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105238-RPT-0001  
Revision Number 1

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# **Esperance Power Station Asset Management System Review Review Report**

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February 2021



## Revision Status

Revision	Date	Description	Author		Reviewed	
			FirstName LastName	Position Title	FirstName LastName	Position Title
A	6/11/2020	Internal Review	R. Thornton	Senior Pipeline Engineer	M. Sullivan	Principal Pipeline Engineer
B	9/11/2020	Issued for Client Review	R. Thornton	Senior Pipeline Engineer	M. Sullivan	Principal Pipeline Engineer
C	12/11/2020	Issued for Client Review	R. Thornton	Senior Pipeline Engineer	M. Sullivan	Principal Pipeline Engineer
D	3/12/2020	Issued for Client Review	R. Thornton	Senior Pipeline Engineer	M. Sullivan	Principal Pipeline Engineer
0	28/1/2021	Issued for Use	R. Thornton	Senior Pipeline Engineer	M. Sullivan	Principal Pipeline Engineer
1	08/02/2021	Issued for Use	R. Thornton	Senior Pipeline Engineer	M. Sullivan	Principal Pipeline Engineer

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## Appendix 1 – Table of Documents Cited

## 1 Executive Summary

In Western Australia, Esperance Power Station Pty Ltd (EPS) has a gas distribution licence (GDL 10) issued by the ERA under the provisions contained in the Energy Coordination Act 1994. The Licence is for the low pressure Natural Gas distribution system in Esperance. Section 11Y (1) of the Energy Coordination Act 1994 requires EPS to provide to the Economic Regulatory Authority (ERA), a report, compiled by an acceptable independent expert, as to the effectiveness of the Asset Management System for the gas distribution system. EPS commissioned the previous asset management review conducted Ausenco during 2018. That review covered the period 1 September 2016 to 31 August 2018 inclusive.

Ausenco conducted an asset management system review (AMS Review) on EPS for the following period 1 September 2018 to 31 August 2020 to assess the measures taken by EPS for the proper management of assets used in the provision and operation of services and, where appropriate, the construction or alteration of relevant assets in accordance with the Economic Regulation Authority's (ERA) Audit and Review Guidelines: Electricity and Gas Licenses (AMS Review Guidelines) dated March 2019.

No major changes to the asset since the previous review have been identified.

### 1.1 Summary Assessment of Actions from Previous Review

Actions from the previous review (22) were assessed and their status updated during this 2020 review. 14 actions have been completed and closed out by the EPS. 8 Actions are "Awaiting Tender Outcome" and are on hold pending the outcome of the future of the GDS.

Refer Section 5.1 for further detail.

### 1.2 Summary of Current Review Outcomes

The opinion of the auditor on the control environment operated by the licensee is that it is performing effectively. The overall assessment is that the asset management systems are of sufficient definition and adequacy for the assets under management.

There were no deficiencies identified (rated C, D, 3 or 4 under the asset management system effectiveness review criteria) for asset management components.

Table 1 shows the ratings for each asset management area from the 2020 review giving an overall assessment of the effectiveness of the licensee's asset management system. Of the twelve (12) elements, one (1) is rated A1 and the remaining eleven (11) have opportunities for improvement (rated B1 or B2). Refer to Section 2.3 for rating system definitions.

**Table 1: 2020 Review Process Ratings**

Process Area	Process & Policy Rating	Performance Rating
1. Asset Planning	B	2
2. Asset creation and acquisition	B	1
3. Asset disposal	B	1
4. Environmental analysis	B	2
5. Asset operations	B	2
6. Asset maintenance	B	2
7. Asset management information system	B	2
8. Risk management	B	1

Process Area	Process & Policy Rating	Performance Rating
9. Contingency planning	A	1
10. Financial planning	B	2
11. Capital expenditure planning	B	1
12. Review of AMS	B	2

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## 2 Review Objectives

### 2.1 Objectives and Purpose

Esperance Power Station Pty Ltd has engaged Ausenco to conduct an Asset Management System review of EPS's Western Australia Gas Distribution License (GDL 10). Section 11Y(1) of the energy Coordination Act 1994 requires a gas distribution licensee, not less than once in every period of 24 months, to provide the Economic Regulation Authority of Western Australia with a report by an independent expert acceptable to the ERA as to the effectiveness of the system.

This document presents the Review Report in accordance with the requirements of *"Audit and Review Guidelines: Electricity and Gas Licences"*, published by the ERA. Review Report covers period of 1 September 2018 to 31 August 2020.

The objectives of this review are to:

- To provide to the Authority an independent assessment of the adequacy and effectiveness of the licensee's asset management system in respect of the assets that are delivering the services covered by GDL10;
- Individually assess the 12 key asset management processes mandated in the guidelines using the mandated two-dimensional rating scales; and
- Make recommendations to address asset management deficiencies.

### 2.2 Methodology

The asset management system review includes an assessment of the adequacy and effectiveness of the asset management system by evaluating the 12 key processes of:

1. Asset planning
2. Asset creation/acquisition
3. Asset disposal
4. Environmental analysis
5. Asset operations
6. Asset maintenance
7. Asset management information system
8. Risk management
9. Contingency planning
10. Financial planning
11. Capital expenditure planning
12. Review of the Asset Management System (AMS).

The review was structured and evaluated for each of these twelve components of the Asset Management System (AMS) managed by EPS.

The review includes an assessment of the measures taken by EPS for the proper management of assets used in the provision and operation of services and, where appropriate, the construction or alteration of relevant assets in accordance with the Economic Regulation Authority's (ERA) Audit and Review Guidelines: Electricity and Gas Licences (AMS Review Guidelines) dated March 2019.

The review process comprised of the following aspects:

- Approval of Review Plan by EPS
- Approval of Review Plan by ERA
- Ausenco to conduct desktop and field reviews, including a review of documentation and systems, a review of the actions taken in response to the recommendations from the previous review, a review of legislative documentation and interviews with relevant personnel from the EPS business
- Preparation of the Review Report
- Approval of the Review Report by ERA formatted as per Section 5 of the Audit Guidelines

## 2.3 Rating System

The rating system used for assessment in accordance with the ERA AMS Review Guidelines is summarised by Table 2.

**Table 2: Rating System**

Rating	Description
<b>Process and Policy Rating Scale</b>	
A	Adequately defined
B	Requires some improvement
C	Requires significant improvement
D	Inadequate
<b>Performance Rating Scale</b>	
1	Performing effectively
2	Opportunity for improvement
3	Corrective action required
4	Serious action required

From the ratings the adequacy of existing controls is determined by the matrix developed by Ausenco in Table 3.

**Table 3: Adequacy of Existing Controls**

Performance Rating	Process & Policy Rating			
	A	B	C	D
1	Strong	Strong	Moderate	Weak
2	Strong	Moderate	Weak	Weak
3	Moderate	Weak	Weak	Weak
4	Weak	Weak	Weak	Weak

The inherent risk of each component is assessed, and combined with the determined adequacy of controls, a review priority was determined as per Table 4.



**Table 4: Review Priority**

Inherent Risk	Preliminary Adequacy of existing controls		
	Weak	Moderate	Strong
High	Review priority 1	Review priority 2	
Medium	Review priority 3	Review priority 4	
Low	Review priority 5		

## 2.4 Definitions and Abbreviations

The definitions and abbreviations used in this document are tabulated below.

