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Revision Number 5

Esperance Power Station Asset Management System Review Review Report

December 2018



Revision Status

Revision	Date	Description	Author		Reviewed	
			FirstName LastName	Position Title	FirstName LastName	Position Title
A	12/10/2018	Internal Review				
B	19/10/2018	Client Review	M. Sullivan	Principal Pipeline Engineer	D. Newman	Senior Pipeline Engineer
0	05/11/2018	Issued for Use	D. Newman	Senior Pipeline Engineer	M. Sullivan	Principal Pipeline Engineer
1	22/11/2018	Updated with ERA Comments	M. Sullivan	Principal Pipeline Engineer	I. Guo	Process Engineer
2	26/11/2018	Updated with Client Comments	M. Sullivan	Principal Pipeline Engineer	I. Guo	Process Engineer
3	27/11/2018	Updated with Client Comments	M. Sullivan	Principal Pipeline Engineer	I. Guo	Process Engineer
4	12/12/2018	Updated with ERA Comments	M. Sullivan	Principal Pipeline Engineer	D. Newman	Senior Pipeline Engineer
5	17/12/2018	Updated with ERA Comments	M. Sullivan	Principal Pipeline Engineer	D. Newman	Senior Pipeline Engineer

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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 by McGill Engineering Services Pty Ltd during 2016. That review covered the period 1 September 2013 to 31 August 2016 inclusive.

Ausenco conducted an asset management system review (AMS Review) on EPS for the following period 1 September 2016 to 31 August 2018 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 Licences (AMS Review Guidelines) dated April 2014.

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

1.1 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, April 2014.

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1.2 Summary Assessment of Actions from Previous Review

Actions from the previous review (17) were assessed and their status updated during this 2018 review. All actions were adequately closed out by the EPS.

Refer Section 3.1.1 for further detail.

1.3 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. Recommendations arising from

the current review observations have been summarised in each observation section, and should be considered discretionary opportunities for improvement.

Table 1 shows the ratings for each asset management area from the 2018 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 2.1 for rating system definitions.

Table 1: 2018 Review Process Ratings

Process Area	Definition 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
9. Contingency planning	A	1
10. Financial planning	B	2
11. Capital expenditure planning	B	1
12. Review of AMS	B	2

Table 2: Recommendations for Current Review Period

Table of Current Review Asset System Deficiencies / Recommendations		
A. Opportunities for improvement during current Review Period		
Reference (no./year)	(Asset management effectiveness rating / Asset Management System Component & Criteria / details of the issue)	Auditors' Recommendation
2018-1.3.1	B1 Asset Planning	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"
2018-1.5.1	B2 Asset Planning	Recommend referencing financial modelling process in C9906b57 "GDS Asset Management - Philosophy & Strategy"
2018-1.8.1	B2 Asset Planning	If probability of failure is not being formally assessed, recommend removing from C9906b57 "GDS Asset Management System Philosophy and Strategy".
2018-1.9.1	B2 Asset Planning	Recommend adding reference to business plan in C9906a62 "Asset Management Maintenance Plan" and C9906a63 "Esperance Gas Distribution System Operational Plan".
2018-3.6.1	B1 Asset Disposal	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

Table of Current Review Asset System Deficiencies / Recommendations		
A. Opportunities for improvement during current Review Period		
Reference (no./year)	(Asset management effectiveness rating / Asset Management System Component & Criteria / details of the issue)	Auditors' Recommendation
2018-4.1.1	B2 Environmental Analysis	Recommend incorporating an opportunities and threats section in the business and / or asset plans.
2018-5.2.1	B2 Asset Operations	Recommend referencing definition or source for risk or safety critical maintenance tasks.
2018-5.2.2	B2 Asset Operations	Recommend linking maintenance activities to asset register
2018-5.2.3	B2 Asset Operations	Recommend independent validation of maintenance plan.
2018-5.3.1	B2 Asset Operations	Recommend improving document revision control and validation of asset register
2018-5.3.2	B2 Asset Operations	Recommend adding asset register document reference number to C9906A30
2018-5.3.3	B2 Asset Operations	Recommend removing outdated asset register from Appendix 2 in C9906A30 "Operating Procedure 1.07 - AMS" and reference latest C9906b64 "Esperance GDS Asset Register"
2018-6.4.1	B2 Asset Maintenance	Recommend adding KPI / failure analysis and corrective action items into maintenance plan.
2018-6.5.1	B1 Asset Maintenance	Recommend formal risk prioritisation of maintenance tasks.
2018-7.1.1	B2 Asset Management Information System	Recommend implementing procedure highlighting location of all Asset Management Information System (AMIS) spreadsheets and use.
2018-7.2.1	B2 Asset Management Information System	Recommend all AMIS templates are adequately revision and access controlled or utilise SharePoint system.
2018-7.6.1	B2 Asset Management Information System	Recommend implementing QA/QC requirements for key AMIS databases.
2018-10.1.1	B2 Financial Planning	Recommend adding reference to Asset Plans in Business Plan
2018-10.2.1	B2 Financial Planning	Recommend adding costing OPEX/CAPEX to Asset Plans and reference in Business Plan

Table of Current Review Asset System Deficiencies / Recommendations		
B. Opportunities for improvement during current Review Period		
Reference (no./year)	(Asset management effectiveness rating / Asset Management System Component & Criteria / details of the issue)	Auditors' Recommendation
2018-10.4.1	B2 Financial Planning	Recommend having five year rolling business and asset plans
2018-12.1.1	B2 Review of AMS	Recommend including change register within annual plan updates
2018-12.2.1	B2 Review of AMS	Recommend including AMS focus into internal audit scope.

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, for the period 1 September 2016 to 31 August 2018, and the onsite review was conducted between 20th of September and 3rd of October 2018.

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 Licenses (AMS Review Guidelines) dated April 2014.

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 11 of the Audit Guidelines

2.1 Rating System

The rating system used for assessment in accordance with the ERA AMS Review Guidelines is summarised by Table 3.

Table 3: Rating System

Rating	Description
Process Definition Ratings	
A	Adequately defined
B	Requires some improvement
C	Requires significant improvement
D	Inadequate
Process Performance Ratings	
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 4.

Table 4: Adequacy of Existing Controls

Performance Rating	Definition 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 5.

Table 5: 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		

2.2 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 April 2014”, Economic Review Authority of Western Australia.

2.3 Review Personnel

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 6 summarises all the resources utilised and total hours for the generation of the AMS Review Report.

Table 6: Review Personnel Resource Hours

Resource Name	Review Role	Hours
M. Sullivan	Lead Auditor	134
D. Newman	Auditor	30
I. Guo	Audit support and scribe	89
TOTAL		253

2.4 Field Review

Interviews with EPS staff and systems interrogation were carried out at the EPS Esperance Maintenance Facility and Operational Centre, where the Asset Management System is centralised and managed. A follow up session was held at the Perth office with both the Financial Controller, and the Technical, Business and Regulatory Manager.

2.5 Interview Plan

EPS has its regional maintenance depot located at Esperance with financial and engineering support in Perth. Interviews were conducted between these facilities. Table 7 presents the interviewees and the corresponding interview location for each process area.

Table 7: 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
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

ID	Process Area	Interviewee/s	Location
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

2.6 Documents Reviewed

Documents reviewed are listed in Appendix 1.

2.7 Definitions and Abbreviations

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

Table 8: 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
HAZOP	Hazard and Operability Study
HAZID	Hazard Identification Study
HPR	High Pressure Regulator
HUGS	Hardship Utility Grant Scheme
ICG	Infrastructure Capital Group (asset owners)

Term or Abbreviation	Definition
IO	Inspection Order
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
SCADA	Supervisory Control and Data Acquisition
TWPS	TW Power Services (asset managers)
UFG	Unaccounted For Gas
WAM	WorleyParsons Asset Management

3 Previous Reviews

The previous review was conducted for the period 1 September 2013 to 31 August 2016 inclusive. Table 9 shows the ratings for each asset management area from the 2016 review. Adequacy of controls is obtained from Table 4 developed by Ausenco to provide guidance for rating between definition, performance and adequacy of controls. This was then used in conjunction with Table 5 from the guidelines, a review priority was assigned to each element.

Table 9: 2016 Review Ratings

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

3.1.1 Previous Review Recommendations and Actions

The recommendations from the previous reviews and the status of actions taken to address these recommendations as updated during the review are given in Table 10.

