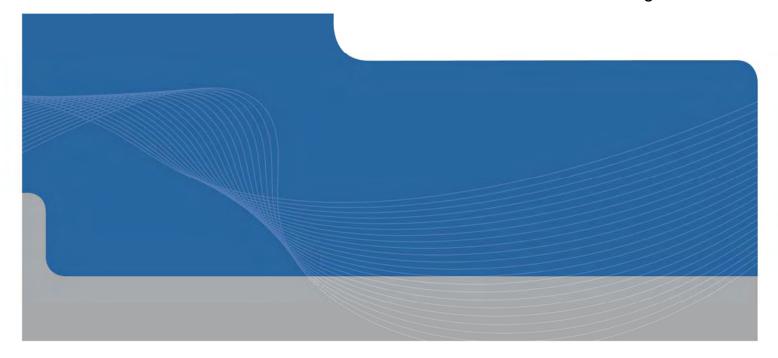


# **Shire of Gnowangerup**

Water Operating Licence Audit and Asset Management Review Final Report

August 2009





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## **Executive Summary**

This Operating Licence audit and Asset Management System review was carried out on the water services (sewerage) for the Shire of Gnowangerup (Ongerup Townsite) for the period between 1<sup>st</sup> December 2005 and 30<sup>th</sup> November 2008 in accordance with the approved Audit Plan and the Audit Guidelines of the Economic Regulation Authority. The purpose of this audit was to assess the Shire's level of compliance with the conditions of its licence for Non-Potable Water Supply and Sewerage Services.

Ongerup is a small town located approximately 410 kilometres south-east of Perth. The town has a population of approximately 150 with 80 connected properties. The Shire's Water Services include the operation and maintenance of:

- Approximately 2.3kms of sewer collection system for the Ongerup townsite; and
- Wastewater Treatment Plant (WWTP) which collects and treats approximately 8.7ML per annum of the residential and commercial wastewater. Treated wastewater is absorbed into the surrounding ground.

The last audit was completed by SMEC in January 2006 for the period 1<sup>st</sup> December 2002 to 30<sup>th</sup> November 2005. The auditor identified issues and made recommendations on the Shire's compliance with the conditions of its Licence. The previous audit report was reviewed and some improvement has occurred since the previous audit and review. A summary of the status of the previous audits issues and recommendations are shown in Tables 3 and 4 in Section 2 of this report.

A GHD audit team carried out the audit/review including a field visit and a review of documentation, systems and operations.

The wastewater infrastructure are generally in good condition, operated effectively, are well maintained and perform to an acceptable level and generally performed within operational requirements.

Operational improvements were progressively implemented over the period. Documentation of the "As Constructed" status of the systems has been captured.

Operations and maintenance manuals and contingency management plans are not available for any of the infrastructure. A summary of the operational audit issues and recommendations are shown in Table (i).

Table (i) Operating Licence Requirements - Summary of Current Issues and Recommendations

Licence Condition	Non-compliance issue	Recommended action	Action Plan
Asset management system - Clause 6	Basics are in place with a simple Asset	Develop and implement	To be completed by 30 <sup>th</sup> November
(a) The Licensee is to:	Management Plan and asset register system.	policies and procedures for	2010
(i) provide for an asset management system in respect of the Licensee's Water Service Assets;	AMP does not include policies and procedures for sewer system	sewer system and include in AMP.	



