



McGill Engineering Services Pty Ltd

Engineering, Adjudication & Arbitration Services ABN 45 106 691 169

ESPERANCE POWER STATION PTY LTD GAS DISTRIBUTION LICENCE GDL 10 ASSET MANAGEMENT SYSTEM REVIEW

Prepared By Kevan McGill
Date 8 January 2011



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Lawrence Teo
Business Manager
WorleyParsons Asset Management Pty Ltd
as Regulatory Manager for Esperance Power Station Pty Ltd
Perth WA 6000

Dear Mr Teo

Asset Management System Review Distribution Gas Licence GDL 10

The fieldwork on the asset management system review Gas Distribution licence GDL 10 for the review period (1 September 2007 to 31 August 2010) is complete and I am pleased to submit the report to you. The report reflects my findings and opinions.

In my opinion, the Licensee (Esperance Power Station Pty Ltd) maintained, in all material aspects, effective control procedures in relation to the Distribution licence (GDL 10) and, the Licensee maintained, in all material aspects, an effective asset management system in relation to the Distribution licence (GDL 10) for the review period on the relevant clauses referred to within the objectives section of this report. Consistent with the scope limitation calculations are accurate.

Yours sincerely

Kevan McGill
Director

Date 8 January 2011

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Executive Summary

This asset management review was conducted in accordance with the guidelines¹ issued by the Economic Regulation Authority (*Authority*) for the review period (1 September 2007 to 31 August 2010).

The Licensee has a gas distribution system (GDS) at Esperance. Constructed in 2005, the GDS is relatively new comprising approximately 40 kilometres of low pressure polyethylene mains which supply natural gas to about 300 residential and business customers. The Licence covers the central business district and adjoining suburbs of Chadwick, Nulsen and Sinclair. The distribution network sources gas from the Kambalda to Esperance Gas Pipeline (KEGP) through a pressure reducing station (PRS) at KEGP Main Line Valve No. 4. The PRS is important in maintaining supply pressure, meeting gas consumer demands and monitoring natural gas delivery into the Esperance GDS.

OVERALL CONCLUSION

In my opinion, the Licensee maintained, in all material aspects, effective control procedures in relation to the Distribution licence (GDL 10) and, the Licensee maintained, in all material aspects, an effective asset management system in relation to the Distribution licence (GDL 10) for the review period on the relevant clauses referred to within the objectives section of this report. Consistent with the scope limitation calculations are accurate.

ASSET MANAGEMENT SYSTEM REVIEW

A summary of the findings of the asset management system review is:

RATINGS

The 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 is shown 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 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.

¹ Economic Regulation Authority: Audit guidelines: Electricity, Gas and Water Licences Aug 2010

		<ul style="list-style-type: none"> • 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.

The overall effectiveness rating for asset management process is based on a combination of the process and policy adequacy rating and the performance rating.

Effectiveness in asset management review reports is shown below.

Asset management effectiveness summary

ASSET MANAGEMENT SYSTEM	Asset management process and policy definition adequacy rating	Asset management performance rating
Asset planning	A	Not Rated
Asset creation/ acquisition	A	Not Rated
Asset disposal	A	Not Rated
Environmental analysis	A	2
Asset operations	A	2
Asset maintenance	A	2
Asset Management Information System	B	2
Risk management	B	2
Contingency planning	B	2
Financial planning	B	2
Capital expenditure planning	B	2
Review of AMS	B	2

CORRECTIVE ACTIONS REQUIRED

Risk management	Process/Policy rating	Effectiveness rating
	B	2
8. Risk management		
Risk management involves the identification of risks and their management within an acceptable level of risk.		
Recommendation		
Enhance the risk management plans by assessing the external threat to gas supply and significant shifts in gas costs.		

Contingency planning	Process/Policy rating	Effectiveness rating
	B	2
9. Contingency planning		
Contingency plans document the steps to deal with the unexpected failure of an asset.		
Recommendation		
Contingency plans should be documented for a gas shortage and tested.		

