the Licensee's interests.

REVIEW (AUDIT) PERIOD

The review (audit) period is 1 August 2009 to 31 July 2011. The last review period was 22 February 2006 to 31 July 2009.

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

Actions to follow up from previous reviews:

AMS item	Recommendation	Action	Resolution	Further actions
Asset Operations	A procedure (or interlocks) is implemented to ensure that the plant does not operate when the adjacent earthing systems are disconnected.	Added to Standard operating procedures	Complete	None
Asset Management Information System	Improve security of operational procedures documentation and implement remote backup of database.	Documents issued in PDF and remote backup implemented	Complete	None
Risk management	Implement the risk management policy as documented.	Risks actioned	Complete	None
Contingency Planning	Develop documented contingency plans responding to the risk assessments.	Plans documented	Complete	None

CONTACTS

The key contacts were:

- Licensee
- Simon Ganley, Plant Manager,
- Phillip MacMahon, Operations Manager ERM Power
- Vern Louw, Financial Controller, ERM Power;
- Hiroyuki Fujioka, Summit Southern Cross Power Pty Ltd;
- Tom Watters, Summit Sunrise Energy Co Ltd and
- McGill Engineering Services Pty Ltd
 - o Kevan McGill, John McLoughlin

The review was conducted during July to September/October 2011. Kevan McGill and John McLoughlin took approximately 80 (70/10) hours on the review.

LICENSED SYSTEMS

Generation

NGK have a closed cycle Gas Turbine at Kwinana.

REVIEW EVIDENCE

The following was considered in the review.

- Generation Licence
- Past review
- Outage log
- Risk procedures
- Risk register
- Financial plan samples (sighted)
- Environmental monitoring reports
- Summit (Sumitomo) internal review (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 3 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	Effectiveness rating
	A	1

1. Asset planning

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

Observations

Asset Planning Process/Plan and its currency

The Licensee is an entity established by the owning partners 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 partners to carry out these strategic functions and if the owning partners do, at their discretion, carry out these functions they may or may not involve the Licensee.

There is a documented whole of life asset management plan for this asset including:

- Asset Management Policy
- Asset Management System
- Asset Life Plan
- Maintenance Strategy documented in the Computerised Maintenance Management System
- Work Instructions & Procedures

There is an agreement that covers the asset management obligations of the Licensee to be carried for the owning partners. However, there is no formal strategic asset plan covering the broader or strategic elements by the Licensee. The owners make the decisions if and when to invest and will make the disposal decisions. The majority owner has the capacity to carry out these functions but is not obliged to carry them out for the Licensee.

The majority owner (Summit Southern Cross Power Pty Ltd) is ultimately a subsidiary of the Sumitomo Corporation of Japan and is a power investment company and as such asset planning is a core business function. As part of the Japanese Corporation, the majority owners are obliged to follow a rigorous process of project assessment for potential investment and eventually has to be approved by a risk management committee and an investment committee in Japan before investment is approved.

Allocation of responsibilities / statutory obligations

The organisational arrangements allocate responsibilities. There is a process requiring compliance with statutory obligations. Staff responsibilities are assigned in local plan and policy documents.

Evaluation Criteria summary Licensee

Planning process and objectives reflect the needs of all stakeholders and is

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integrated with business planning

Response: The Licensee cannot carry out these functions and if they are carried out it will be by the owning partners. For the functions carried out by the Licensee the AMP meets the requirement.

Service levels are defined

Response: The AMP defines service levels. The owners require service level to be delivered.

Non-asset options (e.g. demand management) are considered

Response: The Licensee cannot carry out these and if they are carried out it will be by the owning partners.

Lifecycle costs of owning and operating assets are assessed

Response: The AMP meets this criterion as lifecycle costs of owning and operating assets are assessed.

Funding options are evaluated

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 partners. The Licensee has been given a funding model by the owning partners for the licensed plant but this does not extend beyond this scope.

· Costs are justified and cost drivers identified

Response: Costs of the plant are monitored and costs are justified and cost drivers identified for the licensed plant.

· Likelihood and consequences of asset failure are predicted

Response: The AMP meets this criterion as there are risk assessments of asset failure and consequences.

· Plans are regularly reviewed and updated

Response: The review of the broader aspects cannot be undertaken by the Licensee but the AMP with the owners can be reviewed.