Licence Condition	Non-compliance issue	Recommended action	Action Plan
(c) The Licensee is to undertake, maintain and operate its Water Services Works in accordance with the processes set out in the asset management system.	Routine and planned maintenance tasks completed in accord with the AMP; activities are not documented	Shire needs to document operations, repairs and maintenance activities.	7 <sup>th</sup> October 2009 Operating License file has been created with Audit, Service Charter and other information including maintenance and works record sheet.
Customer Service Charter – Clause 19	Customers are not advised of the availability	Shire to notify customers of	7 <sup>th</sup> October 2009 – Listed in
(g) The Licensee must make the Customer Service Charter available to its Customers in the following ways:	of the Charter on an annual basis.	the CSC, such as through newsletters, at least once a year.	Councils Bring up file for regular yearly advertising.
(iii) by advising customers of the availability of the Customer Service Charter on an annual basis.		,	

The Asset Management System comprises the Asset Management Plan, which is reasonably comprehensive and includes most of the sections and information required by the Authority. The Asset Management System is reasonably basic and understood by the staff and generally suitable for the scheme. The Shire does not have an Asset Management Software System and past activities are not recorded in a central repository. The time spent on maintenance and operations of infrastructure components are captured on timesheets.

While the current components provide a basic maintenance management system, they do not allow any predictive analysis and does not record historical activities, performance or capabilities desirable in an Asset Management System as detailed in the International Infrastructure Management Manual.

Information, such as, the Levels of Service, asset performance, asset descriptions and condition have been documented and the level of equipment detail for most assets is adequate to good. A summary of the Asset Management System review issues and recommendations are shown in Table (ii).



Table (ii) Asset Management System Requirements - Summary of Current Issues and Recommendations

Asset Management Process	Effectiveness Criteria	Non-Compliance Issue	Recommended Action	Post Audit Action Plan
Asset planning	Non-asset options (e.g. demand management) are considered	Not addressed in the AMP, however minimal opportunities for a small town and small system.	Identify non-asset options to manage demand and include in AMP.	To be completed by the 30 <sup>th</sup> November 2010
	Lifecycle costs of owning and operating assets are assessed	Lifecycle costing is not addressed in the AMP.	Identify and document asset objectives and lifecycle costs for all assets and include in AMP.	To be completed by the 30 <sup>th</sup> November 2010
	Likelihood and consequences of asset failure are predicted	Likelihood and consequences of asset failure are informally evaluated, but not documented.	Assess the risk or asset failures and include in the AMP.	To be completed by the 30 <sup>th</sup> November 2010
	Plans are regularly reviewed and updated	Plans have been reviewed approximately every 3 years; need to be updated by the Shire to contain the required information,	Create and document a review procedure in-line with ERA guidelines for the AMP.	To be completed by the 30 <sup>th</sup> November 2010
Asset creation/ acquisition	Evaluations include all life- cycle costs	The AMP does not adequately address the process of asset lifecycle cost evaluation.	Identify and document asset objectives and lifecycle costs for all assets and include in AMP.	To be completed by the 30 <sup>th</sup> November 2010.



Asset Management Process	Effectiveness Criteria	Non-Compliance Issue	Recommended Action	Post Audit Action Plan
Asset disposal	Under-utilised and under- performing assets are identified as part of a regular systematic review process	Not programmed, but completed during planned maintenance activities. No systemic review process in place	Create and implement a process for identifying capacity of assets and recording past performance. Include in AMP.	To be completed by the 30 <sup>th</sup> November 2010.
	The reasons for under- utilisation or poor performance are critically examined and corrective action or disposal undertaken	Not completed in a systemic way. Only reactive as problems occur.	Create and implement a review process for when under or poor performing assets are identified and include in AMP.	To be completed by the 30 <sup>th</sup> November 2010.
	Disposal alternatives are evaluated	Minimal opportunities and limited options. Normally old pumps taken by supplier. Effective process in place.	Create asset disposal options for all assets and include in the AMP	To be completed by the 30 <sup>th</sup> November 2010.
	There is a replacement strategy for assets	Not detailed in the AMP. Past practice has been to replace on an as and when required basis. Effective for small scheme	Create and implement replacement strategy for assets and include in AMP.	To be completed by the 30 <sup>th</sup> November 2010.
Environmental analysis	Opportunities and threats in the system environment are assessed	Not addressed in AMP.	Identify, document and apply SWOT analysis to opportunities and threats. Include in AMP.	To be completed by the 30 <sup>th</sup> November 2010.