Table 10: Previous Recommendations Resolved During Current Review Period

Table of Previous Review Ineffective Components Recommendations				
A. Resolved during current Review Period				
Reference (no./year)	(Asset management effectiveness rating / Asset Management System Component & Criteria / details of the issue)	Auditors' Recommendation or action taken	Date Resolved	Further Action (Yes/No/Not Applicable) & Details of further action required including current recommendation reference if applicable
4.0 (01/2013)	A2 Environmental Analysis	Actions to resolve ESWA IO to be completed (utilise the outcome of the Safety Case audit to improve the asset management system)	27/06/17	No

Table of Previous Review Ineffective Components Recommendations				
A. Resolved during current Review Period				
Reference (no./year)	(Asset management effectiveness rating / Asset Management System Component & Criteria / details of the issue)	Auditors' Recommendation or action taken	Date Resolved	Further Action (Yes/No/Not Applicable) & Details of further action required including current recommendation reference if applicable
5.0 (3/2013)	B2 Asset Operations	Actions to resolve metering issues and ESWA IO (consider introducing a process to monitor UFG to ensure it remains within the KPI figure of 2.5%)	27/06/17	No
12.0 (6/2013)	A2 Review of AMS	Undertake an annual audit of the Safety Case as required under the GSSSR 2000 and an independent review of the Asset Management Plan (ensure all asset management docs are reviewed and updated for currency).	18/10/17	No
4.3 (1/2016)	C3 Environmental Analysis	Complete the writing of the policies and procedures to obtain the removal of the IOs	27/06/17	No
4.4 (2/2016)	B2 Environmental Analysis	Resolve metering issues to ESWA satisfaction (MLV 4 PRS Coriolis meter).	30/11/17	No
5.1 (3/2016)	C3 Asset Operations	Complete work on revision of policies and procedures and actions necessary to complete the ESWA requirements to service levels required and to remove IO.	27/06/17	No
5.2 (4/2016)	B2 Asset Operations	Complete work on revision of policies and procedures and procedures and actions necessary to complete the ESWA requirements and to remove IO/CAs (risks are identified but not managed correctly).	27/06/17	No

Table of Previous Review Ineffective Components Recommendations				
A. Resolved during current Review Period				
Reference (no./year)	(Asset management effectiveness rating / Asset Management System Component & Criteria / details of the issue)	Auditors' Recommendation or action taken	Date Resolved	Further Action (Yes/No/Not Applicable) & Details of further action required including current recommendation reference if applicable
5.3 (5/2016)	B2 Asset Operations	Complete work on revision of policies and procedures and actions necessary to complete the ESWA requirements and to remove IO/CAs (address non complying equipment).	27/06/17	No
5.5 (6/2016)	B2 Asset Operations	Complete work on training and testing of the competency of employees and actions necessary to complete the ESWA requirements and to remove IO/CAs (review staffing levels and training other personnel, including Manager).	27/06/17	No
6.2 (7/2016)	C3 Asset Maintenance	Undertake leakage surveys in accordance with the revised frequency and in accordance with the revised procedures to remove IO/CAs (review adequacy of methodology).	27/06/17	No
6.3 (8/2016)	B2 Asset Maintenance	Make corrective actions required by ESWA to remove IO/CAs.	27/06/17	No
6.5 (9/2016)	B2 Asset Maintenance	Make corrective actions required by ESWA Align documentation of dial before you dig with correct field practice to remove IO/CAs.	29/06/17	No
7.1 (10/2016)	B1 Asset Management Information System	Complete IT system user documentation related to customer metering and billing.	31/12/17	No
8.1 (11/2016)	B1 Risk Management	Implement the changes required for ESWA to remove the IO/CAs (requires separation of emergency plan for gas distribution from KEGP in AMS).	27/06/17	No

Table of Previous Review Ineffective Components Recommendations				
A. Resolved during current Review Period				
Reference (no./year)	(Asset management effectiveness rating / Asset Management System Component & Criteria / details of the issue)	Auditors' Recommendation or action taken	Date Resolved	Further Action (Yes/No/Not Applicable) & Details of further action required including current recommendation reference if applicable
8.2 (12/2016)	B2 Risk Management	Ensure that the risks identified by the ESWA audit have treatment plans and they are actioned and monitored in accordance with the treatment plan (implement the changes required for ESWA to remove the IO/CAs).	27/06/17	No
9.1 (13/2016)	A2 Contingency Planning	Make the corrective actions required by ESWA to remove IO /CAs (make improvements to emergency responses).	27/06/17	No
12.2 (14/2016)	B2 Review of AMS	Undertake an annual audit of the Safety Case as required under the GSSSR 2000 and an independent review of the Asset Management Plan (AMP) to remove IO/CAs (undertake internal audit of Safety Case and an independent review of the AMP).	18/10/17	No

4 Current Review Findings

The following sections summarise observations and recommendations arising from the interviews conducted as part of this 2018 review. A complete list of documents reviewed as evidence is included in Appendix 1.

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

4.1 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).

4.1.1 Observations

The business plan was reviewed along with the asset plans. The linkage or hierarchy between these documents could be improved by having a rolling five yearly asset strategy summarising asset class plans in lieu of maintenance and operation plans as these are discipline rather than asset-based documents. For example, plans should be grouped by asset class such as Pressure Regulation or Metering versus discipline such as Mechanical or Electrical. However due to the simplicity of the current asset system, the system in place is deemed sufficient, and the level of planning adequate for the GDS assets under management.

KPI targets are well defined as cited in document C9906e30 “KPI GDS data 2017-2018” which are tracked and reported routinely to the asset owner, however source data for these targets is not referenced in reports or relevant procedures (i.e. internal vs industry standards). C9906b57 “GDS Asset Management - Philosophy & Strategy” Section 3.4 lists typical types KPI’s but does not directly reference the latest revision of C9906e30 which defines the values of these KPI’s.

Section 3.0 of C9906b57 “GDS Asset Management - Philosophy & Strategy” identifies a key objective that best industry practice levels are achieved for “whole of life” costs and asset utilisation. Utilisation is quantified in KPI’s, however cost targets are not quantified in this document or operating and maintenance plans, or how they should be achieved.

For new installations, costs are borne by the customer, and all material CAPEX / OPEX is included in the budget and approved by the board of directors of EPS. For non-customer CAPEX or OPEX variations from budget are approved by the board of directors of EPS. The formal approval process for all material variations from budget expenditure includes written justification by management, including variations to standing purchase orders. These documents are submitted to the board of directors for the board’s approval. Evidence of this process was cited, however the process is not formally documented. It is recommended to outline this process in a EPS procedure or a section in C9906b57 “GDS Asset Management - Philosophy & Strategy”.

Document C9906b57 “GDS Asset Management - Philosophy & Strategy” Section 5 highlights probability of failure is assessed for non high consequence assets. There was no formal assessment for probability of failure for assets cited in maintenance plan.

4.1.2 Effectiveness Rating

The effectiveness criteria ratings based on observations for asset management system component 1 (Asset Planning) are listed in Table 11.

Table 11: Effectiveness Criteria Rating – Asset Planning

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
1 - Asset Planning				B	2
2018-1.1	4	Asset management plan covers key requirements.	EPS fulfils this requirement.	A	1
2018-1.2	4	Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning.	EPS fulfils this requirement.	A	1
2018-1.3	4	Service levels defined.	EPS fulfils this requirement. Recommend adding reference to KPI targets in C9906e30 and C9906b57 rev 3_gds asset management strategy	B	1
2018-1.4	4	Non-asset options are considered.	EPS fulfils this requirement. Introduction of formal budget justification process could improve the consideration of non-asset options.	B	2
2018-1.5	4	Lifecycle costs are assessed and understood.	EPS fulfils this requirement. Recommend referencing financial modelling process in C9906b57 "GDS Asset Management - Philosophy & Strategy"	B	2
2018-1.6	4	Costs are justified and cost drivers identified.	EPS fulfils this requirement. AMS Philosophy & Strategy does not specifically identify cost drivers for each financial period.	B	1
2018-1.7	4	Funding options are evaluated.	EPS fulfils this requirement. Costs for all new installations are borne by customer.	A	1
2018-1.8	4	Likelihood and consequences of failure are predicted	EPS fulfils this requirement. Formal risk based decision making not used extensively in planning. If probability of failure is not being formally assessed, recommend removing from C9906b57 "GDS Asset Management System Philosophy and Strategy".	B	2
2018-1.9	4	Plans are regularly reviewed and updated	EPS fulfils this requirement. Recommend adding reference to business plan in C9906a62 "Asset Management Maintenance Plan" and C9906a63 "Esperance Gas Distribution System Operational Plan".	B	2

4.1.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required. The reviewer did note the following opportunities for improvement which are summarised in Table 12.

Table 12: Recommendations – Asset Planning

Reference (no./year)	Auditors' Recommendation
2018-1.3.1	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"
2018-1.5.1	Recommend referencing financial modelling process in C9906b57 "GDS Asset Management - Philosophy & Strategy"
2018-1.8.1	If probability of failure is not being formally assessed, recommend removing from C9906b57 "GDS Asset Management System Philosophy and Strategy".
2018-1.9.1	Recommend adding reference to business plan in C9906a62 "Asset Management Maintenance Plan" and C9906a63 "Esperance Gas Distribution System Operational Plan".

4.2 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.

4.2.1 Observations

Installation and connection costs fully provided by customers, therefore EPS does not analyse life-cycle costs or plan for internal capital investment and return with GDL 10. The process for new customer connections is described in C9906c43 "New Customer Connection Manual". Options for non-asset solutions are not considered.

Low complexity projects with standardised equipment reduces requirement for detailed engineering. It was also discussed during the interview that standard meter sets purchased from a source and specification common with ATCO which reduce the risk given these have a proven track record of reliability on an existing network.

During the interview, the auditor cited standard specification for design and installation documents including:

- C9906c99 "Design Control and Project Management"
- C9906c44 "Meter Box Location Guidelines"
- C9906c91 "Pressure Reduction Station Installation Design Procedure"

The installation process for installation of new assets is largely driven by notice completion requirements.

The auditors cited the following commissioning documents:

- C9906c48 "Commissioning a Gas Service"

- C9906d82 “Gas Service Piping Commissioning Certificate”

The EPS Safety Case is audited annually by an independent auditor which includes a site visit. The subsequent audit report is submitted to ESWA. There was an audit undertaken by ESWA personnel in 2016.

4.2.2 Effectiveness Rating

The effectiveness criteria ratings for asset management system component 2 (Asset Creation and Acquisition) are listed in Table 13.

Table 13: Effectiveness Criteria Rating – Asset Creation and Acquisition

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
2 - Asset Creation and Acquisition				B	1
2018-2.1	4	Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solutions.	EPS fulfils this requirement. Options for non-asset solutions are not evaluated.	B	1
2018-2.2	4	Evaluations include all life-cycle costs.	EPS fulfils this requirement.	B	1
2018-2.3	4	Projects reflect sound engineering and business decisions.	EPS fulfils this requirement.	A	1
2018-2.4	4	Commissioning tests are documented and completed.	EPS fulfils this requirement.	A	1
2018-2.5	4	Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood.	EPS fulfils this requirement.	A	1

4.2.3 Recommendations

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

4.3 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.