**Table 5: Abbreviations List**

Term or Abbreviation	Definition
AMP	Asset Management Plan
AMS	Asset Management System
AMIS	Asset Management Information System
AS	Australian Standard
AVT	Accuracy Verification Test
CA	Corrective Action
CAPEX	Capital Expenditure
DBYD	Dial Before You Dig
EGDC	Esperance Gas Distribution Company (retailer)
ERA	Economic Regulation Authority
EPS	Esperance Power Station
ER	Emergency Response
ESWA	Energy Safety Western Australia
FSA	Formal Safety Assessment
GDL 10	Gas Distribution Licence 10
GDS	Gas Distribution System
GIS	Geographical Information System
HAZOP	Hazard and Operability Study
HAZID	Hazard Identification Study
HDPE	High Density Polyethylene
HPR	High Pressure Regulator
HUGS	Hardship Utility Grant Scheme
ICG	Infrastructure Capital Group (asset owners)
IO	Inspection Order

Term or Abbreviation	Definition
KEGP	Kalgoorlie to Esperance Gas Pipeline
KPI	Key Performance Indicator
Licensee	Esperance Power Station (EPS)
MCV	Meter Control Valve
MDR	Manufacturers Data Record
OPEX	Operational Expenditure
PAIP	Post Audit Implementation Plan
PC	Personal Computer
PE	Polyethylene
PMP	Project Management Plan
PRS	Pressure Regulating Station
PSV	Pressure Safety Valve
PTW	Permit to Work
PWC	Price Waterhouse Cooper (Auditor)
SCADA	Supervisory Control and Data Acquisition
SWMS	Safe Work Management System
TWPS	TW Power Services (asset managers)
UFG	Unaccounted For Gas
WAM	WorleyParsons Asset Management

## 3 Scope of Work

### 3.1 Review period

The Asset Management System review covered the period between 1<sup>st</sup> of September 2018 to 31<sup>st</sup> of August 2020.

The previous asset management review conducted Ausenco during 2018. That review covered the period between 1<sup>st</sup> of September 2016 to 31<sup>st</sup> of August 2018.

### 3.2 Type of assurance Engagement

Due to the maturity of the Asset Management System, and no serious deficiencies identified in the previous Review, limited assurance engagement was performed during the 2020 AMS review.

### 3.3 Site Visits

Interviews with EPS staff and systems interrogation were carried out at the EPS Office, where the Asset Management System is centralised and managed. The onsite review was conducted on 7<sup>th</sup> of October.

A follow up session was held as an online meeting with both the Financial Controller, and the Technical, Business and Regulatory Manager.

Review cycle was considered to be concluded on 16<sup>th</sup> October 2020.

### 3.4 Personnel and documentation

EPS has its regional maintenance depot located at Esperance with financial and engineering support in Perth. Interviews were conducted between these facilities. Table 6 presents the licensee's representatives and the corresponding interview location for each process area.

**Table 6: Interviewee and Location**

ID	Process Area	Interviewee/s	Location
1	Asset Planning	Wynand Ferreira (Esperance Area Manager) Alan Shackleton (Financial Controller) Lawrence Teo (Technical, Business and Regulatory Manager)	Perth/ Esperance
2	Asset creation and acquisition	Wynand Ferreira (Esperance Area Manager) Alan Shackleton (Financial Controller) Lawrence Teo (Technical, Business and Regulatory Manager)	Perth/ Esperance
3	Asset disposal	Wynand Ferreira (Esperance Area Manager) Alan Shackleton (Financial Controller) Lawrence Teo (Technical, Business and Regulatory Manager)	Perth/ Esperance
4	Environmental analysis	Wynand Ferreira (Esperance Area Manager) Alan Shackleton (Financial Controller) Lawrence Teo (Technical, Business and Regulatory Manager)	Perth/ Esperance
5	Asset operations	Wynand Ferreira (Esperance Area Manager) Lawrence Teo (Technical, Business and Regulatory Manager)	Esperance
6	Asset maintenance	Wynand Ferreira (Esperance Area Manager) Lawrence Teo (Technical, Business and Regulatory Manager)	Esperance

ID	Process Area	Interviewee/s	Location
7	Asset management information systems	Wynand Ferreira (Esperance Area Manager) Lawrence Teo (Technical, Business and Regulatory Manager)	Esperance
8	Risk management	Wynand Ferreira (Esperance Area Manager) Lawrence Teo (Technical, Business and Regulatory Manager)	Esperance
9	Contingency planning	Wynand Ferreira (Esperance Area Manager) Lawrence Teo (Technical, Business and Regulatory Manager)	Esperance
10	Financial planning	Alan Shackleton (Financial Controller) Lawrence Teo (Technical, Business and Regulatory Manager)	Perth
11	CAPEX planning	Wynand Ferreira (Esperance Area Manager) Alan Shackleton (Financial Controller) Lawrence Teo (Technical, Business and Regulatory Manager)	Perth/ Esperance
12	Review of the AMS	Wynand Ferreira (Esperance Area Manager) Lawrence Teo (Technical, Business and Regulatory Manager)	Esperance

Documents that were cited during the review are listed in Appendix 1.

### 3.5 Work Schedule

The review was performed out of the Ausenco Perth office under the management of Michael Sullivan, Principal Pipeline Engineer. Biographies of key review personnel were previously submitted to the ERA for approval together with the Review Plan. Table 7 summarises all the resources utilised and total hours for the generation of the AMS Review Report.

**Table 7: Review Personnel Resource Hours**

Resource Name	Review Role	Hours
M. Sullivan	Audit Manager	40
R. Thornton	Lead Auditor	176
N. Kharitonov	Audit support and scribe	64
<b>TOTAL</b>		<b>280</b>

### 3.6 Reviewer Independence

Ausenco confirms that each individual participating in the review is compliant with the independence criteria, as described in Section 8 of “Audit and Review Guidelines: Electricity and Gas Licences March 2019”, Economic Review Authority of Western Australia.

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## 4 Deviations from Review Plan

No deviations from Review Plan or “*Audit and Review Guidelines: Electricity and Gas Licences*” has happened throughout the review process.

## 5 Previous Reviews

The previous review was conducted for the period 1 September 2016 to 31 August 2018 inclusive. Table 8 shows the ratings for each asset management area from the 2018 review. Adequacy of controls is obtained from Table 3 developed by Ausenco to provide guidance for rating between definition, performance and adequacy of controls. This was then used in conjunction with Table 4 from the guidelines, A review priority was assigned to each element.

**Table 8: 2018 Review Ratings**

AMS Component	Definition Rating	Performance Rating	Adequacy of Controls
1. Asset Planning	B	2	Moderate
2. Asset creation and acquisition	B	1	Strong
3. Asset disposal	B	1	Strong
4. Environmental analysis	B	2	Moderate
5. Asset operations	B	2	Moderate
6. Asset maintenance	B	2	Moderate
7. Asset management information system	B	2	Moderate
8. Risk management	B	1	Strong
9. Contingency planning	A	1	Strong
10. Financial planning	B	2	Moderate
11. Capital expenditure planning	B	1	Strong
12. Review of AMS	B	2	Moderate

## 5.1 Previous Review Recommendations and Actions

The recommendations from the previous review and the status of actions taken to address these recommendations as updated during the review are given in Table 9.