Review of AMS	Process/Policy rating	Effectiveness rating
	B	2
12. Review of AMS		
The asset management system is regularly reviewed and updated.		
Recommendation		
The licensee should put in place a scheduled regular review of the AMS.		

ASSET MANAGEMENT SYSTEM REVIEW

ASSET MANAGEMENT SYSTEM REVIEW OBJECTIVES

Under section 11Y of the *Energy Coordination Act 1994* (the Act), a gas distribution licensee must develop and maintain an asset management system to manage the significant asset base for ongoing service delivery 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 ERA guidelines.

The review, conducted between August and September 2010 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 Gas Distribution 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 asset management element. McGill Engineering Services Pty Ltd then prioritised the review 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.

The Licence area at Esperance was visited in September 2010 and the review took 100 hours.

REVIEW (AUDIT) PERIOD

The review (audit) period is 1 September 2007 to 31 August 2010.

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.

While a sample of key calculations have been examined, assessment of accuracy of computations is limited to inspection of spreadsheets and the like with an overview of the calculations and random inspection of formulae. Because of the nature of this type of inspection no conclusion can be made that all calculations are correct nor can assurance that data entry errors have not occurred be drawn. The form and nature of financial statements have been examined but no detailed examination of the calculations therein.

PREVIOUS REVIEW

The previous review recommendations and follow actions are set out below.

RECOMMENDATIONS - PREVIOUS REVIEW

1. While the asset management system is small it should be periodically reviewed. The licensee should put in place a scheduled review of the AMS.

POST REVIEW IMPLEMENTATION PLAN

Item	Action	Responsible	When	Action taken
				Further Recommendations
1	The licensee should put in place a scheduled review of the AMS.	Business Manager	March 2011	Partially complete. The asset management system is reviewed but should be scheduled to be reviewed regularly.

				The Asset management plan should have regular scheduled reviews.
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The report to the licensee and the *Authority* clearly expresses the opinion of the reviewer in respect of the findings of the review.

The key contacts were:

- Licensee
 - Lawrence Teo [Business Manager], Brendon Schoknecht [Esperance Area Manager], Debbie O'Shaughnessy – [Administrative Officer], Alan Shackleton – [Financial Controller]
 - Cornelius De Groote Principal Engineer Gas Supply EnergySafety;
- McGill Engineering Services Pty Ltd
 - Kevan McGill,

Stage	Auditor	Standard
1. Risk & Materiality Assessment Outcome - Operational/ Performance Audit Plan	K McGill	ASA 300 Planning ASA 315: Risk Assessments and Internal Controls AUS 808: Planning Performance Audits AS/NZS 4360:2004: Risk Management ERA Guidelines
2. System Analysis	K McGill	AUS 810: Special Purpose Reports on Effectiveness of Control Procedures
3. Fieldwork Assessment and testing of; <ul style="list-style-type: none"> • The control environment • Information system • Compliance procedures • Compliance attitude 	K McGill	AUS 502: Audit Evidence AUS 806: Performance Auditing
4. Reporting	K McGill	ASA 300 Planning AUS 806: Performance Auditing

FINDINGS

The conclusions of each of the elements of the licence are summarised in the following table. The review risk as determined for each licence condition is also shown. The details of the review can be seen in Review results (Page 13)

ENERGY SAFETY REQUIREMENTS

Under the Gas Standards (Gas Supply and System Safety) Regulations 2000 EnergySafety require (by 2011) gas network operators to have a “safety case” for network safety. The Safety case is to be to AS 4568 –preparation of safety and operating plan for gas networks. This plan has many elements that are common with asset management in that design, construction, operating and maintaining and decommissioning the network are elements. There is also a requirement on hazard and risk assessment. EnergySafety are in the process of obtaining an agreed plan with the Licensee. When in place this will be a complementary requirement and for regulatory efficacy should be aligned with the asset management system as much as possible so that different regulators are not requiring the same issues addressed differently.