4.3.1 Observations

No formal review process for asset utilisation strategies cited. The asset owner has limited control over utilisation. Organic growth within existing line of mains is the primary strategy for network utilisation.

The auditors cited C9906c50 Rev 0 “De-Commission a Gas Service” during the interview which details the steps to be followed when decommission purging a service that is being altered, disconnected or for the replacement of the Meter Control Valve (MCV). De-commissioning of a gas service is defined as the removal of natural gas from the gas piping upstream of a customer’s meter set in a safe manner.

The meter replacement strategy in the asset management plan was reviewed, however this is quite generic stating replacement intervals for different meter types, and not the forecast number of meter replacements for the planned period. This would assist in reconciliation with budget forecast data, since these meter replacements will occur at different intervals based on meter type.

An example of unscheduled asset replacement was reviewed during the interview. This was the “white cap” regulator replacement due to leakage. A program for replacement was undertaken for existing installations due to high risk of leakage.

4.3.2 Effectiveness Rating

The effectiveness criteria ratings for asset management system component 3 (Asset Disposal) are listed in Table 14.

Table 14: Effectiveness Criteria Rating – Asset Disposal

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
3 - Asset Disposal				B	1
2018-3.1	5	Under-utilised and under-performing assets are identified as part of a regular systematic review process.	EPS fulfils this requirement.	A	1
2018-3.2	5	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken.	EPS fulfils this requirement.	A	1
2018-3.3	5	Disposal alternatives are evaluated.	EPS fulfils this requirement.	A	1
2018-3.4	5	There is a replacement strategy for assets.	EPS fulfils this requirement. Recommend updating C9906d01 “Network Asset Replacement Strategy” to reflect current practices	B	1

4.3.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required. The reviewer did note the following opportunity for improvement which is summarised in Table 15.

Table 15: Recommendations – Asset Disposal

Reference (no./year)	Auditors' Recommendation
2018-3.6.1	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

4.4 Environmental Analysis

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

4.4.1 Observations

It was noted that no current opportunity and threats identified in formal analysis. It should be considered that this be added to the business plan for the GDS.

The auditor cited KPI report for 2017-2018 during the interviews which outlined current performance against pre-defined targets. It was confirmed during the interview that if a KPI is exceeded, a corrective action is raised. An example of a previous copper riser failure was reviewed.

Previous Energy Safety and ERA audits for GDL 10 were cited and the relevant actions and recommendations.

The GDL 10 action tracking register and corrective actions raised from these previous audits were cited.

4.4.2 Effectiveness Rating

The effectiveness criteria ratings for asset management system component 4 (Environmental Analysis) are listed in Table 16.

Table 16: Effectiveness Criteria Rating – Environmental Analysis

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
4 - Environmental Analysis				B	2
2018-4.1	4	Opportunities and threats in the system environment are assessed.	EPS fulfils this requirement. Recommend incorporating an opportunities and threats section in the business and / or asset plans.	B	2
2018-4.2	4	Performance standards (availability of service, capacity, continuity, emergency response, etc.) are measured and achieved.	EPS fulfils this requirement.	A	1
2018-4.3	4	Compliance with statutory and regulatory requirements.	EPS fulfils this requirement.	B	1
2018-4.4	4	Achievement of customer service levels.	EPS fulfils this requirement.	B	1

4.4.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required. The reviewer did note the following opportunity for improvement which is summarised in Table 17.

Table 17: Recommendations – Environmental Analysis

Reference (no./year)	Auditors' Recommendation
2018-4.1.1	Recommend incorporating an opportunities and threats section in the business and / or asset plans.

4.5 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.

4.5.1 Observations

The following relevant documents were cited:

- C9906a62 Rev 6 “GDS Asset Management - Maintenance Plan” Section 6.2 and Appendix 2
- C9906E30 “KPI reporting sheet”
- KEGP Permit to work register
- C9906d54 Rev4 “GDS Maintenance Plan” (safety critical maintenance tasks are highlighted in red)
- 2B Windich St meter set installation
- C9906b64 Rev 3M “Esperance GDS Asset Register”
- Calibration Equipment List 2018
- C9906c39 Rev1 “Product Acceptance Procedure”
- OPEX in Appendix 1 in section 2 in C9900e138 Rev B “Business Plan Financial Year 2019”
- GDS training information file
- TMF-6032-LD-0007 “Training Matrix “
- C9906e10 GDS “Training Matrix”
- Cited maintenance personnel licence records filed at workshop

Significant operating budget variance is reported to the owner via monthly and quarterly reports. Appendix 1 Part 2 in C9900138 is also updated monthly.

4.5.2 Effectiveness Rating

The effectiveness criteria ratings for asset management system component 5 (Asset Operations) are listed in Table 18.

Table 18: Effectiveness Criteria Rating – Asset Operations

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
5 - Asset Operations				B	2
2018-5.1	2	Operational policies and procedures are documented and linked to service levels required.	EPS fulfils this requirement.	A	1
2018-5.2	2	Risk management is applied to prioritise operations tasks.	EPS fulfils this requirement. Recommend referencing definition or source for risk or safety critical maintenance tasks. Recommend linking maintenance activities to asset register. Recommend independent validation of maintenance plan.	B	2
2018-5.3	2	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.	EPS fulfils this requirement. Recommend improving document revision control and validation of asset register. Recommend adding asset register document reference number to C9906a30. Recommend removing outdated asset register from Appendix 2 in C9906a30 and reference latest C9906b64 register.	B	2
2018-5.4	2	Operational costs are measured and monitored.	EPS fulfils this requirement.	B	1
2018-5.5	2	Staff receive training commensurate with their responsibilities.	EPS fulfils this requirement.	A	1

4.5.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required. The reviewer did note the following opportunities for improvement which are summarised in Table 19.

Table 19: Recommendations – Asset Operations

Reference (no./year)	Auditors' Recommendation
2018-5.2.1	Recommend referencing definition or source for risk or safety critical maintenance tasks.
2018-5.2.2	Recommend linking maintenance activities to asset register
2018-5.2.3	Recommend independent validation of maintenance plan.

Reference (no./year)	Auditors' Recommendation
2018-5.3.1	Recommend improving document revision control and validation of asset register
2018-5.3.2	Recommend adding asset register document reference number to C9906A30
2018-5.3.3	Recommend removing outdated asset register from Appendix 2 in C9906A30 "Operating Procedure 1.07 - AMS" and reference latest C9906b64 "Esperance GDS Asset Register"

4.6 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.

4.6.1 Observations

The following documents were cited during the interview:

- GDL10 Post Audit Implementation Plan - Update 19Feb18
- Final version of the Post Review Implementation Plan (PRIP) provided to the ERA
- 2018 Leak Survey Report
- C9906e31 Incident Register, which had rectification from Leak Survey Report
- Maintenance Completion Sign Off Form
- Backlog at workshop - Service Order 2018 files
- C9906a62 "GDS Asset Management - Maintenance Plan"
- C9906d54 Rev4 "GDS Maintenance Plan"
- OPEX in Appendix 1 in section 2 in C9900e138 Rev B "Business Plan Financial Year 2019"

It was discussed the Maintenance Plan gets updated annually for corrective actions, but the plan did not have specific reference to corrective actions for the period.

Unbudgeted items that require funds are communicated to the asset owner, with the philosophy outlined in document C9906B57 "Asset Management System Philosophy and Strategy". Significant maintenance budget variance is reported to the owner via monthly and quarterly reports. Appendix 1 Part 2 in C9900138e is also updated monthly.

No formal root cause analysis procedures are currently in use, however the process is being conducted informally by maintenance personnel, as was previously outlined by the white cap regulator replacement program. For the complexity of the asset, informal failure analysis is deemed sufficient.

C9906d54 'GDS Maintenance Plan Matrix' highlights safety critical task in red, however it is not clear how task criticality is defined.

4.6.2 Effectiveness Rating

The effectiveness criteria ratings for asset management system component 6 (Asset Maintenance) are listed in Table 20.

Table 20: Effectiveness Criteria Rating – Asset Maintenance

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
6 - Asset Maintenance				B	2
2018-6.1	2	Maintenance policies and procedures are documented and linked to service levels required.	EPS fulfils this requirement. Cited C9906a62	A	1
2018-6.2	2	Regular inspections are undertaken of asset performance and condition.	EPS fulfils this requirement.	A	1
2018-6.3	2	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule.	EPS fulfils this requirement. Cited C9906d54	A	1
2018-6.4	2	Failures are analysed and operational/maintenance plans adjusted where necessary.	EPS fulfils this requirement. No formal root cause or failure analysis procedure cited	B	2
2018-6.5	2	Risk management is applied to prioritise maintenance tasks.	EPS fulfils this requirement. Recommend formal risk prioritisation of maintenance tasks	B	2
2018-6.6	2	Maintenance costs are measured and monitored.	EPS fulfils this requirement. Recommend adding KPI / failure analysis and corrective action items into maintenance plan.	B	1

4.6.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required. The reviewer did note the following opportunities for improvement which are summarised in Table 21.

Table 21: Recommendations – Asset Maintenance

Reference (no./year)	Auditors' Recommendation
2018-6.4.1	Recommend adding KPI / failure analysis and corrective action items into maintenance plan.
2018-6.5.1	Recommend formal risk prioritisation of maintenance tasks.

4.7 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.