Table 9: Previous (2018) Recommendations and Status

Table of Previous (2018) Review Ineffective Components Recommendations				
A. Resolved During Current Review Period				
Recommendation Reference (no./year)	Process and policy deficiency / Performance deficiency  (Rating / Asset Management process & Criteria / details of the issue)	Auditors' Recommendation	Date resolved	Further Action (Yes/No) Details of further action required (including current recommendation reference if applicable)
2018-1.3.1	B1  (1.3) Asset Planning <i>Service levels</i>  Reference of KPI targets not in AMS philosophy and strategy	Recommend adding reference to KPI targets in C9906e30 "Esperance Gas Distribution System - Key Performance Indicators 2017-18" and C9906b57 "GDS Asset Management System Philosophy and Strategy"	Jul-2019	No
2018-1.5.1	B2  (1.5) Asset Planning – <i>Lifecycle Cost of assets</i>  Financial modelling process reference not in Asset Management philosophy.	Recommend referencing financial modelling process in C9906b57 "GDS Asset Management - Philosophy & Strategy"	Jul-2019	No
2018-1.8.1	B2  (1.8) Asset Planning – <i>Asset failure probability</i>  Obsolete reference in AMS philosophy and Strategy	If probability of failure is not being formally assessed, recommend removing from C9906b57 "GDS Asset Management System Philosophy and Strategy".	Jul-2019	No
2018-1.9.1	B2  (1.9) Asset Planning – <i>Asset management plan review and update</i>  Lack of reference in document	Recommend adding reference to business plan in C9906a62 "Asset Management Maintenance Plan" and C9906a63 "Esperance Gas Distribution System Operational Plan".	Jul-2019	No

Table of Previous (2018) Review Ineffective Components Recommendations				
Recommendation Reference (no./year)	Process and policy deficiency / Performance deficiency (Rating / Asset Management process & Criteria / details of the issue)	Auditors' Recommendation	Date resolved	Further Action (Yes/No) Details of further action required (including current recommendation reference if applicable)
2018-3.6.1	B1 (3.6) Asset Disposal – <i>Asset replacement strategy</i> Document inconsistent with current practices	C9906d01 “Network Asset Replacement Strategy” states objectives for replacement strategy but these appear to be informally aligned to execution. Recommend revise C9906d01 to reflect current practices	Aug-2019	No
2018-4.1.1	B2 (4.1) Environmental Analysis - <i>Opportunities and threats assessed</i> No reference in business plan	Recommend incorporating an opportunities and threats section in the business and / or asset plans.	Aug-2019	No
2018-5.3.1	B2 (5.3) Asset Operations – <i>Asset documentation in register</i> Revision control and validation fields could be improved	Recommend improving document revision control and validation of asset register	Sep-2020	No
2018-5.3.2	B2 (5.3) Asset Operations – <i>Asset documentation in register</i> Asset register reference omitted in key document	Recommend adding asset register document reference number to C9906A30	Jul-2019	No
2018-5.3.3	B2 (5.3) Asset Operations – <i>Asset documentation in register</i> Outdated Asset register reference	Recommend removing outdated asset register from Appendix 2 in C9906A30 “Operating Procedure 1.07 - AMS” and reference latest C9906b64 “Esperance GDS Asset Register”	Jul-2019	No



Table of Previous (2018) Review Ineffective Components Recommendations				
Recommendation Reference (no./year)	Process and policy deficiency / Performance deficiency (Rating / Asset Management process & Criteria / details of the issue)	Auditors' Recommendation	Date resolved	Further Action (Yes/No) Details of further action required (including current recommendation reference if applicable)
2018-6.4.1	B2 (6.4) Asset Maintenance – <i>Failure analysis</i> Failure analysis not included in maintenance plan	Recommend adding KPI / failure analysis and corrective action items into maintenance plan.	Sep-2019	No
2018-7.1.1	B2 (7.1) Asset Management Information System – <i>System Documentation</i> No procedure with AMIS location highlight	Recommend implementing procedure highlighting location of all Asset Management Information System (AMIS) spreadsheets and use.	Sep-2019	No
2018-7.2.1	B2 (7.2) Asset Management Information System – <i>Input control validation and verification</i> Lack of AMIS clarity	Recommend all AMIS templates are adequately revision and access controlled or utilise SharePoint system.	Sep-2020.	No
2018-12.1.1	B2 (12.1) Review of AMS – <i>Review process in place</i> Lack of change register in annual plan	Recommend including change register within annual plan updates	Sep-2019	No
2018-12.2.1	B2 (12.2) Review of AMS – <i>Independent reviews</i>	Recommend including AMS focus into internal audit scope.	Sep-2019	No
2018-12.1.1	B2 (12.1) Review of AMS – <i>Review process in place</i> Lack of change register in annual plan	Recommend including change register within annual plan updates	Sep-2019	No
2018-12.2.1	B2 (12.2) Review of AMS – <i>Independent reviews</i>	Recommend including AMS focus into internal audit scope.	Sep-2019	No

**Table of Previous (2018) Review Ineffective Components Recommendations**

<b>B. Unresolved at end of current review period</b>			
Reference (no./year)	(Asset management effectiveness rating / Asset Management System Component & Criteria / details of the issue)	Auditors' Recommendation	Further Action (Yes/No/Not Applicable) & Details of further action required including current recommendation reference if applicable
2018-5.2.1	B2 (5.2) Asset Operations – <i>Risk management</i>	Recommend referencing definition or source for risk or safety critical maintenance tasks.	<b>Yes</b> , awaiting tender outcome. Following tender outcome / decision to keep the GDS in operation, implement action.
2018-5.2.2	B2 (5.2) Asset Operations – <i>Risk management</i>	Recommend linking maintenance activities to asset register	<b>Yes</b> , awaiting tender outcome. Following tender outcome / decision to keep the GDS in operation, implement action.
2018-5.2.3	B2 (5.2) Asset Operations – <i>Risk management</i>	Recommend independent validation of maintenance plan.	<b>Yes</b> , awaiting tender outcome. Following tender outcome / decision to keep the GDS in operation, implement action.
2018-6.5.1	B1 (6.5) Asset Maintenance – <i>Risk management based prioritisation</i>	Recommend formal risk prioritisation of maintenance tasks.	<b>Yes</b> , awaiting tender outcome. Following tender outcome / decision to keep the GDS in operation, implement action.
2018-7.6.1	B2 (7.6) Asset Management Information System – <i>Computation accuracy</i>	Recommend implementing QA/QC requirements for key AMIS databases.	<b>Yes</b> , awaiting tender outcome. Following tender outcome / decision to keep the GDS in operation, implement action.
2018-10.1.1	B2 (10.1) Financial Planning – <i>Financial Plan strategies and actions</i>	Recommend adding reference to Asset Plans in Business Plan	<b>Yes</b> , awaiting tender outcome. Following tender outcome / decision to keep the GDS in operation, implement action.

Table of Previous (2018) Review Ineffective Components Recommendations			
Reference (no./year)	(Asset management effectiveness rating / Asset Management System Component & Criteria / details of the issue)	Auditors' Recommendation	Further Action (Yes/No/Not Applicable) & Details of further action required including current recommendation reference if applicable
2018-10.2.1	B2 (10.2) Financial Planning – <i>Financial Plan source of funds</i>	Recommend adding costing OPEX/CAPEX to Asset Plans and reference in Business Plan	<b>Yes</b> , awaiting tender outcome. Following tender outcome / decision to keep the GDS in operation, implement action.
2018-10.4.1	B2 (10.4) Financial Planning – <i>Financial plan predictions</i>	Recommend having five year rolling business and asset plans	<b>Yes</b> , awaiting tender outcome. Following tender outcome / decision to keep the GDS in operation, implement action.

## 6 Performance Summary

Asset management process & review	Definition and policy rating	Performance Rating
<b>1 - Asset Planning</b>	B	2
1.1 Asset management plan covers key requirements.	A	1
1.2 Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning.	A	1
1.3 Service levels defined.	B	1
1.4 Non-asset options are considered.	NR	NR
1.5 Lifecycle costs are assessed and understood.	B	2
1.6 Costs are justified and cost drivers identified.	B	1
1.7 Funding options are evaluated.	A	1
1.8 Likelihood and consequences of failure are predicted	B	2
1.9 Plans are regularly reviewed and updated	B	2
<b>2 - Asset Creation and Acquisition</b>	B	1
2.1 Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions.	NR	NR
2.2 Evaluations include all life-cycle costs.	NR	NR
2.3 Projects reflect sound engineering and business decisions.	A	1
2.4 Commissioning tests are documented and completed.	A	1
2.5 Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood.	A	1
<b>3 - Asset Disposal</b>	B	1
3.1 Under-utilised and under-performing assets are identified as part of a regular systematic review process.	NR	NR
3.2 The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken.	NR	NR
3.3 Procedures for asset decommissioning disposal, sale or transfer to other authority. Disposal alternatives are evaluated.	B	1
3.4 There is a replacement strategy for assets.	B	1
<b>4 - Environmental Analysis</b>	B	2