Evaluation Criteria summary (Summit Southern Cross Power Pty Ltd)

 Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning

Response: Asset Planning is an essential part of the business with comprehensive evaluation as part of the investment decision process.

· Service levels are defined

Response: Service levels are part of the project evaluations.

Non-asset options (e.g. demand management) are considered

Response: There is comprehensive testing of the investment risks and a non asset solution will result in not proceeding with investment.

· Lifecycle costs of owning and operating assets are assessed

Response: Life cycle costs are an essential part of the project evaluation for potential investment. There are maintenance contracts to optimize life costs for example for the licensed assets.

Funding options are evaluated

Response: Funding options are an essential part of project evaluation for potential investment.

Costs are justified and cost drivers identified

Response: Costs and cost drivers are an essential part of project evaluation for potential investment. Costs of this plant are monitored and costs are justified and cost drivers identified for the licensed plant.

Likelihood and consequences of asset failure are predicted

Response: The project evaluation for potential investment has extensive risk management/due diligence processes.

ाक्षा करिया है। है। विक्री अने किल्ली, जा एक्टी पार है।

 Plans are regularly reviewed and updated Response: The majority owner has an asset management team in Tokyo regularly monitoring performance assets of owned. 							
Asset ma	nag	ement process a	nd p	policy definition			-
Process		Policy					
Fujioka ar agreemen safety and	nd To t, As I env gem	om Watters. Inspe sset management vironmental analys ent procedures, e	cted syst sis p	l site. Documents em document, Fir rocedure, Outage	Inci nanc rep	lude Asset ial stateme orts, Risk p	Manager), Hiroyuki Management ents (sighted), Job policy and specific Sighted Sumitomo
Asset ma	nag	ement performar	nce				
Process		Documentation		Availability		Use	
Issues		.,		-			-
The Licensee has an agreement with the owners to carry out the asset management of the plant to defined service levels. The Licensee conducts the shorter timeframe asset management elements, (operations, maintenance and contingency planning) and longer term issue for the licensed assets such as the environment and whole of life of the plant issues. Other than a strategic overview, the elements of an asset management process exist.							
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.							
The Licensee is unable to carry out all the roles defined in the Audit Guidelines. The rating given is that of the owners.							
Recommo	enda	ntion					
None - as the Licensee will never have the capacity to undertake the strategic roles.							

Asset Creation Process/Policy rating A Effectiveness rating 1

2 Asset creation and acquisition

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.

Observations

Policies and procedures for asset creation / sample creation activities

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. The majority owner have the capacity to carry out these functions. There has not been any major capital development since commissioning. The ultimate owners have created assets worldwide in the review period and rigorous processes for acquiring assets

Meeting statutory obligations

There are documents requiring employees and contractors to meet statutory obligations.

Evaluation Criteria summary Licensee

 Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions

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.

• Evaluations include all life-cycle costs

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.

Projects reflect sound engineering and business decisions

Response: There will be no asset creation by the Licensee.

Commissioning tests are documented and completed

Response: This will be the outcome of the owning partners 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.

 Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood

Response: The responsibilities of the AMS (Asset Management System) are assigned to the Licensee in the operating and maintaining contract by the owning partners.

Evaluation Criteria summary (Summit Southern Cross Power Pty Ltd)

 Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions

Response: There are comprehensive evaluations as part of the investment decision

process. There is comprehensive testing of the investment risks and a non asset solution will result in not proceeding with investment.					
·					
Evaluations include all life-cycle costs					
Response: Life cycle costs are an essential part of the project evaluation for potential investment. There are maintenance contracts to optimize life costs for example for the licensed assets.					
Projects reflect sound engineering and business decisions					
Response: The process is subject to rigorous risk and due diligence testing of sound engineering and business decisions.					
Commissioning tests are documented and completed					
Response: The commissioning of this plant was completed and documented with acceptance testing and handover checklists.					
Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood					
Response: The responsibilities of the AMS (Asset Management System) are assigned to					
the Licensee in the operating and maintaining contract by the owning					
partners.					
Asset management process and policy definition					
Process Policy					
Evidence interviewed Philip MacMahon and Simon Ganley (Plant Manager), Hiroyuki					
Fujioka and Tom Watters. Inspected site. Documents: Include Asset Management					
agreement, Asset management system document, Financial statements (sighted), Job					
safety and environmental analysis procedure, Outage reports, Risk policy and specific					
risk management procedures, environmental management reports. Sighted Sumitomo					
review documents.					
Asset management performance					
Process □ Documentation □ Availability □ Use □					
Issues					
The owning bodies 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.					
The Lieppone is unable to some soft all the value defined in the Audit Cuidelines. The					
The Licensee is unable to carry out all the roles defined in the Audit Guidelines. The rating given is that of the owners.					
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

3. Asset disposal

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.