REVIEW EVIDENCE

The following review evidence has been considered.

- Gas Distribution Licence
- Gas quality test certificates
- Complaints handling manual
- Complaints handling procedure
- Energy ombudsman membership list
- Licence fees payment details
- Sample Notices of Completion
- Sample training records
- Example connection quotation
- Pipeline maintenance schedule
- Inspectors orders issued
- Asset Management Plan Philosophy and Strategy
- Pipeline Emergency response plan
- Financial reports
- Risk management plans

- Asset Management System Operating procedure
- Asset Management operating plan
- Asset Management maintenance plan
- Disconnection notice set
- Asset register
- Customer Register
- Reporting datasheets
- Gas quality analysis report sample
- Fees and charges rates
- Bad debt policy (draft)
- Financial hardship policy
- New customer pack
- Standard form contract
- Customer service charter
- Network computer model
- Geographic Information System
- Notes on Third Party works near network mains
- Customer Safety Awareness Program

ASSET MANAGEMENT SYSTEM REVIEW RESULTS AND RECOMMENDATIONS

Asset Planning		Process/Policy rating		Effectiveness rating			
		A		Not Rated			
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 management process and policy definition							
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>				
Evidence: interviewed Lawrence Teo and listed staff on site. Documents: Include Asset Management Plan Philosophy and Strategy, Pipeline Emergency response plan, Financial reports, Risk management plans, Asset Management System Operating procedure, Asset Management operating plan, and Asset Management maintenance plan.							
Asset management performance							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input type="checkbox"/>
<p>The Licensee has good documentation of its asset management system. The distribution system is in place and distribution mains are not currently being extended, so there is no planning taking place to form an opinion about complying with the documented processes. The Licensee's distribution system has been designed and planned to maximise the number of small use customer connections within a pre-defined boundary. Whilst there was some minor localised planning for relatively short gas main extensions to some customers, the Licensee has no broader planning at this point in time due to the static nature of the network. Further planning will be dictated by economics/funding for system augmentation or after high customer penetration has been achieved in the current reticulated area. The sub developers are providing gas pipes as part of their developments. Mains extensions to these areas are subject to a cost benefit analysis and or funding by developers and only very minor mains extensions have been installed in the review period.</p> <p>Residential and small commercial customers are being connected within existing line-of-mains but large Commercial customer connections are subject to case by case analysis.</p> <p>The existing system is well planned using appropriate materials such as PE piping, adequately sized meter sets and distribution pressures of 200 kPa. The piping is sized to allow maximum flows and maintain pressure within allowances.</p> <p><i>Evaluation Criteria summary</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 Asset Management Plans (AMP) sets out a planning/business process integrated with business planning.</p> <ul style="list-style-type: none"> • Service levels are defined 							

<p>Response: Typical service levels are described and are enunciated as specific targets in the maintenance and operational plans.</p> <ul style="list-style-type: none"> • Non-asset options (e.g. demand management) are considered <p>Response: The objective is to better utilise the use of the existing network as a priority and any extension of the network is subject to a life cycle cost benefit.</p> <ul style="list-style-type: none"> • Lifecycle costs of owning and operating assets are assessed <p>Response: Lifecycle costs of owning and operating assets are assessed as part of AMP. Any decision to proceed with a reticulated scheme requires a full commercial evaluation. The financial position of existing assets is assessed regularly. The life of gas reticulation equipment is very long with very little service required to maintain condition. None of the existing assets are close to life cycle replacement of assets.</p> <ul style="list-style-type: none"> • Funding options are evaluated <p>Response: Development proposals are evaluated with funding options given the potential funding restraints. The land developers generally provide the in ground services and the Licensee then evaluates the viability of a mains extension.</p> <ul style="list-style-type: none"> • Costs are justified and cost drivers identified <p>Response: Costs of the systems is routinely monitored and assessed. Any indication that indicators are outside accepted ranges will initiate a review of business drivers.</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 in the risk management plan. For example a major issue is a gas escape and response processes are indicated. As these plans have been tested as a result of third party breaks, scheduled testing has not been required.</p> <ul style="list-style-type: none"> • Plans are regularly reviewed and updated <p>Response: The plans are reviewed and updated as indicated by revision dates on plans. These could be scheduled for review to improve controls.</p>
<p>Issues</p>
<p>Customers are being connected in accordance with the licence requirements.</p>
<p>Recommendation</p>
<p>That the Licensee enhances the Asset Management Plan (AMP) by including a schedule of testing of emergency plans when not already exercised as a result of breaks.</p>