Asset management process & review	Definition and policy rating	Performance Rating
4.1 Opportunities and threats in the system environment are assessed.	B	2
4.2 Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved.	A	1
4.3 Compliance with statutory and regulatory requirements.	B	1
4.4 Achievement of customer service levels.	B	1
<b>5 - Asset Operations</b>	B	2
5.1 Operational policies and procedures are documented and linked to service levels required.	A	1
5.2 Risk management is applied to prioritise operations tasks.	B	2
5.3 Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition and accounting data.	B	2
5.4 Accounting data is documented for assets	B	1
5.4 Operational costs are measured and monitored.	B	1
5.5 Staff receive training commensurate with their responsibilities.	A	1
<b>6 - Asset Maintenance</b>	B	2
6.1 Maintenance policies and procedures are documented and linked to service levels required.	A	1
6.2 Regular inspections are undertaken of asset performance and condition.	A	1
6.3 Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.	B	2
6.4 Failures are analysed and operational/maintenance plans adjusted where necessary.	B	2
6.5 Risk management is applied to prioritise maintenance tasks.	B	2
6.6 Maintenance costs are measured and monitored.	B	1
<b>7 - Asset Management Information System</b>	B	2
7.1 Adequate system documentation for users and IT operators.	B	2
7.2 Input controls include appropriate verification and validation of data entered into the system.	B	2
7.3 Logical security access controls appear adequate, such as passwords.	B	2

Asset management process & review	Definition and policy rating	Performance Rating
7.4 Physical security access controls appear adequate.	B	1
7.5 Data backup procedures appear adequate.	A	1
7.6 Key computations related to licensee performance reporting are materially accurate	B	2
7.7 Management reports appear adequate for the licensee to monitor licence obligations.	B	1
7.8 Adequate measures to protect asset management data from unauthorised access or theft by persons outside organisation	B	1
<b>8 - Risk Management</b>	B	1
8.1 Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system.	A	1
8.2 Risks are documented in a risk register and treatment plans are actioned and monitored.	B	1
8.3 The probability and consequences of asset failure are regularly assessed.	B	1
<b>9 - Contingency Planning</b>	A	1
9.1 Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.	A	1
<b>10 - Financial Planning</b>	B	2
10.1 The financial plan states the financial objectives and strategies and actions to achieve the objectives.	B	2
10.2 The financial plan identifies the source of funds for capital expenditure and recurrent costs.	B	2
10.3 The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets).	A	1
10.4 The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period.	B	2
10.5 The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services.	B	1
10.6 Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary.	A	1
<b>11 - Capital Expenditure Planning</b>	B	1
11.1 There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates.	A	1

Asset management process & review	Definition and policy rating	Performance Rating
11.2 The plan provides reasons for capital expenditure and timing of expenditure.	A	1
11.3 The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan.	A	1
11.4 There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned.	B	1
<b>12 - Review of AMS</b>	B	2
12.1 A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current.	B	2
12.2 Independent reviews (e.g. internal audit) are performed of the asset management system.	B	2

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## 7 Auditor's Observations

The following sections summarise observations arising from the interviews conducted as part of this 2020 review. A complete list of documents cited as evidence is included in Appendix 1.

The overall definition and adequacy rating for each component, was obtained by averaging the ratings for each review, and rounding to the most conservative value.

### 7.1 Asset Planning

Key to this process element is that planning strategies are focused on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price).

#### 7.1.1 Observations

Asset Management of the Gas Distribution System is outlined in the following 3 key documents

- Philosophy & Strategy (C9906b57)
- Maintenance Plan (C9906a62)
- Operational Plan (C9906a63)

An Annual Review of the System is also performed, "GDS Annual Review – Safety Case & Asset Management Period 2019-2020", which identifies any additional works / actions required / changes to the work program based on the condition of the asset.

It is noted that the Philosophy & Strategy (C9906b57) document, Section 5.0, states "Note: From June 2019 until further notice all asset acquisitions, mains extensions and new service connection activities will include a consideration in relation to the security of natural gas supply post March 2022. This risk will also be communicated to any individual or business that approaches EGDC for a new or altered gas connection."

The status of the ongoing operation of the asset past first quarter 2022 is currently unknown. A decision will be made closer to this time to determine if the asset will remain in operation or be decommissioned or otherwise taken out of operation.

This has a large bearing on the Asset Management of the system. Essentially the asset will be maintained as required however any CAPEX will be limited and where required the costs will be borne by the customer to minimise risk to the business.

Further, the current Business Plan is to meet current requirements without expanding.

In addition, a Five Yearly Asset forecast is not relevant, however the costs up until March 2022 are well known and documented. When a decision is made as to the future of the asset, forecasted costings can be developed at that stage and would take into account and decommissioning activities required if relevant or any additional works relating to keeping the asset in operation.

It is also noted that the Asset Management Plan is reviewed annually.

KPI's are measured, documented and reported to ensure Service levels are maintained.

Risks of Asset failure events are assessed and documented as part of the Safety Case and Risk Register (in Appendix 1 of the Safety Case). It is noted the Risk Register is updated 5 Yearly as per the Safety Case update.



### 7.1.2 Effectiveness Rating

The review ratings based on observations for asset management system component 1 (Asset Planning) are listed in Table 10.

**Table 10: Review Rating – Asset Planning**

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>1 - Asset Planning</b>				<b>B</b>	<b>2</b>
2020-1.1	4	Asset management plan covers key requirements.	<p>EPS fulfils this requirement.</p> <p>Asset Management comprises 3 key documents</p> <ul style="list-style-type: none"> <li>- Philosophy &amp; Strategy (C9906b57)</li> <li>- Maintenance Plan (C9906a62)</li> <li>- Operational Plan (C9906a63)</li> </ul> <p>An Annual Review of the System is also performed</p>	A	1
2020-1.2	4	Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning.	<p>EPS fulfils this requirement.</p> <p>Current Business plan is to meet current requirements without expanding (as advised by Operator)</p>	A	1
2020-1.3	4	Service levels defined.	<p>EPS fulfils this requirement.</p> <p>KPI's cited for service levels and KPI's are included in "GDS Annual Review – Safety Case &amp; Asset Management Period 2019-2020" document</p>	B	1
2020-1.4	4	Non-asset options are considered.	<p>EPS fulfils this requirement.</p> <p>The short and long term Capex items are first identified in the GDS access arrangement (refer C9900b79).</p> <p>The procedure for access (connection) is shown in the accompanying Ts and Cs document C9906b80.</p> <p>Identification of typical major Capex items such as meter set recalibration/replacement strategy is shown in C9906d60.</p> <p>The forecast/identified Capex items are then entered into the annual GDS KEGP forecast (refer June 2020 excel spreadsheet).</p> <p>The Facility Management Agreement (FMA) shows in Clause 7.2 that the CAPEX/Business development is on a case by case basis (assessed annually).</p> <p>It is noted, the GDS is essentially static with no expansion plans and therefore no major capital works. Most if not all of the Capex funding for mains extensions and customer connections were and will be from third parties.</p>	NR	NR
2020-1.5	4	Lifecycle costs are assessed and understood.	<p>EPS fulfils this requirement.</p> <p>No formal document with 5yrly O&amp;M Budget, however there is a financial model in place for long term costs.</p> <p>Redacted financial model cited.</p> <p>Also cited O&amp;M Budget Forecast (Costs) including Non Recurrent Costs</p>	B	2

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>1 - Asset Planning</b>				<b>B</b>	<b>2</b>
2020-1.6	4	Costs are justified and cost drivers identified.	EPS fulfils this requirement. As above (Refer 2020-1.5).	B	1
2020-1.7	4	Funding options are evaluated.	EPS fulfils this requirement. It is also noted that costs for new installations are fully provided by customers	A	1
2020-1.8	4	Likelihood and consequences of failure are predicted	EPS fulfils this requirement. Operational Safety Case and Risk Register in Appendix 1 lists and assesses Risk of failure events. Document C9906C38 cited.	B	2
2020-1.9	4	Plans are regularly reviewed and updated	EPS fulfils this requirement. Documentation required to be reviewed in the current environment is updated, Plan is to maintain existing system and not to expand it and it is uncertain as to the future of the system. It is noted, the Asset Management Philosophy & Strategy document (C9906b57) is updated annually.	B	2

### 7.1.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required.

## 7.2 Asset Creation and Acquisition

Key to this process element is that the provision for or improvement of an asset can be demonstrated to provide benefits beyond the year of outlay.