Observations

Policies and procedures for asset disposal / sample disposal activities

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. The responsibility for asset disposal belongs with the owners and not the Licensee. The owning partner has the capacity to carry out these functions. The owning partners have commitments with their financiers about disposal of significant assets including remediation and restoration requirements. The majority owning company has not had any disposals in the review period.

Meeting statutory obligations

There are documented obligations of the Licensee's employees to comply with statutory obligations.

Evaluation Criteria summary - Licensee

 Under-utilised and under-performing assets are identified as part of a regular systematic review process

Response: The Licensee is responsible for the utilisation of the existing plant. The operation and maintenance contract with the owners has a focus on performance.

 The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken

Response: The operation and maintenance contract with the owners has a focus on performance.

Disposal alternatives are evaluated.

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 partners.

There is a replacement strategy for assets

Response: The AMS meets this criterion and allow for equipment replacement but not plant replacement.

Evaluation Criteria summary - (Summit Southern Cross Power Pty Ltd)

 Under-utilised and under-performing assets are identified as part of a regular systematic review process

Response: The majority owner has an asset management team in Tokyo regularly monitoring performance of owned. assets

 The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken

Response: The external review considers reasons for under-utilisation or poor performance. The operation and maintenance contract for this plant has a focus on performance.

Disposal alternatives are evaluated

Response: Disposal of assets would be considered on its merits at that time.

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 There is a replacement strategy for assets Response: Replacement of assets would be considered on its merits at that time. This plant has life extending options currently being considered. 							
Asset ma	nage	ement process a	nd j	policy definition			
Process		Policy			_		
Fujioka ar agreemen safety and risk mana	Evidence: interviewed Philip MacMahon and Simon Ganley (Plant Manager), Hiroyuki Fujioka and Tom Watters. Inspected site. Documents: Include Asset Management agreement, Asset management system document, Financial statements (sighted), Job safety and environmental analysis procedure, Outage reports, Risk policy and specific risk management procedures, environmental management reports. Sighted Sumitomo review documents.						
Asset ma	nag	ement performa	nce				
Process		Documentation		Availability		Use	
Issues				· · · · · · · · · · · · · · · · · · ·			
The owning bodies 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. The Licensee is unable to carry out all the roles defined in the Audit Guidelines The rating given is that of the owners.							
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

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4. Environmental analysis

Environmental analysis examines the asset system environment and assesses all external factors affecting the asset system.

Observations

Standards / monitoring / reporting / breaches

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.

The Licensee has air and water discharge environmental licences.

The owners have the responsibility for market surveillance for expansion opportunities or threats and is part of their risk management/due diligence processes. The Licensee has in its whole of life asset plan, gas sharing with the Neerabup plant and operational strategies for differing gas availability of this plant for 30 years.

The principal external threat is gas availability. The Licensee has purchased gas on the spot market when their supplier has shortages. If gas is not available there will be no generation. There are no major spares holdings for critical plant failures such as a generator transformer. Critical minor spares are held.

The input of the external environment to asset planning is carried out by the Licensee for this plant but not strategic environmental issues.

There have been no environmental issues but there were some faulty monitoring equipment of ocean outfall temperatures that indicated potential issues but on examination were monitoring equipment failures.

Evaluation Criteria summary Licensee

Opportunities and threats in the system environment are assessed

Response: Opportunities/threats for this plant are part of the contract with the owning partners. 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 local AMS meets this criterion with service standards defined and measured and achieved.

Compliance with statutory and regulatory requirements

Response: The AMS 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.