4.7.1 Observations

Majority of AMIS is spreadsheet based and processes not highlighted in current procedures or user manuals. There is a potential for loss of user knowledge due to staff turnover and inadequate handover or training. Due to the low complexity of the asset under management, this is not deemed a significant risk.

Minimal input controls on spreadsheets, which require user validation. This increases probability of data entry errors. Due to the size of the network this current systems in place appear to be performing adequately, due to the low volume of data.

No validation of computations was cited.

Spreadsheets are stored on network which provides standard access protection based on login. Access to PC's are in security access offices, central network servers are backed up offsite.

4.7.2 Effectiveness Rating

The effectiveness criteria ratings for asset management system component 7 (Asset Management Information System) are listed in Table 22.

Table 22: Effectiveness Criteria Rating – Asset Management Information System

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
7 - Asset Management Information System				B	2
2018-7.1	4	Adequate system documentation for users and IT operators.	EPS fulfils this requirement. Recommend implementing procedure highlighting location of all AMIS spreadsheets and use.	B	2
2018-7.2	4	Input controls include appropriate verification and validation of data entered into the system.	EPS fulfils this requirement. Recommend all AMIS templates are adequately revision and access controlled or utilise SharePoint system.	B	2
2018-7.3	4	Logical security access controls appear adequate, such as passwords.	EPS fulfils this requirement. Access to AMIS data is based on network logon	B	2
2018-7.4	4	Physical security access controls appear adequate.	EPS fulfils this requirement.	B	1
2018-7.5	4	Data backup procedures appear adequate.	EPS fulfils this requirement.	A	1
2018-7.6	4	Key computations related to licensee performance reporting are materially accurate	EPS fulfils this requirement. Recommend implementing QA/QC requirements for key AMIS databases.	B	2

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
7 - Asset Management Information System				B	2
2018-7.7	4	Management reports appear adequate for the licensee to monitor licence obligations.	<p>EPS fulfils this requirement.</p> <p>Cited OPEX in Appendix 1 in section 2 in C9900e138 Rev B</p> <p>Significant variance is reported to the owner</p> <p>Monthly reports and quarterly reports to the owner, Appendix 1 Part 2 in C9900138e is updated monthly</p>	B	1

4.7.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required. The reviewer did note the following opportunities for improvement which are summarised in Table 23.

Table 23: Recommendations – Asset Management Information System

Reference (no./year)	Auditors' Recommendation
2018-7.1.1	Recommend implementing procedure highlighting location of all Asset Management Information System (AMIS) spreadsheets and use.
2018-7.2.1	Recommend all AMIS templates are adequately revision and access controlled or utilise SharePoint system.
2018-7.6.1	Recommend implementing QA/QC requirements for key AMIS databases.

4.8 Risk Management

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

4.8.1 Observations

The following documents were cited during the interview:

- C9906b72 Rev 2 “Risk Management Plan”, which in turn references C9906c38 “GDS Safety Case” and applicable risk tools.
- Cited C9906c38 Appendix 1B as risk register in safety case

A network FSA performed every 5 years as a part of safety case renewal. This covers safety risks to the network, however non-safety related asset risk should be more formally analysed. Appendix 2 of C9906b72 “Risk Management Plan” lists a register of threats to the asset, but it is unclear if this threat analysis is re-assessed annually as part of the document review.

The “white cap” regulator replacement program was cited as proactive risk management by replacing an asset type that had a high probability of failure.

4.8.2 Effectiveness Rating

The effectiveness criteria ratings for asset management system component 8 (Risk Management) are listed in Table 24.

Table 24: Effectiveness Criteria Rating – Risk Management

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
8 - Risk Management				B	1
2018-8.1	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.	A	1
2018-8.2	1	Risks are documented in a risk register and treatment plans are actioned and monitored.	EPS fulfils this requirement.	B	1
2018-8.3	1	The probability and consequences of asset failure are regularly assessed.	EPS fulfils this requirement.	B	1

4.8.3 Recommendations

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

4.9 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.

4.9.1 Observations

During the interview, auditor cited 7.08 - C9900b02-03 rev 1 “Management of Safety in Contracts” which defines the process for the management of safety for activities conducted on the Esperance Gas Distribution System (GDS) by contractors and to provide guidance on how these management controls can be applied.

Also cited was the 2016 / 2017 Emergency Response Exercises. It was observed that ER Exercise status is reported in the subsequent monthly report to the owners. Findings through each emergency exercise were cited at the workshop. Emergency Response trailer stocktake is conducted every 3 months. Auditor cited checklist for the ER trailer C9906e27 at workshop. Post exercise reviews are conducted with issues and recommendations.

4.9.2 Effectiveness Rating

The effectiveness criteria ratings for asset management system component 9 (Contingency Planning) are listed in Table 25.

Table 25: Effectiveness Criteria Rating – Contingency Planning

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
9 - Contingency Planning				A	1
2018-9.1	2	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks.	EPS fulfils this requirement.	A	1

4.9.3 Recommendations

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

4.10 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.

4.10.1 Observations

The following documents were cited during the interview:

- Business Plan FY 2019 Section 3.3 Gas Distribution Service, in the primary compliance activities C9900e138 Rev B
- C9900e138 Rev B Appendix 1 Part 1 Budget FY-19 identifies annual budget forecast and Appendix 2 has longer term forecast
- Cited 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
- Revenue Analysis for future 10 years in ICG Esperance finance model
- OPEX in Appendix 1 in section 2 in C9900e138 Rev B

The Gas Distribution System is a minor component of the EPS Business Plan, as this asset is small in terms of revenue compared with the electricity generation assets.

4.10.2 Effectiveness Rating

The effectiveness criteria ratings for asset management system component 10 (Financial Planning) are listed in Table 26.

Table 26: Effectiveness Criteria Rating – Financial Planning

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
10 - Financial Planning				B	2
2018-10.1	5	The financial plan states the financial objectives and strategies and actions to achieve the objectives.	EPS fulfils this requirement. Recommend adding reference to Asset Plans in Business Plan.	B	2

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
10 - Financial Planning				B	2
2018-10.2	5	The financial plan identifies the source of funds for capital expenditure and recurrent costs.	EPS fulfils this requirement. Recommend adding costing OPEX/CAPEX to Asset Plans and reference in Business Plan.	B	2
2018-10.3	5	The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets).	EPS fulfils this requirement.	A	1
2018-10.4	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. Recommend having five year rolling business and asset plans.	B	2
2018-10.5	5	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services.	EPS fulfils this requirement.	B	1
2018-10.6	5	Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary.	EPS fulfils this requirement.	A	1

4.10.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required. The reviewer did note the following opportunities for improvement which are summarised in Table 27.

Table 27: Recommendations – Financial Planning

Reference (no./year)	Auditors' Recommendation
2018-10.1.1	Recommend adding reference to Asset Plans in Business Plan
2018-10.2.1	Recommend adding costing OPEX/CAPEX to Asset Plans and reference in Business Plan
2018-10.4.1	Recommend having five year rolling business and asset plans

4.11 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.

4.11.1 Observations

The following documents were cited during the interview:

- C9900138e Rev B "Esperance Energy Project Business Plan Financial Year 2019" which is updated annually. Specific relevant areas include Section 3.3 Gas Distribution Services, Appendix 1 and 2.
- Meter Replacement Plan was in AMP C9906a62 and It is mentioned in the business plan, however the specific meters to be replaced or recalibrated in the budget year are not listed in the AMP.
- Assigning responsibilities and target dates to activities.

It was noted that the system comprised of relatively new assets and historical data was needed to see the trend in change of the condition, e.g. riser replacement, or white cap regulator replacement program was based on conditions where several had leaked.

The latest 2018 leak survey report cited indicated that the leaks detected were within KPI targets for the sample of mains surveyed. No forecast capital expenditure had been highlighted for mains rectification.

4.11.2 Effectiveness Rating

The effectiveness criteria ratings for asset management system component 11 (Capital Expenditure Planning) are listed in Table 28.

Table 28: Effectiveness Criteria Rating – Capital Expenditure Planning

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
11 - Capital Expenditure Planning				B	1
2018-11.1	5	There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates.	EPS fulfils this requirement.	A	1
2018-11.2	5	The plan provides reasons for capital expenditure and timing of expenditure.	EPS fulfils this requirement.	A	1
2018-11.3	5	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan.	EPS fulfils this requirement.	A	1
2018-11.4	5	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned.	EPS fulfils this requirement.	B	1

4.11.3 Recommendations

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

4.12 Review of Asset Management System

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

4.12.1 Observations

Asset Plans are updated annually, and revision dates were cited by the auditor. It is recommended that Appendix 2 of C9906a62 "GDS Asset Management - Maintenance Plan" references latest version of C9906e30 "KPI GDS data 2017-2018".

It is not clear what is updated or changed from the previous annual review plans, and would be helpful to have a details revision change register in these documents.

Internal TWPS audit conducted annually and auditor cited the previous audit, TMD-6032-QA-0017 Rev 0 30/10/17, however no specific actions or audit areas for Asset Management Systems were listed in the findings.

It was cited that the annual safety case review was conducted.

4.12.2 Effectiveness Rating

The effectiveness criteria ratings for asset management system component 12 (Review of AMS) are listed in Table 29.

Table 29: Effectiveness Criteria Rating – Review of AMS

Reference	Review Priority	Effectiveness Criteria	Summary of Observations	Definition	Performance
12 - Review of AMS				B	2
2018-12.1	4	A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current.	EPS fulfils this requirement. No review register within annual plan updates	B	2
2018-12.2	4	Independent reviews (e.g. internal audit) are performed of the asset management system.	EPS fulfils this requirement. Include AMS focus into internal audit scope.	B	2

4.12.3 Recommendations

No process deficiencies rated C, D, 3 or 4 have been identified, and therefore mandatory recommendations not required. The reviewer did note the following opportunities for improvement which are summarised in Table 30.