### 7.2.1 Observations

Currently the customer pays for the equipment and labour to connect to the system so there is no risk to the business. In addition, removal costs are also borne by the customer.

It is also noted that no new assets have been installed over last 2 years at cost to the business.

New projects have a low degree of complexity with standardised equipment which reduces requirement for detailed engineering. Standard meter sets purchased from ATCO Gas Australia Pty Ltd where required.

For new installations, connections, pipeline projects, Work packs and documentation are prepared similar to a Manufacturer's Data Report (MDR). This includes relevant commissioning checks.

### 7.2.2 Effectiveness Rating

The review ratings for asset management system component 2 (Asset Creation and Acquisition) are listed in Table 11.

**Table 11: Review Rating – Asset Creation and Acquisition**

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>2 - Asset Creation and Acquisition</b>				<b>B</b>	<b>1</b>
2020-2.1	4	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions.	Not relevant under the current circumstances. Currently the customer pays for the equipment and labour to connect to the system so there is no risk to the business. No new assets installed over last 2 years at cost to the business.	NR	NR
2020-2.2	4	Evaluations include all life-cycle costs.	Not relevant under current circumstances. It is also noted that costs for new installations are fully provided by customers. In addition, removal costs borne by consumer.	NR	NR
2020-2.3	4	Projects reflect sound engineering and business decisions.	EPS fulfils this requirement. In addition to comments above (2020-2.1), Low complexity projects with standardised equipment reduces requirement for detailed engineering.	A	1
2020-2.4	4	Commissioning tests are documented and completed.	EPS fulfils this requirement. Work pack and documentation prepared for each new connection or each new pipeline project similar to an MDR.	A	1
2020-2.5	4	Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood.	EPS fulfils this requirement. Operation under GDL 10 license includes routine reviews and audits by Energy Safety and ERA, with actions assigned and close-out reports issued.	A	1

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>2 - Asset Creation and Acquisition</b>				<b>B</b>	<b>1</b>
			Independent audits are conducted when to review regulatory compliance.		

### 7.2.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required.

## 7.3 Asset Disposal

Key to this element is that effective asset disposal frameworks incorporate consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets.

### 7.3.1 Observations

There is no formal review process for under utilised and underperforming assets, however there are no major changes to system on a yearly basis. When customers cancel contract, the equipment is reviewed on a case by case basis. Unused meters are removed as required. There have been no meters removed over the last year.

Large customers are on a minimum charge basis so there is minimal risk to the business for under utilisation from these customers.

As previously mentioned, the future of the asset is unknown so there are no plans to expand the network or change it until such time the future plans are known.

Currently when services are decommissioned Procedures are in place to undertake the works along with PTW and SWMS. No procedures for asset decommissioning and disposal are in place as this would be considered a major works project, and specific procedures developed at the time.

It is noted that a meter replacement strategy is included in the Asset Management Plan

### 7.3.2 Effectiveness Rating

The review ratings for asset management system component 3 (Asset Disposal) are listed in Table 12.

Table 12: Review Rating – Asset Disposal

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>3 - Asset Disposal</b>				<b>B</b>	<b>1</b>
2020-3.1	5	Under-utilised and under-performing assets are identified as part of a regular systematic review process.	EPS fulfils this requirement. Relatively small and static system results in no significant changes that require frequent systematic review. When required, unused equipment is reviewed on a case by case basis	NR	NR
2020-3.2	5	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken.	EPS fulfils this requirement. As above (Refer 2020-3.1) In addition, Future of asset unknown so no plans to expand network or change it until such time the future plans are known.	NR	NR
2020-3.3	5	Procedures for asset decommissioning disposal, sale or transfer to other authority. Disposal alternatives are evaluated.	EPS fulfils this requirement. Currently when services are decommissioned procedures are in place to undertake the works along with PTW and SWMS. No procedures for asset decommissioning disposal are in place. This would be considered a major works project, and specific procedures developed at the time.	B	1

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>3 - Asset Disposal</b>				<b>B</b>	<b>1</b>
2020-3.4	5	There is a replacement strategy for assets.	EPS fulfils this requirement. Meter replacement strategy in the asset management plan E.g. Regulator replacement due to leakage (as per Asset Maintenance Plan and Operational Plan)	B	1

### 7.3.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required.

## 7.4 Environmental Analysis

Key to this element is that it examines the asset system environment and assesses all external factors affecting the asset system.

### 7.4.1 Observations

As per the previous review recommendation, an opportunities and threats section has been incorporated in the business and / or asset plans.

The GDS works on an approved safety case which includes KPI's which are measured and reported. A complaints register is also maintained.

Energy Safety and ERA audits for GDL 10 are conducted.

### 7.4.2 Effectiveness Rating

The review ratings for asset management system component 4 (Environmental Analysis) are listed in Table 13.

Table 13: Review Rating – Environmental Analysis

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>4 - Environmental Analysis</b>				<b>B</b>	<b>2</b>
2020-4.1	4	Opportunities and threats in the system environment are assessed.	EPS fulfils this requirement. As per 2018 recommendation, an opportunities and threats section has been incorporated in the business and / or asset plans.	B	2
2020-4.2	4	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved.	EPS fulfils this requirement. The GDS works on an approved safety case which includes KPI's which are measured and reported.	A	1
2020-4.3	4	Compliance with statutory and regulatory requirements.	EPS fulfils this requirement. Energy Safety and ERA audits for GDL 10 are conducted.  Note: Unaccounted Gas is biggest concern - it is measured / assessed 3 monthly based on billing / gas readings. Register is maintained and reporting to ERA is performed routinely. Any significant gas releases or safety incidents also reported.	B	1
2020-4.4	4	Achievement of customer service levels.	EPS fulfils this requirement. KPI's are recorded and reported.	B	1

### 7.4.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required.

## 7.5 Asset Operations

Key to this process element is demonstration that operation functions relate to the day-to-day running of assets and directly affect service levels and costs.

### 7.5.1 Observations

For the GDS system, all personnel can undertake all tasks for the low pressure piping system (for general tasks and Emergency Response). Specialist tasks such as Hazardous Area Inspections etc. are contracted out to relevant contractors.

Training matrix is in place and Personnel update Training as required as per intervals outlined in the matrix. Sign off for the Training is performed by the Manager.

Safety critical maintenance tasks have been identified.

Completion of Work Program is being kept up to date and current identified critical tasks are being completed within 1 month of due date.

An Annual Review is performed and Annual Review Document prepared, "GDS Annual Review – Safety Case & Asset Management Period 2019-2020"

Financial Reports are prepared and sent to the owners monthly and Quarterly Board Meetings are undertaken. Presentation / board papers are prepared for each Board Meeting. In addition, significant variance is reported to the owner.

### 7.5.2 Effectiveness Rating

The review ratings for asset management system component 5 (Asset Operations) are listed in Table 14.