Evaluation Criteria summary (Summit Southern Cross Power Pty Ltd)

Opportunities and threats in the system environment are assessed								
Response: These elements are an inherent part of the majority owner's risk								
management/due diligence processes.								
 Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved 								
Response: These elements are an inherent part of the majority owner's risk								
management/due diligence processes. There are monthly management								
committee meetings for this asset to review performance.								
Compliance with statutory and regulatory requirements								
Response: The Licensee's policy documents require compliance with statutory and regulatory obligations.								
Achievement of customer service levels								
Response: This plant has achieved the required performance targets. There are monthly								
management committee meetings for this asset to review performance.								
Asset management process and policy definition								
Process Policy								
Evidence: interviewed Philip MacMahon and Simon Ganley (Plant Manager), Hiroyuki								
Fujioka and Tom Watters. Inspected site. Documents: Include Asset Management								
agreement, Asset management system document, Financial statements (sighted), Job								
safety and environmental analysis procedure, Outage reports, Risk policy and specific								
risk management procedures, environmental management reports. Sighted Sumitomo review documents.								
review documents.								
Asset management performance								
Process □ Documentation □ Availability □ Use □								
Issues								
There are no environmental breaches reported.								
The rating given is that of the owners.								
Recommendation								
None								

Asset operations	Pro A	ocess/Policy ratir	ng	Eff	ectiveness rating				
5. Asset operations	5. Asset operations								
Operations functions relate to th levels and costs.	Operations functions relate to the day-to-day running of assets and directly affect service levels and costs.								
Observations									
Policies and procedures for asset operation / sample activities The generation assets are a closed cycle gas turbine. The plant is constructed to appropriate standards. The operational policies are well documented.									
The asset register is part of the	Lice	nsee's maintenan	ce IT	system.					
Training/ resources / exceptions The Licensee operates the plant. The resourcing is appropriate and ongoing training is evident as are the operating procedures and practices.									
Evaluation Criteria summary			•						
 Operational policies and proc required 	cedu	ires are document	ted a	nd linked	to service levels				
Response: The local AMS meet Operational procedu			rvice	standards	s defined.				
Risk management is applied Response: The local AMS meet predominantly) base	to p	rioritise operations is criterion with op	erati		tenance				
Assets are documented in ar plans of components, an ass accounting data	n As	set Register includ	ding a		A contract of the contract of				
Response: Asset registers are of system.	conta	ained with the app	ropri	ate inform	ation in the IT				
Operational costs are measure				.1. 1.					
Response: Operational costs – measured and monit	tore	d.			nd materials are				
 Staff receive training comme Response: Staff receive training 		•			ities				
Performance measures such	as	unplanned outage	s						
Response: Outage log including			een	sighted. 					
Asset management process a	nd p	policy definition							
Process 🗹 Policy	V	Documentation	V						
Evidence: interviewed Philip Ma					• •				
site. Documents: Include Asset Management agreement, Asset management system document, Financial statements (sighted), Job safety and environmental analysis									
procedure, Outage reports, Risk environmental management rep	•	•	sk ma	anagemen	t procedures,				
Asset management performance									
Ī									

100

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

6. Asset maintenance

Maintenance functions relate to the upkeep of assets and directly affect service levels and costs.

Observations

Policies and procedures for asset maintenance / sample activities

Maintenance costs are closely monitored as they are a key indicator of performance.

Maintenance is controlled by an IT system (MEX - V12.5.1) 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.

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.

Training / resources / exceptions

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.

Evaluation Criteria summary

 Maintenance policies and procedures are documented and linked to service levels required

Response: The local AMS meets this criterion with service standards defined. Policies and procedures are documented.

- Regular inspections are undertaken of asset performance and condition
 Response: The local AMS 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 AMS 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 ma	nag	ement process a	nd p	oolicy definition			
Process	Ø	Policy	N	Documentation	Ø		
Evidence: interviewed Philip MacMahon and Simon Ganley (Plant Manager). Inspected site. Documents: Include Asset Management agreement, Asset management system document, Financial statements (sighted), Job safety and environmental analysis procedure, Outage reports, Risk policy and specific risk management procedures, environmental management reports.							
Asset ma	nag	ement performar	nce				
Process	D	Documentation	D	Availability	Ā	Use	Ø
Issues							
The maint	enar	nce 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.	None.						

Asset Management Process/Policy rating Information System A Effectiveness rating

7. Asset Management Information System (MIS)

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

Observations

Policies and procedures

The Licensee has a competent asset management information system with a number of elements.