Asset Management Process	Effectiveness Criteria	Non-Compliance Issue	Recommended Action	Post Audit Action Plan
	Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved	All works well, just not measured and evaluated.	Identify and document performance requirements for all assets including availability of service and capacity. Include in AMP.	To be completed by the 30 <sup>th</sup> November 2010.
Asset operations	Operational policies and procedures are documented and linked to service levels required	Only safety policies and procedures are documented. System Operational policies and procedures to be documented and linked to required service levels.	Create, document and implement operational policies and procedures and link to service levels required. Include in AMP.	To be completed by the 30 <sup>th</sup> November 2010.
	Risk management is applied to prioritise operations tasks	Emergency response procedure in place. However minimal risk management completed.	Create and implement a regular review procedure for the operational schedule to prioritise tasks based on risk management.	To be completed by the 30 <sup>th</sup> November 2010.
Asset maintenance	Maintenance policies and procedures are documented and linked to service levels required	Maintenance policies and procedures have not been developed.	Create and document policies linked to maintenance procedures and service levels for assets.	To be completed by the 30 <sup>th</sup> November 2010.
	Regular inspections are undertaken of asset performance and condition	Regular inspections, cleaning and maintenance are undertaken based on a schedule, but records are not kept.	Expand the maintenance schedule to include procedures for recording maintenance tasks, performance and condition. Include in AMP.	To be completed by the 30 <sup>th</sup> November 2010.



Asset Management Process	Effectiveness Criteria	Non-Compliance Issue	Recommended Action	Post Audit Action Plan
	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	Maintenance schedule has been created, but not implemented.	Implement the maintenance schedule	To be completed by the 30 <sup>th</sup> November 2010.
	Failures are analysed and operational/maintenance plans adjusted where necessary	Informally analysed. Ad hoc analysis in completed when corrective work is required.	Create, document and regularly review a maintenance plan for assets including emergency, corrective and preventative measures.	To be completed by the 30 <sup>th</sup> November 2010.
	Risk management is applied to prioritise maintenance tasks	Risk Management is conducted informally. Shire does not have a risk register or documentation of maintenance task risk	Complete the risk assessment of all maintenance tasks, develop a management plan for unacceptable risks and document in the AMP.	To be completed by the 30 <sup>th</sup> November 2010.
Asset Management Information System	Adequate system documentation for users and IT operators	No AMIS in place	Purchase / develop Asset Management software and roll over all asset data to one system.	To be completed by the 30 <sup>th</sup> November 2010
	Input controls include appropriate verification and validation of data entered into the system	No AMIS in place	Create data verification procedure for updating asset data in Asset Management software.	To be completed by the 30 <sup>th</sup> November 2010.



Asset Management Process	Effectiveness Criteria	Non-Compliance Issue	Recommended Action	Post Audit Action Plan
	Logical security access controls appear adequate, such as passwords	No AMIS in place	Ensure Asset Management Information System can only be accessed by authorised persons.	To be completed by the 30 <sup>th</sup> November 2010.
	Physical security access controls appear adequate	No AMIS in place	Ensure adequate physical security access controls such as swipe cards are implemented.	To be completed by the 30 <sup>th</sup> November 2010.
	Data backup procedures appear adequate	No AMIS in place	Create and implement backup procedure for asset data.	To be completed by the 30 <sup>th</sup> November 2010.
	Key computations related to licensee performance reporting are materially accurate	No AMIS in place	Create and implement procedures for producing regular reports to monitor assets and link to licence obligations.	To be completed by the 30 <sup>th</sup> November 2010.
	Management reports appear adequate for the licensee to monitor licence obligations	Only annual Schedule 3 reporting.	Create and implement procedures for producing regular reports to monitor assets and link to licence obligations.	To be completed by the 30 <sup>th</sup> November 2010.
Risk management	Risk management policies and procedures exist and are being applied to	Risk management policies and procedures have not been documented for the	Create risk management procedures and policies to be included in AMP.	To be completed by the 30 <sup>th</sup> November 2010.
	minimise internal and external risks associated with the asset management system	sewerage system. Application of risk is informally completed by staff.	Ensure policy includes risk reviewing procedure.	