**Table 14: Review Rating – Asset Operations**

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>5 - Asset Operations</b>				<b>B</b>	<b>2</b>
2020-5.1	2	Operational policies and procedures are documented and linked to service levels required.	<p>EPS fulfils this requirement.</p> <p>GDS Asset Management - Maintenance Plan is in place and reviewed yearly.</p> <p>KPI reporting is used and reviewed on a yearly basis.</p> <p>No specific operational policy cited, however Maintenance Plan developed to achieve service level KPI's.</p>	A	1
2020-5.2	2	Risk management is applied to prioritise operations tasks.	<p>EPS fulfils this requirement.</p> <p>Safety critical maintenance tasks are identified however no formal risk ranking of maintenance tasks. There is a pending action from the previous review awaiting outcome of Asset's future.</p>	B	2
2020-5.3	2	Assets are documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets'	<p>EPS fulfils this requirement.</p> <p>Refer 2018 Action Close Out Responses</p> <p>An Annual Review is also performed and Annual Review Document prepared. Cited "GDS Annual</p>	B	2



Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>5 - Asset Operations</b>				<b>B</b>	<b>2</b>
		physical/structural condition and accounting data.	Review – Safety Case & Asset Management Period 2019-2020"		
2020-5.4	2	Accounting data is documented for assets	EPS fulfils this requirement Financial Reports are prepared and sent to the owners monthly and Quarterly Board Meetings are undertaken. Presentation / board papers are prepared for each Board Meeting. Significant variance is reported to the owner Cited OPEX in Appendix 1 in section 2 in C9900e138 Rev B as part of the 2018 review.	B	1
2020-5.5	2	Operational costs are measured and monitored.	EPS fulfils this requirement. See above	B	1
2020-5.6	2	Staff receive training commensurate with their responsibilities.	EPS fulfils this requirement. For the GDS system, all personnel can undertake / are trained for all tasks for the low pressure piping system (for general tasks and Emergency Response). Training matrix cited. Personnel update Training as required as per intervals outlined in Training matrix. Sign off for the Training is performed by the Manager. Specialist tasks such as Hazardous Area Inspections etc are contracted out to relevant contractors. Cited GDS Training Matrix	A	1

### 7.5.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required.

## 7.6 Asset Maintenance

Key to this process element is demonstration that maintenance functions relate to the upkeep of assets and directly affect service levels and costs.

### 7.6.1 Observations

For the HDPE system – An annual leak survey is performed which consists of 20% of residential each year, and 100% of city area / high traffic area each year and includes all meters. The survey includes checks of house meters / connections. The leak survey is performed with specialist gas detectors with high sensitivity which is hired in.

For the Meter Sets on the System - Site Inspections, leak testing and visual inspection performed.

PSV inspections are also performed for the PSV's on the meter sets. A PSV Register is also maintained and PSV calibrations are performed at required intervals.

A Performance report is prepared annually and sent to the ERA

An Annual Review is also performed and Annual Review Document prepared, "GDS Annual Review – Safety Case & Asset Management Period 2019-2020" which outlines any issues with the condition of the asset and any further works required.

Close Out Reports are submitted for completion of each of the maintenance tasks. However, no official register exists which outlines what tasks have been completed and what tasks are outstanding. Opportunities for improvement have been discussed with EPS, however no mandatory recommendations are required.

An Incident Register is maintained, and investigations are performed as required. Service orders are also raised as required for corrective maintenance where deemed required.

An Annual Review is also performed, and the AMP and Maintenance Plan updated as required.

Completion of Work Program is being kept up to date and current identified critical tasks are being completed within 1 month of due date.

As previously mentioned, Financial Reports are prepared and sent to the owners monthly and Quarterly Board Meetings are undertaken. Presentation / board papers are prepared for each Board Meeting. In addition, significant variance is reported to the owner.

## 7.6.2 Effectiveness Rating

The review ratings for asset management system component 6 (Asset Maintenance) are listed in Table 15.

**Table 15: Review Rating – Asset Maintenance**

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>6 - Asset Maintenance</b>				<b>B</b>	<b>2</b>
2020-6.1	2	Maintenance policies and procedures are documented and linked to service levels required.	<p>EPS fulfils this requirement.</p> <p>Performance standards for equipment classes cited</p> <p>Maintenance policies are included in GDS AMS – Philosophy &amp; Strategy.</p> <p>Asset Management – Maintenance Plan is reviewed on a yearly basis which is aligned to service level KPI's.</p>	A	1
2020-6.2	2	Regular inspections are undertaken of asset performance and condition.	<p>EPS fulfils this requirement.</p> <p>For the HDPE system - Annual leak survey performed (20% of residential each year, and 100% of city area / high traffic area each year). Cited March 2020 Leak Survey Report (20% residential plus high traffic areas and includes all meters) (includes checks of house meter / connection)</p> <p>Leak survey performed with specialist gas detectors with high sensitivity which is hired in.</p> <p>For the Meter Sets on the System - Site Inspections, leak testing and visual inspection performed. Meter Set Maintenance Records from 9/9/2020 cited.</p> <p>PSV inspections are also performed for the PSV's on the meter sets (PSV certificates cited for the 2 PSV's on the meter sets.) PSV Register is also maintained. PSV calibrations are performed at required intervals.</p> <p>A Performance report is prepared annually and sent to the ERA</p> <p>An Annual Review is also performed and Annual Review Document prepared. Cited "GDS Annual Review – Safety Case &amp; Asset Management Period 2019-2020" which outlines any issues with the condition of the asset and any further works required.</p>	A	1
2020-6.3	2	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.	<p>EPS fulfils this requirement.</p> <p>Close Out Reports are submitted for completion of each of the maintenance tasks and filed. No formal database exists which outlines what tasks have been completed and what tasks are outstanding.</p> <p>Discussed opportunity for improvement with EPS by modifying existing register or otherwise to allow tracking of the maintenance tasks such that the status of the tasks (pending / completed) may be determined.</p>	B	2
2020-6.4	2	Failures are analysed and operational/maintenance plans adjusted where necessary.	<p>EPS fulfils this requirement.</p> <p>Incident Register is filled out, and investigations are performed as required.</p>	B	2

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>6 - Asset Maintenance</b>				<b>B</b>	<b>2</b>
			Service orders are raised as required for corrective maintenance. Annual Review is performed, and AMP and Maintenance Plan updated as required.		
2020-6.5	2	Risk management is applied to prioritise maintenance tasks.	EPS fulfils this requirement. Safety critical maintenance tasks are identified. Work Program is being kept up to date and current identified critical tasks are being completed within 1 month of due date.	B	2
2020-6.6	2	Maintenance costs are measured and monitored.	EPS fulfils this requirement. Financial Reports are prepared and sent to the owners monthly and Quarterly Board Meetings are undertaken.	B	1

### 7.6.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required.

## 7.7 Asset Management Information System

Key to this process element is demonstration that the combination of processes, data and software effectively support the asset management functions.

### 7.7.1 Observations

As per recommendation from the previous review (Recommend all AMIS templates are adequately revision and access controlled or utilise SharePoint system), the Asset register has been placed on SharePoint and also has password access which is limited to key personnel.

A GIS system is also in place showing mains lines and identifies which houses are connected.

Log in passwords are required for each computer. Access control to documents is provided as follows:

- PDF versions: All personnel have access to pdf versions
- Native versions: Certain people only have access to the native versions

In addition, TWPS maintains an access approvals matrix

The SharePoint system is backed up routinely to a secondary system, however it is noted that there are no official back up procedures. An opportunity for improvement was discussed with EPS to develop and document Data / Files Back Up Procedure, but no formal recommendation was required.

Unaccounted for Gas is the only real computation required and is of a simple nature. An opportunity for improvement was raised with EPS to add a Title block to the Unaccounted for Gas Calculation / document, but no formal recommendation was required.

### 7.7.2 Effectiveness Rating

The review ratings for asset management system component 7 (Asset Management Information System) are listed in Table 16.