Table 30: Recommendations – Review of AMS

Reference (no./year)	Auditors' Recommendation
2018-12.1.1	Recommend including change register within annual plan updates
2018-12.2.1	Recommend including AMS focus into internal audit scope.

5 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 all actions from the previous review were addressed and closed out satisfactorily.

The effectiveness ratings shown in Table 1 illustrate the EPS achieved one maximum rating for the twelve process areas. Performance ratings have improved since 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 are considered discretionary opportunities for improvement.

In summary the EPS AMS utilises fairly manual tools which is acceptable for an asset the current size and complexity of GDL 10. However, periodic assessment of these tools is recommended to ensure their continued suitability.

Appendix 1 – Table of Documents Reviewed

Ref No.	Subfolder	Filename	Hyperlink	Document Number	Document Title	Revision	Issue Date	Date Received
1	GDS Procedures/01.0 General	C9906a59 Rev 4_ Training Procedure.pdf	1	C9906A59	Training Procedure	4	17-Sep-18	20-Sep-18
2	GDS Procedures/01.0 General	C9906a61 Rev 3_Workplace and Personal Safety.pdf	2	C9906a61	Workplace and Personal Safety	3	14-Aug-18	20-Sep-18
3	GDS Procedures/01.0 General	C9906a68 Rev 1 Power Station Shift Routines.pdf	3	C9906a68	Power Station Shift Routines	1	17-Oct-16	20-Sep-18
4	GDS Procedures/01.0 General	C9906a70 Rev 2 GDS Permit to Work Procedure.pdf	4	C9906a70	GDS Permit to Work Procedure	2	17-Dec-15	20-Sep-18
5	GDS Procedures/01.0 General	C9906b26 rev 1 WI - Meter Reading.pdf	5	C9906b26	WI - Meter Reading	1	1-Jun-17	20-Sep-18
6	GDS Procedures/01.0 General	C9906c39 Rev1_Product Acceptance Procedure.pdf	6	C9906c39	Product Acceptance Procedure	1	27-Oct-15	20-Sep-18
7	GDS Procedures/01.0 General	C9906c41 Rev0_Energy Efficiency Information.pdf	7	C9906c41	Energy Efficiency Information	0	1-Apr-11	20-Sep-18
8	GDS Procedures/01.0 General	C9906c70 Rev0_Field Report Sheet.pdf	8	C9906c70	Field Report Sheet	0	8-Aug-13	20-Sep-18
9	GDS Procedures/01.0 General	C9906c75_rev 1Gas Meter Start Up Sheet.pdf	9	C9906c75	Gas Meter Start Up Sheet	1	20-Jan-16	20-Sep-18
10	GDS Procedures/01.0 General	C9906d03 Rev1_Personal Protective Equipment.pdf	10	C9906d03	Personal Protective Equipment	1	20-Jun-13	20-Sep-18
11	GDS Procedures/01.0 General	C9906D67 Rev 0 Document Control Manual.pdf	11	C9906D67	Document Control Manual	0	16-Mar-16	20-Sep-18
12	GDS Procedures/01.0 General	C9906e02 Rev 0 Calibration equipment list - template.xlsx	12	C9906e02	Calibration equipment list - template	0	-	20-Sep-18
13	GDS Procedures/01.0 General	C9906e06 rev 0 WI - NOC accuracy verification.pdf	13	C9906e06	WI - NOC accuracy verification	0	1-Jun-17	20-Sep-18
14	GDS Procedures/01.0 General	C9906e12 Rev 0 Assessment Record- Procedure application.pdf	14	C9906e12	Assessment Record- Procedure application	0	-	20-Sep-18
15	GDS Procedures/01.0 General	C9906e14 rev 0 Skills confirmation - Equipment use.pdf	15	C9906e14	Skills confirmation	0	-	20-Sep-18
16	GDS Procedures/01.0 General	C9906e19 Pressure test certificate for consumable_ Rev 1.pdf	16	C9906e19	Pressure test certificate for consumable	1	-	20-Sep-18
17	GDS Procedures/01.0 General	C9906e29 GS700 gasurveyor User Guide.pdf	17	C9906e29	gasurveyor User Guide		28-Mar-18	20-Sep-18
18	GDS Procedures/02.0 Gas System and Facilities	C9906a67 rev 2 Check List - Class I Gas Installations.pdf	18	C9906a67	Class "I" Gas Installations Audit Checklist	2	1-Jun-17	20-Sep-18
19	GDS Procedures/02.0 Gas System and Facilities	C9906a72 Rev 0_Effective Isolation and Tagging Procedure 2.03.pdf	19	C9906a72	Effective Isolation and Tagging Procedure 2.03	0	9-Sep-05	20-Sep-18
20	GDS Procedures/02.0 Gas System and Facilities	C9906b11 Rev1_Application for the Provision of Commissioning Gas_EPS.pdf	20	C9906b11	Application for the Provision of Commissioning Gas_EPS	1	-	20-Sep-18
21	GDS Procedures/02.0 Gas System and Facilities	C9906b18 rev 1 Check List - Class G Gas Installations.pdf	21	C9906b18	Check List - Class G Gas Installations	1	1-Apr-17	20-Sep-18
22	GDS Procedures/02.0 Gas System and Facilities	C9906c45 Rev 2a_New Gas mains and Services Construction Manual - Superseded.pdf	22	C9906c45	New Gas mains and Services Construction Manual - Superseded	2a	1-Mar-17	20-Sep-18
23	GDS Procedures/02.0 Gas System and Facilities	C9906c48 Rev2 - Commissioning a Gas Service.pdf	23	C9906c48	Commissioning a Gas Service	2	12-Dec-16	20-Sep-18
24	GDS Procedures/02.0 Gas System and Facilities	C9906c60 Rev 2_PE Pipe Welding procedure.pdf	24	C9906c60	PE Pipe Welding procedure	2	15-Mar-17	20-Sep-18
25	GDS Procedures/02.0 Gas System and Facilities	C9906c78 Rev 2_Third Party Damage.pdf	25	C9906c78	Third Party Damage	2	19-Sep-17	20-Sep-18

Ref No.	Subfolder	Filename	Hyperlink	Document Number	Document Title	Revision	Issue Date	Date Received
26	GDS Procedures/02.0 Gas System and Facilities	C9906c82 Rev 4_Installing a Plastic Gas Service.pdf	26	C9906c82	Installing a Plastic Gas Service	4	14-Mar-17	20-Sep-18
27	GDS Procedures/02.0 Gas System and Facilities	C9906c84 Rev 3_Locating of Underground Assets.pdf	27	C9906c84	Locating of Underground Assets	3	26-Mar-17	20-Sep-18
28	GDS Procedures/02.0 Gas System and Facilities	C9906c85 Rev 3_Alter a Gas Service.pdf	28	C9906c85	Alter a Gas Service	3	29-Mar-17	20-Sep-18
29	GDS Procedures/02.0 Gas System and Facilities	C9906c87 Rev1_Gas Main Marker Tape.pdf	29	C9906c87	Gas Main Marker Tape	1	20-Jun-13	20-Sep-18
30	GDS Procedures/02.0 Gas System and Facilities	C9906c92 Rev3_Disconnection of a gas service.pdf	30	C9906c92	Disconnection of a gas service	3	29-Mar-17	20-Sep-18
31	GDS Procedures/02.0 Gas System and Facilities	C9906c95 Rev 2_Sampling of Natural Gas for Odorant Monitoring.pdf	31	C9906c95	Sampling of Natural Gas for Odorant Monitoring	2	4-Apr-16	20-Sep-18
32	GDS Procedures/02.0 Gas System and Facilities	C9906c96 Rev1_Gas Warning Signs.pdf	32	C9906c96	Gas Warning Signs	1	20-Jun-13	20-Sep-18
33	GDS Procedures/02.0 Gas System and Facilities	C9906d47_Rev 2 PE Piping Installation Certificate.pdf	33	C9906d47	Piping Installation Certificate	2	-	20-Sep-18
34	GDS Procedures/02.0 Gas System and Facilities	C9906d57 Rev 1 Residential Main Control Valve Replacement.pdf	34	C9906d57	Residential Main Control Valve Replacement	1	26-Mar-17	20-Sep-18
35	GDS Procedures/02.0 Gas System and Facilities	C9906d68 rev 2 MDR Content Page.pdf	35	C9906d68	MDR Content Page	2	-	20-Sep-18
36	GDS Procedures/02.0 Gas System and Facilities	C9906d82 rev 0 Gas Service Piping Commissioning Certificate.pdf	36	C9906d82	Gas Service Piping Commissioning Certificate	0	9-Dec-16	20-Sep-18
37	GDS Procedures/02.0 Gas System and Facilities	C9906d90 rev 0 Commission a Large Meter Set .pdf	37	C9906d90	Commission a Large Meter Set	0	27-Apr-17	20-Sep-18
38	GDS Procedures/04.0 Scada and Communications	C9906a65 Rev 0_SCADA Dial-up Facility and System Security.pdf	38	C9906a65	SCADA Dial-up Facility and System Security	0	9-Sep-05	20-Sep-18
39	GDS Procedures/05.0 Incident Management	C9906a60 Rev 0_Sabotage Threats Procedure.pdf	39	C9906a60	Sabotage Threats Procedure	0	9-Sep-05	20-Sep-18
40	GDS Procedures/05.0 Incident Management	C9906a64 Rev 3 GDS Maintenance Call Out Guidelines.pdf	40	C9906a64	GDS Maintenance Call Out Guidelines	3	15-Feb-17	20-Sep-18
41	GDS Procedures/05.0 Incident Management	C9906a66 Rev 4 Loss of Containment Procedure.pdf	41	C9906a66	Loss of Containment Procedure	4	8-Aug-16	20-Sep-18
42	GDS Procedures/05.0 Incident Management	C9906a69 Rev 0 Reporting - Fault, Incident and Regulatory Procedure.pdf	42	C9906a69	Reporting - Fault, Incident and Regulatory Procedure	0	24-Nov-03	20-Sep-18
43	GDS Procedures/05.0 Incident Management	C9906d04 GDS Rev0_Incident Notification and Failure Investigation Form.pdf	43	C9906d04	Incident Notification and Failure Investigation Form	0	-	20-Sep-18
44	GDS Procedures/05.0 Incident Management	C9906d48 rev 2 Leak Management Manual .pdf	44	C9906d48	Leak Management Manual	2	30-Jan-17	20-Sep-18
45	GDS Procedures/05.0 Incident Management	C9906d88 Rev 0 - Emergency Call - Notification Form.pdf	45	C9906d88	Emergency Call - Notification Form	0	5-Feb-17	20-Sep-18
46	GDS Procedures/06.0 Field Maintenance	C9906a44 rev 6 Domestic meter connection and reconnection.pdf	46	C9906a44	Domestic meter connection and reconnection	6	11-Jan-18	20-Sep-18
47	GDS Procedures/06.0 Field Maintenance	C9906a82 Rev 1_Dial Before You Dig Response Procedure.pdf	47	C9906a82	Dial Before You Dig Response Procedure	1	29-Jan-17	20-Sep-18
48	GDS Procedures/06.0 Field Maintenance	C9906a83 Rev 1_Maintenance Purchasing Procedure.pdf	48	C9906a83	Maintenance Purchasing Procedure	1	30-Mar-16	20-Sep-18
49	GDS Procedures/06.0 Field Maintenance	C9906a84 Rev 0_Miscellaneous Valve Maintenance Procedure.pdf	49	C9906a84	Miscellaneous Valve Maintenance Procedure	0	9-Sep-05	20-Sep-18
50	GDS Procedures/06.0 Field Maintenance	C9906a85 Rev 4 - Mains Gassing Purging and Flaring Procedure .pdf	50	C9906a85	Mains Gassing Purging and Flaring Procedure	4	25-Jul-17	20-Sep-18