Asset Creation	Process/Policy rating A	Effectiveness rating Not Rated					
<p>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.</p>							
Observations							
Asset management process and policy definition							
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>				
<p>Evidence: interviewed Lawrence Teo and listed staff on site. Documents: Include Asset Management Plan Philosophy and Strategy, Pipeline Emergency response plan, Financial reports, Risk management plans, Asset Management System Operating procedure, Asset Management operating plan, and Asset Management maintenance plan.</p>							
Asset management performance							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input type="checkbox"/>
<p>The licensee has good documentation of its asset management system. The process used for the implementation of the system was sound.</p> <p>The network is well planned using modelling software and appropriate materials such as PE piping and distribution pressures of 200 kPa. The piping is sized to allow maximum flows and maintain pressure within allowances and also to accommodate for any future gas system expansion. There is a commercial evaluation of each case.</p> <p><i>Evaluation Criteria summary</i></p> <ul style="list-style-type: none"> • Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions Response: The system has plenty of capacity and the better use of what is available is the priority. Extensions to new areas where the developer has provided in ground services are subject to a full commercial evaluation. • Evaluations include all life-cycle costs Response: Life cycle costs are considered in evaluation. The life of reticulated assets is long and only the pressure reduction station has shorter life issues. The meters are too new for maintenance let alone replacement. The Licensee routinely monitors maintenance costs closely as part of asset assessment. • Projects reflect sound engineering and business decisions Response: The existing projects reflect sound engineering and business decisions with structured approval depending on costs. The engineering is not demanding for the scale of the assets. There have been no new assets in the review period to assess compliance. • Commissioning tests are documented and completed Response: Commissioning tests were routinely documented and completed. The risks are too high for safety and performance to do otherwise. • Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood 							

Response: Legal/environmental and safety obligations are assigned in policy documents and employment contracts and environmental and safety audits are conducted on an ongoing basis.
Issues
There have been no new assets to assess compliance. Customers are being connected to the existing network in accordance with the licence requirements.
Recommendation
None

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							
Asset management process and policy definition							
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>				
Evidence: interviewed Lawrence Teo and listed staff on site. Documents: Include Asset Management Plan Philosophy and Strategy, Pipeline Emergency response plan, Financial reports, Risk management plans, Asset Management System Operating procedure, Asset Management operating plan, and Asset Management maintenance plan.							
Asset management performance							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input type="checkbox"/>
The licensee has good documentation of its asset management system. As the system is new there is no items that are obsolete or underperforming that would required disposal.							
<i>Evaluation Criteria summary</i> <ul style="list-style-type: none"> Under-utilised and under-performing assets are identified as part of a regular systematic review process Response: The system is too new to examine underutilized and under-performing plant. The meters are still 5 years from first calibration and the in ground services have many more years of life and capacity before any replacement would be contemplated.							
<ul style="list-style-type: none"> The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken Response: There have been no assets in need of disposal to assess performance.							
<ul style="list-style-type: none"> Disposal alternatives are evaluated Response: There have been no disposal actions to assess performance.							
<ul style="list-style-type: none"> There is a replacement strategy for assets Response: There have been no assets in need of disposal to assess performance.							
Issues							
The system is new, so there is no asset disposal taking place to form an opinion about the processes.							
Recommendation							
None.							