It has complex spreadsheets managing expenditure and a dedicated maintenance management database (MEX V12.5.1) 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.

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 and backing up the servers in Brisbane to ensure data integrity. The power station is a controlled access site which provides adequate physical security for IT systems.

Exceptions

The plant has not operated sufficiently to determine exceptions.

Evaluation Criteria summary

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. Sighted a version of the monthly report with indications of progress against preventive

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maintenance, completion of actions from audits and incident reports, environmental compliance, commentary about compliance with system									
	management needs.								
Asset ma	nag	ement process a	nd	policy definition					
Process	Ø	Policy	Ø	Documentation	Ø				
site. Docu document procedure environme	Evidence: interviewed Philip MacMahon and Simon Ganley (Plant Manager). Inspected site. Documents: Include Asset Management agreement, Asset management system document, Financial statements (sighted), Job safety and environmental analysis procedure, Outage reports, Risk policy and specific risk management procedures, environmental management reports.								
Asset ma	nag	ement performai	nce						
Process	Ø	Documentation	Ø	Availability	Ø	Use	Ø		
Issues									
The rating	bas	ed on the scope of	of as	set management	avai	lable to the	e Licensee is A/1.		
Recommo	enda	ation							
None									

Risk man	age	ment	Pro A	ocess/Policy ratio	ng	Ef	fectiveness rating		
8. Risk ma	8. Risk management								
Risk mana acceptable	_		den	tification of risks a	nd the	eir manaç	gement within an		
Observat	ions	,							
There is e	Policies and procedures 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.								
	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								
Risk rintern Response	 Evaluation Criteria summary Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system Response: The AMS meets this criterion. Risks are assessed and drive maintenance in particular. Risks are documented in a risk register and treatment plans are actioned and 								
monit Response	monitored Response: The local AMS 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.								
Asset ma	nag	ement process a	nd p	oolicy definition					
Process	☑	Policy	Ø	Documentation	Ø				
Evidence: interviewed Philip MacMahon and Simon Ganley (Plant Manager). Inspected site. Documents: Include Asset Management agreement, Asset management system document, Financial statements (sighted), Job safety and environmental analysis procedure, Outage reports, Risk policy and specific risk management procedures, environmental management reports.									
Asset management performance									
Process	Ø	Documentation	Ø	Availability		Use	Ø		
Issues	Issues								
The rating	The rating based on the scope of asset management available to the Licensee is A/1.								
Recomm	enda	ation							
None									

Continge	ncy	planning	Pro	ocess/Policy ratio	ng	Eff 1	fectiveness rating		
9. Conting	genc	y planning	<u> </u>	-		 	, <u>, , , , , , , , , , , , , , , , , , </u>		
Continger	псу р	lans document th	e st	eps to deal with th	e un	expected f	ailure of an asset.		
Observat	ions	3		· · · · · · · · · · · · · · · · · · ·		•			
The Licen	Development of contingency plans / currency The Licensee has detailed maintenance scheduled out for several years, with minor and major shutdowns allowed to deal with potential issues.								
The maint outages.	tenai	nce regime is gea	red	to keeping the pla	nt op	erational v	without forced		
The Licen supply.	see	has agreements v	with	multiple gas supp	liers	to mitigate	against lack of gas		
_		<i>tingency plan</i> s tests safety syste	ms ı	outinely.		,			
Conti opera	 Evaluation Criteria summary Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks Response: The Licensee has documented procedures for plant failure. The Licensee purchased gas on the spot market when their supplier had a shortage of gas which was a live test of their contingency procedures. If no gas is available on the market there will be no generation. 								
Asset ma	ınag	ement process a	ınd	policy definition					
Process	Ø	Policy	Ø	Documentation	Ø				
site. Docu document procedure	Evidence: interviewed Philip MacMahon and Simon Ganley (Plant Manager). Inspected site. Documents: Include Asset Management agreement, Asset management system document, Financial statements (sighted), Job safety and environmental analysis procedure, Outage reports, Risk policy and specific risk management procedures, environmental management reports.								
Asset management performance									
Process	Ø	Documentation	×	Availability	Ø	Use	Ø		
Issues	Issues								
The rating	The rating based on the scope of asset management available to the Licensee is A/1.								
Recomm	enda	ations	_			-			
None									

Financial planning Process/Policy rating A Effectiveness rating 1

10. Financial planning

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.