Ref No.	Subfolder	Filename	Hyperlink	Document Number	Document Title	Revision	Issue Date	Date Received
51	GDS Procedures/06.0 Field Maintenance	C9906a94 Rev 1 GDS MeteringEquipmentAVTProcedure.pdf	51	C9906a94	GDS MeteringEquipmentAVTProcedure	1	17-Oct-16	20-Sep-18
52	GDS Procedures/06.0 Field Maintenance	C9906c44 Rev 3_Meter Box Location Guidelines.pdf	52	C9906c44	Meter Box Location Guidelines	3	15-Apr-17	20-Sep-18
53	GDS Procedures/06.0 Field Maintenance	C9906c49 Rev 3 Consumer Appliance Commissioning Relighting.pdf	53	C9906c49	Consumer Appliance Commissioning Relighting	3	22-Feb-18	20-Sep-18
54	GDS Procedures/06.0 Field Maintenance	C9906c50 Rev 0 - De-Commission a Gas Service..pdf	54	C9906c50	De-Commission a Gas Service	0	31-Mar-17	20-Sep-18
55	GDS Procedures/06.0 Field Maintenance	C9906c51 Rev1 - After Hours Call Out Roster.pdf	55	C9906c51	After Hours Call Out Roster	1	20-Jun-13	20-Sep-18
56	GDS Procedures/06.0 Field Maintenance	C9906c53 Rev1 - Use of Traffic Management Devices.pdf	56	C9906c53	Use of Traffic Management Devices	1	20-Jun-13	20-Sep-18
57	GDS Procedures/06.0 Field Maintenance	C9906c55 Rev 4 - Use of GMI Gas Detector.pdf	57	C9906c55	Use of GMI Gas Detector	4	23-Aug-18	20-Sep-18
58	GDS Procedures/06.0 Field Maintenance	C9906c56 Rev1 - Removing Water From a Main.pdf	58	C9906c56	Removing Water From a Main	1	20-Jun-13	20-Sep-18
59	GDS Procedures/06.0 Field Maintenance	C9906c57 Rev 2 - PE Pipe Repair.pdf	59	C9906c57	PE Pipe Repair	2	1-Jul-17	20-Sep-18
60	GDS Procedures/06.0 Field Maintenance	C9906c58 Rev 3GDS Leak Survey Procedure.pdf	60	C9906c58	GDS Leak Survey Procedure	3	8-Feb-17	20-Sep-18
61	GDS Procedures/06.0 Field Maintenance	C9906c59 Rev 2 - Calibration and Testing requirements for leak.pdf	61	C9906c59	Calibration and Testing requirements for leak	2	12-Jan-16	20-Sep-18
62	GDS Procedures/06.0 Field Maintenance	C9906c61 Rev1 - Personal Protective Equipment.pdf	62	C9906c61	Personal Protective Equipment	1	20-Jun-13	20-Sep-18
63	GDS Procedures/06.0 Field Maintenance	C9906c63 Rev 4 - Excavation and Backfilling Requirements.pdf	63	C9906c63	Excavation and Backfilling Requirements	4	14-Mar-17	20-Sep-18
64	GDS Procedures/06.0 Field Maintenance	C9906c65 Rev3 - Squeeze Off Operations.pdf	64	C9906c65	Squeeze Off Operations	3	23-Mar-17	20-Sep-18
65	GDS Procedures/06.0 Field Maintenance	C9906c67 Rev 2 - Use of Barricades.pdf	65	C9906c67	Use of Barricades	2	3-Sep-17	20-Sep-18
66	GDS Procedures/06.0 Field Maintenance	C9906c69 Rev2_ Working in the Vicinity of Overhead Power Lines.p.pdf	66	C9906c69	Working in the Vicinity of Overhead Power Lines	2	18-Jan-16	20-Sep-18
67	GDS Procedures/06.0 Field Maintenance	C9906c70 Rev0_Field Report Sheet.pdf	67	C9906c70	Field Report Sheet	0	8-Aug-13	20-Sep-18
68	GDS Procedures/06.0 Field Maintenance	C9906c71 Rev 7_Gas Tightness Testing for Consumer Installations.pdf	68	C9906c71	Gas Tightness Testing for Consumer Installations	7	28-Feb-18	20-Sep-18
69	GDS Procedures/06.0 Field Maintenance	C9906c72 Rev 4_No Gas Procedure- Fault Finding.pdf	69	C9906c72	No Gas Procedure- Fault Finding	4	19-Sep-17	20-Sep-18
70	GDS Procedures/06.0 Field Maintenance	C9906c75 rev 1 Gas Meter Start Up Sheet.pdf	70	C9906c75	Gas Meter Start Up Sheet	1	8-Nov-16	20-Sep-18
71	GDS Procedures/06.0 Field Maintenance	C9906c85 Rev 3_Alter a Gas Service.pdf	71	C9906c85	Alter a Gas Service	3	29-Mar-17	20-Sep-18
72	GDS Procedures/06.0 Field Maintenance	C9906c86 Rev3_Operation of Cutter Tee .pdf	72	C9906c86	Operation of Cutter Tee	3	30-Mar-17	20-Sep-18
73	GDS Procedures/06.0 Field Maintenance	C9906c88 Rev 6 Pneumatic Testing.pdf	73	C9906c88	Pneumatic Testing	6	14-Mar-17	20-Sep-18
74	GDS Procedures/06.0 Field Maintenance	C9906c89 Rev1_Pigging.pdf	74	C9906c89	Pigging	1	20-Jun-13	20-Sep-18
75	GDS Procedures/06.0 Field Maintenance	C9906c97 Rev3_Pipeline Patrol.pdf	75	C9906c97	Pipeline Patrol	3	29-Mar-16	20-Sep-18