Environmental analysis	Process/Policy rating A	Effectiveness rating 2					
4. Environmental analysis Environmental analysis examines the asset system environment and assesses all external factors affecting the asset system.							
Observations							
Asset management process and policy definition							
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>				
Evidence: interviewed Lawrence Teo and listed staff on site. Documents: Include Asset Management Plan Philosophy and Strategy, Pipeline Emergency response plan, Financial reports, Risk management plans, Asset Management System Operating procedure, Asset Management operating plan, Asset Management maintenance plan.							
Asset management performance							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
The licensee is carrying out statutory environmental management process to the extent required for the regulation of natural gas pipelines.							
The principal external threat is the external loss of supply from the Goldfields Gas Pipeline and there are contingencies to handle this issue (but this issue could be better documented, see contingency planning). The principal direct threat is the availability of staff. The ongoing viability of such a small network is closely monitored by the Licensee particularly for any extension options.							
<i>Evaluation Criteria summary</i>							
<ul style="list-style-type: none"> Opportunities and threats in the system environment are assessed Response: Opportunities/threats for the Licensee are considered on a case by case basis.							
<ul style="list-style-type: none"> Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved Response: Performance standards are routinely measured and achieved. KPIs are regularly monitored and subject to annual review. The targets are documented in the maintenance and operating plans.							
<ul style="list-style-type: none"> Compliance with statutory and regulatory requirements Response: The Licensee's policy documents require compliance with statutory and regulatory obligations. There have been no environmental breaches.							
<ul style="list-style-type: none"> Achievement of customer service levels Response: Reliability (uninterrupted supply to customers and average duration of interruptions) and cost are the key customer service levels. Costs are routinely monitored by managers. The performance is measured and monitored. There was no loss of supply to customers in audit period, so both measures are zero.							

Issues
None.
Recommendation
None

Asset operations		Process/Policy rating	Effectiveness rating
		A	2
<p>5. Asset operations Operations functions relate to the day-to-day running of assets and directly affect service levels and costs.</p>			
Observations			
Asset management process and policy definition			
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>
<p>Evidence: interviewed Lawrence Teo and listed staff on site. Documents: Include Asset Management Plan Philosophy and Strategy, Pipeline Emergency response plan, Financial reports, Risk management plans, Asset Management System Operating procedure, Asset Management operating plan, Asset Management maintenance plan.</p>			
Asset management performance			
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>
Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
<p>The licensee has good documentation of its asset operation system. The operations are contracted to ATIVO, a major competent contractor with good controls over performance.</p> <p>System pressure and flows are constantly monitored and are kept in acceptable ranges. Gas quality and odorant levels are monitored regularly. Leakage surveys are carried out periodically. The system has significant capacity as indicated by computer modelling and confirmed through low pressure drops recorded across the system.</p> <p>The Licensee uses spreadsheets for the asset registers but these are not otherwise documented.</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 Licensee has service standards and KPIs. Operational procedures are documented and designed to meet the required service standards and gathering of information for KPIs. Risk management is applied to prioritise operations tasks Response: This criterion is satisfied 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 spreadsheets. Operational costs are measured and monitored Response: Operational costs – gas, equipment, staffing, contracts and materials are measured and monitored. Staff receive training commensurate with their responsibilities Response: Staff receives training commensurate with their responsibilities. 			

<ul style="list-style-type: none">• Performance measures such as unplanned outages <p>Response: There have been no outages.</p>
Issues
<p>There have been no operational issues that could raise concerns about operational standards.</p>
Recommendation
<p>None.</p>