**Table 16: Review Rating – Asset Management Information System**

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>7 - Asset Management Information System</b>				<b>B</b>	<b>2</b>
2020-7.1	4	Adequate system documentation for users and IT operators.	EPS fulfils this requirement. As per recommendation from 2018 Audit (Recommend implementing procedure highlighting location of all AMIS spreadsheets and use), Document C9906c39 was updated. Appendix A (Flow Chart) added to C9906c39, "Product Acceptance Procedure"	B	2
2020-7.2	4	Input controls include appropriate verification and validation of data entered into the system.	EPS fulfils this requirement. Asset register has been placed on SharePoint and also has password access which is limited to key personnel. O&M records are spreadsheet based and filled manually by qualified personnel.	B	2

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>7 - Asset Management Information System</b>				<b>B</b>	<b>2</b>
2020-7.3	4	Logical security access controls appear adequate, such as passwords.	<p>EPS fulfils this requirement.</p> <p>Log in passwords are required for each computer.</p> <p>Access control to documents is provided as follows:</p> <ul style="list-style-type: none"> <li>- PDF versions: All personnel have access to pdf versions</li> <li>- Native versions: Certain people only have access to the native versions</li> </ul> <p>In addition, TWPS maintains an access approvals matrix</p>	B	2
2020-7.4	4	Physical security access controls appear adequate.	<p>EPS fulfils this requirement.</p> <p>Office is secured and locked when not occupied.</p> <p>Any devices (lap top, phones, tablets etc) have digital security (e.g. Passwords etc)</p> <p>SharePoint system is backed up routinely</p>	B	1
2020-7.5	4	Data backup procedures appear adequate.	<p>EPS fulfils this requirement.</p> <p>SharePoint system is backed up routinely and autonomously to a secondary system, thus no procedure is required. SharePoint is maintained and backed up by external provider (TWPS).</p>	A	1
2020-7.6	4	Key computations related to licensee performance reporting are materially accurate	<p>EPS fulfils this requirement.</p> <p>Unaccounted for Gas is the only real computation required and is of a simple nature.</p> <p>Annual report to ERA includes key network performance parameters.</p> <p>Many network parameters are static and do not require exhaustive validation.</p> <p>Opportunity for improvement was discussed with EPS - For the Unaccounted for Gas Calculation / document, add a Title block outlining Author, Date Prepared and Document Number.</p>	B	2
2020-7.7	4	Management reports appear adequate for the licensee to monitor licence obligations.	<p>EPS fulfils this requirement.</p> <p>Monthly report submitted to asset owners.</p> <p>Annual performance report cited.</p>	B	1
2020-7.8	4	Adequate measures to protect asset management data from unauthorised access or theft by persons outside organisation	<p>EPS fulfils this requirement.</p> <p>See item 2020-7.4.</p>	B	1

### 7.7.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required.

## 7.8 Risk Management

Key to this process element is demonstration that risks are identified and managed to an acceptable risk level.

### 7.8.1 Observations

A Risk Management Plan document is in place and the GDS Safety Case document includes a Risk Register.

The Risk Register includes a list of relevant controls and any actions which have been raised. Asset failures are assessed as part of the Risk Assessment Register.

This Risk Register is updated at the time of the Safety Case document on a five-yearly basis.

### 7.8.2 Effectiveness Rating

The review ratings for asset management system component 8 (Risk Management) are listed in Table 17.

Table 17: Review Rating – Risk Management

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>8 - Risk Management</b>				<b>B</b>	<b>1</b>
2020-8.1	1	Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system.	EPS fulfils this requirement. Risk Management Plan in place and Safety Case includes Risk Register	A	1
2020-8.2	1	Risks are documented in a risk register and treatment plans are actioned and monitored.	EPS fulfils this requirement. Risk Register included in Safety Case with controls also included. Actions are also raised as required. It was noted Action 3 Description in the 2017 GDS OSC HAZID Action Tracking Register should match the HAZID Worksheet and update Close Out Response / Action accordingly (e.g. outline why the action is not required or implement action, or update risk register)	B	1
2020-8.3	1	The probability and consequences of asset failure are regularly assessed.	EPS fulfils this requirement. Asset failures are assessed as part of Risk Assessment Register as part of Operational Safety Case which is updated 5 yearly	B	1

### 7.8.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required.



## 7.9 Contingency Planning

Key to this process element is demonstration that contingency plans document the steps to effectively deal with the unexpected failure of an asset.

### 7.9.1 Observations

An ER Plan is in place and ER Exercises are conducted which consists of a desk top exercise performed on an annual basis.

The last ER Exercise was conducted 13th and 16th Dec 2019.

An ER Trailer exists and 6 monthly inspections are performed. The ER Trailer includes equipment to perform repairs for anticipated scenarios.

### 7.9.2 Effectiveness Rating

The review ratings for asset management system component 9 (Contingency Planning) are listed in Table 18.

Table 18: Review Rating – Contingency Planning

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>9 - Contingency Planning</b>				<b>A</b>	<b>1</b>
2020-9.1	2	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.	EPS fulfils this requirement. ER Plan in place including ER Trailer and ER Exercises conducted annually.	A	1

### 7.9.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required.

## 7.10 Financial Planning

Key to this process element is demonstration that financial planning component of the AMP effectively brings together the financial elements of the service delivery to ensure its financial viability over the long term.

### 7.10.1 Observations

A Business Plan is in place (Refer Section 3.3 Gas Distribution Service) as well as a Budget which identifies annual budget forecast and also has a longer-term forecast.

Financial Reports are produced outlining Revenue and Actual cost, Profit and loss, Cash flow and Refined Balance sheet. Auditing is also performed by PWC. Accurate Modelling is in place up to end of 2021 based on future unknown status of Asset.

As previously mentioned, Financial Reports are prepared and sent to the owners monthly and Quarterly Board Meetings are undertaken. Presentation / board papers are prepared for each Board Meeting. In addition, significant variance is reported to the owner

### 7.10.2 Effectiveness Rating

The review ratings for asset management system component 10 (Financial Planning) are listed in Table 19.

Table 19: Review Rating – Financial Planning

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>10 - Financial Planning</b>				<b>B</b>	<b>2</b>
2020-10.1	5	The financial plan states the financial objectives and strategies and actions to achieve the objectives.	EPS fulfils this requirement. Business Plan in place.	B	2
2020-10.2	5	The financial plan identifies the source of funds for capital expenditure and recurrent costs.	EPS fulfils this requirement. Budget identifies annual budget forecast and also has longer term forecast	B	2
2020-10.3	5	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets).	EPS fulfils this requirement. C9900e138 Appendix 1 Part 2 Revenue and Actual cost and Part 3 Profit loss and Part 4 Cash flow and Part 5 is refined Balance sheet Auditing also performed by PWC.	A	1
2020-10.4	5	The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period.	EPS fulfils this requirement. Accurate Modelling is in place up to end of 2021 based on unknown status of Asset.	B	2
2020-10.5	5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services.	EPS fulfils this requirement. Cited Esperance Energy Project (EEP) – Proposed F21 Budget GDS OPEX Budget FY21also cited	B	1

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>10 - Financial Planning</b>				<b>B</b>	<b>2</b>
2020-10.6	5	Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary.	EPS fulfils this requirement. Financial Reports are prepared and sent to the owners monthly and Quarterly Board Meetings are undertaken. Significant variance is reported to the owner	A	1

### 7.10.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required.

## 7.11 Capital Expenditure Planning

Key to this process element is demonstration that the 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. Projections are normally expected to extend to at least ten years or longer where capital investments are large and with an irregular frequency, with projections over the first five years typically based on firm estimates.

### 7.11.1 Observations

As previously mentioned, the status of the ongoing operation of the asset past 'first quarter 2022 is currently unknown. A decision will be made closer to this time to determine if the asset will remain in operation or be decommissioned or otherwise taken out of operation.

Based on this, there is currently no plans for Capital Expenditure.