Ref No.	Subfolder	Filename	Hyperlink	Document Number	Document Title	Revision	Issue Date	Date Received
76	GDS Procedures/06.0 Field Maintenance	C9906d48 rev 1 Leak Management Manual .pdf	76	C9906d48	Leak Management Manual	1	24-Nov-16	20-Sep-18
77	GDS Procedures/06.0 Field Maintenance	C9906d51 Leak Surveyor User Handbook.pdf	77	C9906d51	Leak Surveyor User Handbook	2	28-Jul-04	20-Sep-18
78	GDS Procedures/06.0 Field Maintenance	C9906d52 manometer user manual - series HHP8200 hand held.pdf	78	C9906d52	manometer user manual - series HHP8200 hand held	-	-	20-Sep-18
79	GDS Procedures/06.0 Field Maintenance	C9906d53 MultiRae personal gas detector - user manual.pdf	79	C9906d53	MultiRae personal gas detector - user manual	C	1-Mar-14	20-Sep-18
80	GDS Procedures/06.0 Field Maintenance	C9906d54 GDS Maintenance Plan Matrix rev 4.pdf	80	C9906d54	GDS Maintenance Plan Matrix	4	29-Jun-18	20-Sep-18
81	GDS Procedures/06.0 Field Maintenance	C9906d55 Rev A - Use of Voltage Pen.pdf	81	C9906d55	Use of Voltage Pen	A	7-Dec-15	20-Sep-18
82	GDS Procedures/06.0 Field Maintenance	C9906d56 rev 0 Leak investigation and repair form.pdf	82	C9906d56	Leak investigation and repair form	0	-	20-Sep-18
83	GDS Procedures/06.0 Field Maintenance	C9906d58 Door Hangers_No Contract or a Leak.pdf	83	C9906d58	Door Hangers_No Contract or a Leak	-	-	20-Sep-18
84	GDS Procedures/06.0 Field Maintenance	C9906d59 Door Hangers_Soft Close.pdf	84	C9906d59	Door Hangers_Soft Close	-	-	20-Sep-18
85	GDS Procedures/06.0 Field Maintenance	c9906d60 Door Hangers_Disconnection.pdf	85	c9906d60	Door Hangers_Disconnection	-	-	20-Sep-18
86	GDS Procedures/06.0 Field Maintenance	C9906d61 Door Hangers_New Tenant.pdf	86	C9906d61	Door Hangers_New Tenant	-	-	20-Sep-18
87	GDS Procedures/06.0 Field Maintenance	C9906d62 - User Manual - buried pipe and cable locator - DitchWitch 950RT.pdf	87	C9906d62	User Manual - buried pipe and cable locator - DitchWitch 950RT	3	-	20-Sep-18
88	GDS Procedures/06.0 Field Maintenance	C9906d64 Rev 1_Use of Leak Identification Facility.pdf	88	C9906d64	Use of Leak Identification Facility	1	25-Feb-16	20-Sep-18
89	GDS Procedures/06.0 Field Maintenance	C9906d69 rev 0 - PE Weld Record Sheet.xlsx	89	C9906d69	PE Weld Record Sheet	0	-	20-Sep-18
90	GDS Procedures/06.0 Field Maintenance	C9906d72 rev 0 Large Meter Set Maintenance .pdf	90	C9906d72	Large Meter Set Maintenance	0	27-Apr-17	20-Sep-18
91	GDS Procedures/06.0 Field Maintenance	C9906d73 rev 2 Bar Holing procedure .pdf	91	C9906d73	Bar Holing procedure	2	9-Feb-17	20-Sep-18
92	GDS Procedures/06.0 Field Maintenance	C9906d75 Rev1 - Use of DP-IR Gas Detector.pdf	92	C9906d75	Use of DP-IR Gas Detector	1	8-Feb-17	20-Sep-18
93	GDS Procedures/06.0 Field Maintenance	C9906d77 - Manual type 1883 CBP2 regulator.pdf	93	C9906d77	Manual type 1883 CBP2 regulator	-	-	20-Sep-18
94	GDS Procedures/06.0 Field Maintenance	C9906d78 Rev 1 - Maps of mains for leak survey.pdf	94	C9906d78	Maps of mains for leak survey	1	28-Feb-18	20-Sep-18
95	GDS Procedures/06.0 Field Maintenance	C9906d80_rev 0 - Approval to commence Pneumatic Testing.pdf	95	C9906d80	Approval to commence Pneumatic Testing	0	-	20-Sep-18
96	GDS Procedures/06.0 Field Maintenance	C9906d89_rev 0 - Consumer Appliance Re-Lighting Certificate .pdf	96	C9906d89	Consumer Appliance Re-Lighting Certificate	0	-	20-Sep-18
97	GDS Procedures/06.0 Field Maintenance	C9906d91 rev 1 Medium meter set Maintenance.pdf	97	C9906d91	Medium meter set Maintenance	1	20-Feb-18	20-Sep-18
98	GDS Procedures/06.0 Field Maintenance	C9906d94_rev 1 WI - Large Meter Set Inspections.pdf	98	C9906d94	WI - Large Meter Set Inspections	1	1-Sep-17	20-Sep-18
99	GDS Procedures/06.0 Field Maintenance	C9906d95_rev 1 WI - Medium Meter Set Inspections.pdf	99	C9906d95	WI - Medium Meter Set Inspections	1	1-Sep-17	20-Sep-18
100	GDS Procedures/06.0 Field Maintenance	C9906d96_rev 1 WI - Residential Meter Set Inspections .pdf	100	C9906d96	WI - Residential Meter Set Inspections	1	1-Sep-17	20-Sep-18

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101	GDS Procedures/06.0 Field Maintenance	C9906d97_rev 0 WI - Meter replacement.pdf	101	C9906d97	WI - Meter replacement	0	1-Apr-17	20-Sep-18
102	GDS Procedures/06.0 Field Maintenance	C9906e01_rev 0 WI - On site DBYD support.pdf	102	C9906e01	On site DBYD support	0	1-Jun-17	20-Sep-18
103	GDS Procedures/06.0 Field Maintenance	C9906e06_rev 0 WI - NOC accuracy verification.pdf	103	C9906e06	WI - NOC accuracy verification	0	1-Jun-17	20-Sep-18
104	GDS Procedures/06.0 Field Maintenance	C9906e08_rev 0 WI- Mains Patrol.pdf	104	C9906e08	WI- Mains Patrol	0	1-Jun-17	20-Sep-18
105	GDS Procedures/06.0 Field Maintenance	C9906e11_rev 0 Meter Set Inspection Report.pdf	105	C9906e11	Meter Set Inspection Report	0	7-Sep-17	20-Sep-18
106	GDS Procedures/06.0 Field Maintenance	C9906e17_rev 0 GDS Field Work Documents - Guide List.pdf	106	C9906e17	GDS Field Work Documents - Guide List	0	1-Jan-18	20-Sep-18
107	GDS Procedures/06.0 Field Maintenance	C9906e21_rev 0 WI -GDS Network extremity pressure monitoring.pdf	107	C9906e21	WI -GDS Network extremity pressure monitoring	0	1-Jan-18	20-Sep-18
108	GDS Procedures/06.0 Field Maintenance	C9906e27_Emergency Trailer Inspection Rev 0.pdf	108	C9906e27	Emergency Trailer inspection	0	-	20-Sep-18
109	GDS Procedures/06.0 Field Maintenance	C9906f71 - Manual - GMI-ps200-2013 -Personal gas detector.pdf	109	C9906f71	Manual - GMI-ps200-2013 -Personal gas detector	5	19-Mar-12	20-Sep-18
110	GDS Procedures/06.0 Field Maintenance	C9906c74_Rev 0 Daily Leak Survey Record Sheet.pdf	110	C9906c74	Daily Leak Survey Record Sheet	0	5-Sep-16	20-Sep-18
111	GDS Procedures/07.0 Risk Management System	7.05 - C9900a98-99 rev 2 Audit and Review.pdf	111	C9900a98-99	Audit and Review	2	17-Sep-18	20-Sep-18
112	GDS Procedures/07.0 Risk Management System	7.08 - C9900b02-03 rev 1 Management of Safety in Contracts.pdf	112	C9900b02-03	Management of Safety in Contracts	1	14-Sep-18	20-Sep-18
113	GDS Procedures/07.0 Risk Management System	C9906a70_Rev 2 GDS Permit to Work Procedure.pdf	113	C9906a70	GDS Permit to Work Procedure	2	17-Dec-15	20-Sep-18
114	GDS Procedures/07.0 Risk Management System	C9906a87_Rev 1_GDS Environmental Management Procedure .pdf	114	C9906a87	GDS Environmental Management Procedure	1	7-Nov-16	20-Sep-18
115	GDS Procedures/07.0 Risk Management System	C9906a88_Rev 1_GDS Environmental Management Plan.pdf	115	C9906a88	GDS Environmental Management Plan	1	7-Nov-16	20-Sep-18
116	GDS Procedures/07.0 Risk Management System	C9906b72_Rev 2 Risk Management Plan.pdf	116	C9906b72	Risk Management Plan	2	17-May-18	20-Sep-18
117	GDS Procedures/07.0 Risk Management System	C9906c26_Rev5 GDS Third Party Works.pdf	117	C9906c26	GDS Third Party Works	5	2-Aug-17	20-Sep-18
118	GDS Procedures/07.0 Risk Management System	C9906c38_Rev 4 GDS Safety Case.pdf	118	C9906c38	GDS Safety Case	4	2-Jan-18	20-Sep-18
119	GDS Procedures/07.0 Risk Management System	C9906c98_Rev2_Management of Change .pdf	119	C9906c98	Management of Change	2	19-Apr-16	20-Sep-18
120	GDS Procedures/07.0 Risk Management System	C9906d02_Rev 1_HSE Event Investigation Corrective and Preventat.pdf	120	C9906d02	HSE Event Investigation Corrective and Preventat	1	6-Apr-16	20-Sep-18
121	GDS Procedures/07.0 Risk Management System	C9906d18_Rev 0_Failure Analysis Procedure.pdf	121	C9906d18	Failure Analysis Procedure	0	5-Nov-12	20-Sep-18
122	GDS Procedures/07.0 Risk Management System	C9906e04_Rev 0 GDS Emergency Response Plan.pdf	122	C9906e04	GDS Emergency Response Plan	0	12-Jul-17	20-Sep-18
123	GDS Procedures/07.0 Risk Management System	C9906e05_rev 1 - GDS Induction Presentation.pdf	123	C9906e05	GDS Induction Presentation	1	-	20-Sep-18
124	GDS Procedures/08.0 Registers	C9906D67_Rev 0 Document Control Manual.pdf	124	C9906D67	Document Control Manual	0	16-Mar-16	20-Sep-18
125	GDS Procedures/09.0 Asset Management Information	C9906a01_Master List (Updated).xls	125	C9906a01	Master List (Updated)	-	-	20-Sep-18