Asset Maintenance		Process/Policy rating	Effectiveness rating
		A	2
6. Asset maintenance			
Maintenance functions relate to the upkeep of assets and directly affect service levels and costs.			
Observations			
Asset management process and policy definition			
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>
Evidence: interviewed Lawrence Teo and listed staff on site. Documents: Include Asset Management Plan Philosophy and Strategy, Pipeline Emergency response plan, Financial reports, Risk management plans, Asset Management System Operating procedure, Asset Management operating plan, Asset Management maintenance plan.			
Asset management performance			
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>
Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
<p>The documentation sets out maintenance philosophy which ranges from continuously monitored with predictive and preventative maintenance for critical items to periodic maintained for lower risk and operate to failure for lowest risk/consequences.</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 <p>Response: The Licensee has service standards but these should have targets set in AMP. Maintenance policies and procedures are documented and linked to service standards principally leakage detection and management. The pressure reduction station (PRS) has the priority for maintenance. <ul style="list-style-type: none"> Regular inspections are undertaken of asset performance and condition <p>Response: Regular inspections are undertaken for PRS maintenance and leakage management. <ul style="list-style-type: none"> Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule <p>Response: Maintenance plans are documented and completed on schedule. Spreadsheets are used for scheduling. <ul style="list-style-type: none"> Failures are analysed and operational/maintenance plans adjusted where necessary <p>Response: Failures are routinely analysed and adjustments made where necessary. Maintenance plans are documented. <ul style="list-style-type: none"> Risk management is applied to prioritise maintenance tasks <p>Response: Risk management is the key method of prioritising maintenance tasks and to minimize failures of bulk containers. <ul style="list-style-type: none"> Maintenance costs are measured and monitored <p>Response: Maintenance costs are routinely measured and monitored. <ul style="list-style-type: none"> System maintenance strategy, including the methodology used to maintain the system and frequency of maintenance activities. <p>Response: System maintenance strategies are closely managed by business manager.</p> </p></p></p></p></p></p>			

<ul style="list-style-type: none">• Performance measures such as unplanned outages are monitored <p>Response: There have been 3 third party damage outages but no loss of supply to customers. Unaccounted for gas is monitored.</p>
Issues
None.
Recommendation
None.

Asset Management Information System		Process/Policy rating	Effectiveness rating				
		B	2				
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							
Asset management process and policy definition							
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>				
Evidence: interviewed Lawrence Teo and listed staff on site. Documents: Asset Management Plan Philosophy and Strategy, Pipeline Emergency response plan, Financial reports, Risk management plans, Asset Management System Operating procedure, Asset Management operating plan, Asset Management maintenance plan.							
Asset management performance							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
<p>A variety of systems exist which support the effective management of the reticulated network, these are:</p> <p>The licensee uses a spreadsheet for his asset register and uses a geographical information system (GIS) to display the network assets. The spreadsheet and GIS are linked to transfer data so that there are no transcription errors.</p> <p>The system has been developed to an adequate level of sophistication appropriate for a network of this scale and complexity. Service standards are collected and can be reported to the <i>Authority</i>.</p> <p><i>Evaluation Criteria summary</i></p> <ul style="list-style-type: none"> Adequate system documentation for users and IT operators Response: The GIS system is well documented and is only used for reference requirements as the system is user friendly and as such documentation is not required routinely by users. The information is readily available on the Licensee's share point intranet system. Input controls include appropriate verification and validation of data entered into the system Response: The system is easy to use with a user 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 for all systems. The GIS requires web page authorisation by web custodian for access. Physical security access controls appear adequate Response: Physical security is adequate with the system on access controlled offices in Perth. Data backup procedures appear adequate Response: Data is backed up daily and recovery is tested routinely. Data is backed up 							

<p>daily on WorleyParsons IT server system (remote to operating area). A daily restore is performed on the server.</p> <ul style="list-style-type: none">• Key computations related to Licensee performance reporting are materially accurate <p>Response: Key computations related to Licensee performance reporting are materially accurate, to the extent possible to assess with visual inspection.</p> <ul style="list-style-type: none">• Management reports appear adequate for the Licensee to monitor licence obligations <p>Response: Management reports appear adequate for the Licensee to monitor licence obligations to the extent possible to assess with visual inspection.</p>
Issues
The Licensee does not have sophisticated IT system but is appropriate for the scale and the low complexity of the system.
Recommendation
None