Any Capital Expenditure where relevant is captured in the Business Plan, which is updated annually or more regularly as required

### 7.11.2 Effectiveness Rating

The review ratings for asset management system component 11 (Capital Expenditure Planning) are listed in Table 20.

**Table 20: Review Rating – Capital Expenditure Planning**

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>11 - Capital Expenditure Planning</b>				<b>B</b>	<b>1</b>
2020-11.1	5	There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates.	EPS fulfils this requirement. Based on current status of asset and unknown if system will still be in use, there is currently no plans for Capital Expenditure. Any Capital Expenditure is captured in the Business Plan	A	1
2020-11.2	5	The plan provides reasons for capital expenditure and timing of expenditure.	EPS fulfils this requirement. As above, based on current status of asset and unknown if system will still be in use, there is currently no plans for Capital Expenditure. Any Capital Expenditure is captured in the Business Plan	A	1
2020-11.3	5	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan.	EPS fulfils this requirement. As above, based on current status of asset and unknown if system will still be in use, there is currently no plans for Capital Expenditure. Any Capital Expenditure is captured in the Business Plan	A	1
2020-11.4	5	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned.	EPS fulfils this requirement. The Business Plan is updated annually or more regularly as required	B	1

### 7.11.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required.

## 7.12 Review of Asset Management System

Key to this process element is demonstration that the Asset Management System (AMS) is regularly reviewed and updated.

### 7.12.1 Observations

Asset Management of the Gas Distribution System is outlined in the following 3 key documents

- Philosophy & Strategy (C9906b57)
- Maintenance Plan (C9906a62)
- Operational Plan (C9906a63)

The above documents are reviewed and updated annually.

An Annual Review of the System is also performed, "GDS Annual Review – Safety Case & Asset Management Period 2019-2020", which identifies any additional works / actions required / changes to the work program based on the condition of the asset.

Independent reviews are performed and a TWPS Site Audit is also performed.

### 7.12.2 Effectiveness Rating

The review ratings for asset management system component 12 (Review of AMS) are listed in Table 21.

Table 21: Review Rating – Review of AMS

Reference	Review Priority	Asset management process of effectiveness criterion	Observations and Recommendations	Definition	Performance
<b>12 - Review of AMS</b>				<b>B</b>	<b>2</b>
2020-12.1	4	A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current.	<p>EPS fulfils this requirement.</p> <p>Asset Management comprises 3 key documents:</p> <ul style="list-style-type: none"> <li>- Philosophy &amp; Strategy (C9906b57)</li> <li>- Maintenance Plan (C9906a62)</li> <li>- Operational Plan (C9906a63)</li> </ul> <p>The above documents are reviewed and updated annually.</p>	B	2
202-12.2	4	Independent reviews (e.g. internal audit) are performed of the asset management system.	<p>EPS fulfils this requirement.</p> <p>Internal Reviews performed. TWPS Site Audit also performed.</p>	B	2

### 7.12.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required.

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## 8 Recommendations

There were no deficiencies identified (rated C, D, 3 or 4 under the asset management system effectiveness review criteria) for asset management components.

Recommendations and opportunities for improvement arising from the current review observations have been summarised in a separate table and passed upon the licensee as discretionary opportunities for improvement.

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## 9 Approval of the Report

### 9.1 Compliance Statement

This review report was prepared by Ausenco for EPS as per the requirements of “*Audit and Review Guidelines: Electricity and Gas Licences*”, published by the ERA, March 2019.

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## 10 Conclusions

On the basis of evidence cited and interviews conducted with EPS staff, the opinion of the Auditors is that EPS is operating an asset management system that is fit for purpose and has sufficient controls to maintain an adequate level of effectiveness.

It was noted that fourteen (14) out of the twenty-two (22) actions from the previous review, have been completed and closed out by the EPS. Eight (8) Actions are “Awaiting Tender Outcome” and are on hold pending the outcome of the future of the GDS.

The effectiveness ratings shown in Table 1 illustrate the EPS achieved one maximum rating for the twelve process areas. Performance ratings have remained consistent with the last audit, and the lowest overall definition rating was B.

There were no overall effectiveness and performance ratings of C, D, 3 or 4 respectively, therefore recommendations discussed with EPS are considered discretionary opportunities for improvement.

In summary the EPS AMS utilises predominantly manual tools which is acceptable for an asset the current size and complexity of GDL 10. However, assessment of these tools should be considered in the event of substantial changes to the asset to ensure their continued suitability.

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**Appendix 1 – Table of Documents Cited**



Ref No.	Document Number	Document Title	Revision	Issue Date	Date Received
1	-	GDS Annual Review – Safety Case & Asset Management Period 2019-2020 (including Key Performance Indicator - KPI Table)	0	2-Sep-20	7-Oct-20
2	C9906b80	GDS Access Arrangement- Policies, Terms & Conditions	0	3-May-04	19-Oct-20
3	C9906D60	GDS Meter Recalibration / Replacement Strategy	0	28-Oct-16	19-Oct-20
4	-	Annual GDS OPEX CAPEX Forecast (June 2020)	-	-	19-Oct-20
5	343353	Facility Management Agreement - Business Development Services	8	28-Feb-03	19-Oct-20
6	-	Revenue Forecast Model - Redacted	-	-	19-Oct-20
7	-	Esperance Energy Project (EEP) – Proposed F21 Budget	B	20-May-20	19-Oct-20
8	-	Work Pack for Sports Centre Connection (Lot 500 Black St, Esperance Sports Centre)	-	-	7-Oct-20
9	C9900f88	Performance Standard PS 0003 - Control of Ignition	1	8-Jul-19	7-Oct-20
10	C9900f86	Performance Standards PS 0004 - Pressure Relief	1	7-Jul-19	7-Oct-20
11	C9900f87	Performance Standards PS 0005 - Shutdown Systems	1	8-Jul-19	7-Oct-20
12	-	Odorant Test Certificate	-	7-Aug-20	7-Oct-20
13	-	March 2020 Leak Survey Report	-	-	7-Oct-20
14	PL59-1179-0857	Meter Set Maintenance Records from 9/9/2020 cited.	-	9-Sep-20	7-Oct-20
15	-	PSV Certificates for the 2 PSV's on the Meter Sets	-	-	7-Oct-20
16	-	Leak Incident Forms and Close Out Forms from 11/9/2020	-	-	7-Oct-20
17	-	GDS GIS	-	-	7-Oct-20
18	-	Unaccounted for Gas Worksheet	-	-	7-Oct-20
19	TMF-6032-QA-0067, C9906e32	2017 GDS Safety Case HAZID Action Tracking Register	-	-	7-Oct-20
20	TMF-6032-QA-0067, C9906e32	2018 GDS AMS Audit Action Tracking Register	-	-	7-Oct-20
21	-	Meeting Minutes from ER Exercise conducted 13th and 16th Dec 2019	-	-	7-Oct-20
22	C9906d54	GDS Maintenance Plan Matrix	HOLD	HOLD	7-Oct-20
23	C9906b72	GDS Risk Management Plan	3	21-Oct-19	7-Oct-20
24	C9906c38	GDS Safety Case	5	20-May-19	7-Oct-20
25	C9906e04	GDS Emergency Response Plan	HOLD	30-Sep-20	7-Oct-20

Ref No.	Document Number	Document Title	Revision	Issue Date	Date Received
26	C9906a62	GDS Asset Management - Maintenance Plan	8	21-Sep-20	7-Oct-20
27	C9906a63	GDS Asset Management - Operational Plan	10	21-Sep-20	7-Oct-20
28	C9906b57	GDS Asset Management System - Philosophy & Strategy	5	21-Sep-20	7-Oct-20
29	C9906b64	Esperance GDS Asset Register	-	-	7-Oct-20
30	C9906c99	Design Control and Project Management	1	28-Nov-19	7-Oct-20
31	C9906a10	GDS Training Matrix	-	-	7-Oct-20