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126	GDS Procedures/09.0 Asset Management Information	C9906a30 rev 3_Asset Management System.pdf	126	C9906a30	Asset Management System	3	1-May-16	20-Sep-18
127	GDS Procedures/09.0 Asset Management Information	C9906a30_Appendix 2_AssetRegister_RevA_with_drawing_numbers.xls	127	C9906a30	Appendix 2_AssetRegister_RevA_with_drawing_numbers	-	-	20-Sep-18
128	GDS Procedures/09.0 Asset Management Information	C9906a62 Rev 6 _GDS Asset Management - Maintenance Plan.pdf	128	C9906a62	GDS Asset Management - Maintenance Plan	6	25-May-18	20-Sep-18
129	GDS Procedures/09.0 Asset Management Information	C9906a63 rev 7_GDS Operational Plan.pdf	129	C9906a63	GDS Operational Plan	7	25-May-18	20-Sep-18
130	GDS Procedures/09.0 Asset Management Information	C9906a79 Rev 2_Network Operating Guidelines.pdf	130	C9906a79	Network Operating Guidelines	2	26-Oct-16	20-Sep-18
131	GDS Procedures/09.0 Asset Management Information	C9906b57 rev 3_GDS Asset Management - philosophy & strategy.pdf	131	C9906b57	GDS Asset Management - philosophy & strategy	3	3-Jul-17	20-Sep-18
132	GDS Procedures/09.0 Asset Management Information	C9906b64_Esperance GDS Asset Register Rev 3c.xlsx	132	C9906b64	Esperance GDS Asset Register	3c	-	20-Sep-18
133	GDS Procedures/09.0 Asset Management Information	C9906c43 Rev 6 New Customer Connection Manual.pdf	133	C9906c43	New Customer Connection Manual	6	21-Jun-18	20-Sep-18
134	GDS Procedures/09.0 Asset Management Information	C9906c99 Rev 0_Design Control and Project Management.pdf	134	C9906c99	Design Control and Project Management	0	5-Nov-12	20-Sep-18
135	GDS Procedures/09.0 Asset Management Information	C9906d01 Rev 0_Network Asset Replacement Strategy.pdf	135	C9906d01	Network Asset Replacement Strategy	0	5-Nov-12	20-Sep-18
136	GDS Procedures/09.0 Asset Management Information	C9906d18 Rev 0_Failure Analysis Procedure.pdf	136	C9906d18	Failure Analysis Procedure	0	5-Nov-12	20-Sep-18
137	GDS Procedures/09.0 Asset Management Information	C9906d67 Rev 0 Document Control Manual.pdf	137	C9906d67	Document Control Manual	0	16-Mar-16	20-Sep-18
138	GDS Procedures/10.0 Forms	C9906a74_Gas Supply Request and Agreement Form_WAM.pdf	138	C9906a74	Gas Supply Request and Agreement Form_WAM	-	-	20-Sep-18
139	GDS Procedures/10.0 Forms	C9906a81_Service connection details sticker_WAM.xls	139	C9906a81	Service connection details sticker_WAM	-	-	20-Sep-18
140	GDS Procedures/10.0 Forms	C9906a90_Gas Services Record Sheet.pdf	140	C9906a90	Gas Services Record Sheet	-	-	20-Sep-18
141	GDS Procedures/11.0 PRS Procedures, Drawings, Photos and Risk Review/11.2 PRS Draw	C9906c91 RevA_PRS Installation Design.pdf	141	C9906c91	PRS Installation Design	A	20-Apr-11	20-Sep-18
142	GDS Procedures/CUSTOMER MANAGEMENT PROCESSES	C9906a07_Customer Charter_Rev 2_24Mar10.pdf	142	C9906a07	Customer Charter	2	24-Mar-10	20-Sep-18
143	GDS Procedures/CUSTOMER MANAGEMENT PROCESSES	C9906b28_Rev6_Customer Safety Awareness Program EGDC.pdf	143	C9906b28	Customer Safety Awareness Program EGDC	6	19-Oct-16	20-Sep-18
144	GDS Procedures/CUSTOMER MANAGEMENT PROCESSES	C9906b67 Rev 4 EGDC Complaints Handling Process.pdf	144	C9906b67	EGDC Complaints Handling Process	4	17-Sep-18	20-Sep-18
145	GDS Procedures/CUSTOMER MANAGEMENT PROCESSES	C9906b68 Rev 0 - Bad Debt Management.pdf	145	C9906b68	Bad Debt Management	0	29-Oct-17	20-Sep-18
146	GDS Procedures/CUSTOMER MANAGEMENT PROCESSES	C9906c41 RevA_Energy Efficiency Information.pdf	146	C9906c41	Energy Efficiency Information	A	1-Apr-11	20-Sep-18
147	GDS Procedures/CUSTOMER MANAGEMENT PROCESSES	C9906d43 rev 1 Financial Hardship Policy.pdf	147	C9906d43	Financial Hardship Policy	1	12-Sep-18	20-Sep-18
148	GDS Procedures/CUSTOMER MANAGEMENT PROCESSES	C9906d81 rev 0 Complaints Handling form.pdf	148	C9906d81	Complaints Handling form	0	-	20-Sep-18
149	GDS Procedures/CUSTOMER MANAGEMENT PROCESSES	C9906e22 Rev 1 Disconnection and HUGS.pdf	149	C9906e22	Disconnection and HUGS	1	8-Aug-18	20-Sep-18
150	GDS Procedures/CUSTOMER MANAGEMENT PROCESSES	C9906e23 rev 1 - Extended Payment Arrangement.pdf	150	C9906e23	Extended Payment Arrangement	1	20-Apr-18	20-Sep-18

Ref No.	Subfolder	Filename	Hyperlink	Document Number	Document Title	Revision	Issue Date	Date Received
151	GDS Procedures/CUSTOMER MANAGEMENT PROCESSES	c9906e24 Rev 0 Hugs application and consent checklist.docx	151	c9906E24	Hugs application and consent checklist	0	8-Aug-18	20-Sep-18
152	GDS Procedures/CUSTOMER MANAGEMENT PROCESSES	C9906e26 rev 1 Request for quote - new gas service.pdf	152	C9906e26	Request for quote - new gas service	1	-	20-Sep-18
153	GDS Procedures/CUSTOMER MANAGEMENT PROCESSES	C9906E28 rev 0 CENTERPAY REQUEST FORM.pdf	153	C9906E28	CENTERPAY REQUEST FORM	0	2-Aug-18	20-Sep-18
154	GDS Procedures/EMERGENCY RESPONSE PLAN	C9906e04 Rev 0 GDS Emergency Response Plan.pdf	154	C9906e04	GDS Emergency Response Plan	0	12-Jul-17	20-Sep-18
155	GDS Procedures/GDS ASSET REGISTER	C9906a30_Appendix 2_AssetRegister_Rev8_with_drawing_numbers.xls	155	C9906a30	Appendix 2_AssetRegister_Rev8_with_drawing_numbers	B	-	20-Sep-18
156	GDS Procedures/GDS ASSET REGISTER	C9906b64_Esperance GDS Asset Register Rev 3c.xlsx	156	C9906b64	Esperance GDS Asset Register	3c	-	20-Sep-18
157	GDS Procedures/PROJECTSIGHT AND MAPINFO GIS INFORMATION	C9906b37 Rev C_GDSMAP User Manual.doc	157	C9906b37	GDSMAP User Manual	C	12-May-08	20-Sep-18
158	GDS Procedures/REGULATORY COMPLIANCE MANUAL	C9906d08 Rev 3_Regulatory Compliance Manual.pdf	158	C9906d08	Regulatory Compliance Manual	3	19-Oct-16	20-Sep-18
159	Performance Audits	2017-18 Letter EPS Annual Performance Report.pdf	159	-	2017-18 Letter EPS Annual Performance Report	-	19-Sep-18	20-Sep-18
160	Performance Audits	C9906e11_Gas Distribution Licence GDL10 Annual Information Return 2016-2....pdf	160	C9906e11	Gas Distribution Licence GDL10 Annual Information Return 2016-2	-	16-Aug-17	20-Sep-18
161	Performance Audits	C9906e18 Rev 4_GDS Safety Case Implementation Plan.pdf	161	C9906e18	GDS Safety Case Implementation Plan	4	6-Feb-18	20-Sep-18
162	Performance Audits	Compliance Report - EPS GDL10.pdf	162	-	Compliance Report	-	22-Aug-18	20-Sep-18
163	Performance Audits	EPS 2016-2017 Annual Performance Report.pdf	163	-	EPS 2016-2017 Annual Performance Report	-	29-Aug-17	20-Sep-18
164	Performance Audits	Final communication for PAIP from ERA.PDF	164	-	Final communication for PAIP from ERA	-	-	20-Sep-18
165	Performance Audits	GDL10 - 2016 Performance Audit Report V4.pdf	165	-	GDL10 - 2016 Performance Audit Report V4	-	28-Jan-17	20-Sep-18
166	Performance Audits	GDL10 Post Audit Implementation Plan - Update 19Feb18.pdf	166	-	GDL10 Post Audit Implementation Plan	-	19-Feb-18	20-Sep-18
167	Performance Audits	OW&L Final Safety Case Certificate.pdf	167	-	OW&L Final Safety Case Certificate	-	3-Feb-18	20-Sep-18
168	GDS Procedures/NETWORK COMPUTER MODEL, RESULTS AND CONTAINMENT	C9906a29_GDSModel_RevA.tgw	168	C9906a29	GDSModel	A	-	20-Sep-18
169	GDS Procedures	C9906e10 GDS Training Matrix.pdf	169	C9906a10	GDS Training Matrix	HOLD	HOLD	HOLD
170	GDS Procedures	TMF-6032-LD-0007 training matrix.pdf	170	TMF-6032-LD-0007	GDS Training Matrix	HOLD	HOLD	HOLD
171	-	-	171	-	GDS Monthly / Quarterly Owners Reports to ICG	-	-	-
172	-	FINAL Audit Report - Esperance Gas Distribution Compan - GTL011.pdf	172	-	GTL11 Performance Audit	-	-	27-Jun-16