Risk management	Process/Policy rating B	Effectiveness rating 2					
<p>8. Risk management</p> <p>Risk management involves the identification of risks and their management within an acceptable level of risk.</p>							
<p>Observations</p>							
<p>Asset management process and policy definition</p>							
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>				
<p>Evidence: interviewed Lawrence Teo and listed staff on site. Documents: Asset Management Plan Philosophy and Strategy, Pipeline Emergency response plan, Financial reports, Risk management plans, Asset Management System Operating procedure, Asset Management operating plan, Asset Management maintenance plan.</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>There is good documentation of risk management. There is a risk register which sets out the risks as seen by the Licensee. The risks of an external curtailment of supply could be documented.</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: There is an assessment of risks documented in the risk management plans. Risks are assessed and drive maintenance in particular. Risks are documented in a risk register and treatment plans are actioned and monitored Response: The risk registers are part of the risk management plan. Plans have been actioned and monitored following third party damage and have not required scheduled testing. The probability and consequences of asset failure are regularly assessed Response: The probability and consequences of asset failure are regularly assessed by the business manager and operations manager. 							
<p>Issues</p>							
<p>The risk of an external interruption to supply of natural gas such as Varanus or a major break in the Goldfields Gas Pipeline is not covered and the plan could be improved by covering this probability. A significant shift in the cost of gas is also a commercial risk that could also be addressed in risk management.</p>							
<p>Recommendation</p>							
<p>Enhance the risk management plans by assessing the external threat to gas supply and significant shifts in gas costs.</p>							

Contingency planning	Process/Policy rating B	Effectiveness rating 2					
9. Contingency planning							
Contingency plans document the steps to deal with the unexpected failure of an asset.							
Observations							
Asset management process and policy definition							
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>				
Evidence: interviewed Lawrence Teo and listed staff on site. Documents: Include Asset Management Plan Philosophy and Strategy, Pipeline Emergency response plan, Financial reports, Risk management plans, Asset Management System Operating procedure, Asset Management operating plan, Asset Management maintenance plan.							
Asset management performance							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
<p>The risk management plan identifies the types of risk the system faces and strategies to respond to the risks. There is an emergency response plan but no contingency plans for risks other than emergencies. There are external contingencies in the power station to respond to gas shortages which would provide gas for the system. There is considerable line pack available for the network once the power station is operating on distillate.</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: There are emergency plans but other contingencies could be covered with documented contingency plans. The emergency plans are tested by pipe breakage so scheduled test were not required.</p>							
Issues							
The contingencies for a gas shortage are established but should be documented for the distribution system.							
Recommendation							
Contingency plans should be documented for a gas shortage and tested.							

Financial planning	Process/Policy rating	Effectiveness rating
	B	2
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		
Asset management process and policy definition		
Process	<input checked="" type="checkbox"/>	Policy
		<input checked="" type="checkbox"/>
Evidence: Interviewed Lawrence Teo And Listed Staff On Site. Documents: Include Asset Management Plan Philosophy and Strategy, Pipeline Emergency response plan, Financial reports, Risk management plans, Asset Management System Operating procedure, Asset Management operating plan, Asset Management maintenance plan.		
Asset management performance		
Process	<input checked="" type="checkbox"/>	Documentation
		<input checked="" type="checkbox"/>
Availability	<input checked="" type="checkbox"/>	Use
		<input checked="" type="checkbox"/>
No systematic financial planning is taking place. Extensions and connections are judged on an as needs basis. The extension of the existing reticulated network is dependent on land developers opening up additional land adjacent to the existing network and a suitable and an acceptable commercial arrangement and return. Once the initial capital investment is approved the ongoing financial viability of the reticulated network is assessed on a monthly basis by analysis of the profit and loss information. <i>Evaluation Criteria summary</i> <ul style="list-style-type: none"> The financial plan states the financial objectives and strategies and actions to achieve the objectives Response: There is no separate financial plan for the distribution network as they form part of the power station. Financial matters are controlled on a project by project basis.		
<ul style="list-style-type: none"> The financial plan identifies the source of funds for capital expenditure and recurrent costs Response: Individual projects identify the source of funds for capital expenditure and recurrent costs.		
<ul style="list-style-type: none"> The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets) Response: Individual projects are monitored for profitability. There is an annual budget which is monitored monthly.		
<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 Response: There are income predictions in budget as part of power station. The predictions are for 5 years.		
<ul style="list-style-type: none"> The financial plan provides for the operations and maintenance, administration and 		