Observations

Financial planning process / plans

The Licensee has financial plans, budgeting and monitoring processes. These are on an annual basis and upgraded year by year.

The owning partners 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 capital expenditure where that is within the retained funds capacity.

Evaluation Criteria summary

• The financial plan states the financial objectives and strategies and actions to achieve the objectives

Response: The local AMS meets the obligations as it states the financial objectives and strategies and actions to achieve the objectives.

 The financial plan identifies the source of funds for capital expenditure and recurrent costs

Response: The local AMS meets the requirement with retained earnings used for capital expenditure and recurrent costs where that is within the retained funds capacity.

• The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)

Response: The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets).

• The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period

Response: The financial plan provides predictions on income for the next five years and indicative predictions beyond this period.

 The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services

Response: The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services.

 Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary

Response: Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary.

Asset management process and policy definition								
Process		Policy	N	Documentation	Ø			
Evidence: interviewed Philip MacMahon, Vern Louw (Financial Controller) and Simon								
Ganley (Plant Manager). Inspected site. Documents: Include Asset Management								
Camby (Figure Managor). Inoposited site. Documents. Include Asset Management								

agreement, Asset management system document, Financial statements (sighted), Job

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•		ent procedures, e	•		•	•	K policy and specific s.	
Asset management performance								
Process	Ø	Documentation	×	Availability	Ø	Use	Ø	
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 A Effectiveness rating 1

11. Capital expenditure planning

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.

Observations

Capital expenditure process / plans

The Licensee has financial plans, budgeting and monitoring processes. There are capital expenditure plan for a rolling 5 years.

Revenue is retained for capital expenditure where that is within the retained funds capacity. Only at a point where equity is required to be injected/funded from the owners will that occur. There has been no budget for any equity injection/funding.

Evaluation Criteria summary

 There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates

Response: The local AMS 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 local AMS meets the obligations capital expenditure is scheduled according to the service frequency (blade replacement etc) as required by the manufacturer.
- The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan

Response: The local AMS 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 local AMS meets the obligations as the capital expenditure plan is updated annually.

Asset management process and policy definition								
Process	Ø	Policy	1	Documentation	Ø			
Ganley (F agreemer safety an	Plant nt, As d env	Manager). In sset manage vironmental a	nspected a ment systematics analysis p	site. Documents: em document, Fi	inclu nanc rep	ancial Controller) and Simon and Asset Management cial statements (sighted), Job orts, Risk policy and specific at reports.		
Asset ma	anag	ement perfo	ormance					

Process		Documentation	×	Availability		Use			
Issues	L						-		
None.									
The rating based on the scope of asset management available to the Licensee is A/1.									
Recomm	enda	ation							
None	_								

Review of AMS	Process/Policy ration	· '	Effectiveness rating					
12. Review of AMS								
The asset management system is regularly reviewed and updated.								
Observations								
As a supplier of electricity the There is ongoing review of as contingencies.								
Evaluation Criteria summary Licensee								
 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 partners. 								
 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 local AMS is assigned to the Station Manager and Operations Manager.								
Evaluation Criteria summary (Summit Southern Cross Power Pty Ltd)								
 A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current Response: There are monthly management committee meetings for this asset to 								
review performance and the AMS.								
Independent reviews (e.g. internal audit) are performed of the asset management								
system Response: The majority owner has an asset management team in Tokyo regularly monitoring performance of owned. assets								
Asset management process and policy definition								
Process	□ Documentation							
Evidence: interviewed Philip MacMahon and Simon Ganley (Plant Manager), Hiroyuki Fujioka and Tom Watters Inspected site. Documents: Include Asset Management agreement, Asset management system document, Financial statements (sighted), Job safety and environmental analysis procedure, Outage reports, Risk policy and specific risk management procedures, environmental management reports. Sighted Sumitomo review documents.								
Asset management performance								
Process Documentation	n □ Availability	Use						
Issues								
Strategic asset planning is carried out by the owning partners 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 caries out the whole of plant life functions including shorter term and operational functions. 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 review functions outside the licensed plant.

The local AMS has scheduled reviews.

. The Licensee is unable to carry out all the roles defined in the Audit Guidelines The rating given is that of the owners.

Recommendation

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