<p>capital expenditure requirements of the services</p> <p>Response: The budget provides for the operations and maintenance and administration requirements of the services and agreed with the Board. There has been no capital expenditure in the review period.</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 tracked monthly and corrective action taken where necessary.</p>
Issues
<p>The system is small and not complex and is performing financially so the need for a financial management plan is not high. The budget cycle is typically annual and for the scale of systems is not unreasonable</p>
Recommendation
<p>None.</p>

Capital expenditure planning	Process/Policy rating B	Effectiveness rating 2					
<p>11. Capital expenditure planning</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>							
Observations							
Asset management process and policy definition							
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>				
<p>Evidence: interviewed Lawrence Teo and listed staff on site. Documents: Include Asset Management Plan Philosophy and Strategy, Pipeline Emergency response plan, Financial reports, Risk management plans, Asset Management System Operating procedure, Asset Management operating plan, Asset Management maintenance plan.</p>							
Asset management performance							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
<p>Extensions are assessed on an as needs basis and no capital expenditure planning is taking place.</p> <p>Once the initial capital investment is approved the ongoing financial viability of the reticulated network is assessed on a monthly basis by analysis of the profit and loss information.</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: Plans are done informally on an as needs basis. • The plan provide reasons for capital expenditure and timing of expenditure Response: Plans are done informally on an as needs basis with relevant size and timing specified. • The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan Response: Plans are done informally on an as needs basis with no specific assets detailed. In ground asset life is very long and condition of PRS would be a consideration. • There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned Response: There are ad hoc reviews. 							
Issues							
<p>There has been no capital expenditure and is not likely other than specific extension options which are considered on a case by case basis. Given the remnant life of the</p>							

system it is unlikely that capital expenditure would be required in the near future (at least 2 review periods).

Recommendation

None.

Review of AMS	Process/Policy rating B	Effectiveness rating 2					
12. Review of AMS							
The asset management system is regularly reviewed and updated.							
Observations							
Asset management process and policy definition							
Process	<input checked="" type="checkbox"/>	Policy	<input checked="" type="checkbox"/>				
Evidence: interviewed Lawrence Teo and listed staff on site. Documents: Include Asset Management Plan Philosophy and Strategy, Pipeline Emergency response plan, Financial reports, Risk management plans, Asset Management System Operating procedure, Asset Management operating plan, Asset Management maintenance plan.							
Asset management performance							
Process	<input checked="" type="checkbox"/>	Documentation	<input checked="" type="checkbox"/>	Availability	<input checked="" type="checkbox"/>	Use	<input checked="" type="checkbox"/>
The AMS is simple straightforward but there are reviews planned but not scheduled. The plans have been reviewed formally but the document schedule indicates a 6 year interval. While it is likely that informal reviews may have taken place scheduled formal reviews will ensure currency of the plans.							
<i>Evaluation Criteria summary</i>							
<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: there is a review of the AMS indicated but not scheduled.							
<ul style="list-style-type: none"> Independent reviews (e.g. internal audit) are performed of the asset management system Response: The independent reviews are the asset management reviews.							
Issues							
The asset management system is reviewed but at ad hoc periods and controls could be improved by scheduling regular reviews.							
Recommendation							
The licensee should put in place a scheduled regular review of the AMS.							