Asset Management Process	Effectiveness Criteria	Non-Compliance Issue	Recommended Action	Post Audit Action Plan
	Risks are documented in a risk register and treatment plans are actioned and monitored	Risk analysis has not been completed or documented.	Create and document risk register including the treatment and consequences of asset failure.	To be completed by the 30 <sup>th</sup> November 2010.
	The probability and consequences of asset failure are regularly assessed	Informally performed. A formal system of assessing asset failure risk has not been completed.	Create and document risk register including the treatment and consequences of asset failure. Include in AMP.	To be completed by the 30 <sup>th</sup> November 2010.
Contingency planning	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	"Emergency Procedures" are in place. Contingency plans have not been prepared or tested.	Create and implement a review procedure for the Contingency Plan and include in AMP.	To be completed by the 30 <sup>th</sup> November 2010.
Financial planning	The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period	Briefly addressed at summary level in the AMP, but insufficient detail on income for next five years.	Create and document 5 year financial plan including predicted costs for operation, maintenance and capital upgrade and expansion. Include in AMP.	7 <sup>th</sup> October 2009. A 5 year financial plan has been created for Council and this includes the operational and maintenance costs for the system and potential capital upgrade and expansion.
	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	Briefly addressed in the AMP, but at summary level and insufficient detail to properly address the adequacy	Create and document 5 year financial plan including predicted costs for operation, maintenance and capital upgrade and expansion. Include in AMP.	Refer to above.



Asset Management Process	Effectiveness Criteria	Non-Compliance Issue	Recommended Action	Post Audit Action Plan
	Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary	Briefly addressed in the AMP, but not in detail to understand reasons or wether corrective actions occurred.	Create and implement a review procedure for the Financial Plan and include in AMP.	Refer to above.
Capital Expenditure Planning	There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates	Briefly addressed at summary level in the AMP, but lacking details on actions, responsibilities and dates	Create and implement Capital Expenditure Plan to include actions, responsibilities and dates.	To be completed by the 30 <sup>th</sup> November 2010.
	The plan provide reasons for capital expenditure and timing of expenditure	Briefly addressed at summary level in the AMP, but insufficient detail on why expenditure was required or timing	Include reasons for capital expenditure and timing of expenditure in Capital Expenditure Plan.	To be completed by the 30 <sup>th</sup> November 2010.
	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	Briefly addressed at summary level in the AMP, but insufficient detail to assess consistency with asset lives or condition	Include asset life and condition in Capital Expenditure Plan.	To be completed by the 30 <sup>th</sup> November 2010.
	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	Last revision was for the June 2006 revised AMP. No system in place to ensure an annual review is completed.	Create and implement a review procedure for the Capital Expenditure Plan.	To be completed by the 30 <sup>th</sup> November 2010.



Asset Management Process	Effectiveness Criteria	Non-Compliance Issue	Recommended Action	Post Audit Action Plan
Review of AMS	A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current	While the AMP was updated in June 2006, a systematic review of the plan has not been implemented. The AMP is lacking in a number or areas as detailed above.	Create asset management review procedure to ensure system is reviewed regularly.	To be completed by the 30 <sup>th</sup> November 2010.
	Independent reviews (eg internal audit) are performed of the asset management system	The AMS is reviewed at approximately 3 yearly internals as part of the Water Licence Audit.	Create and implement independent review policy for Asset Management Plan and System.	To be completed by the 30 <sup>th</sup> November 2010.



#### Summary of Audit and Review Findings

The outcome of the inspection of the water services documentation and interviews with the Shire staff was that the sewerage system is operated effectively, within the current standards and code requirements and present minimal risks to the customers and residents. While, the level of documentation and management systems is very basic, these are generally adequate for the number and complexity of the water services assets.

The Shire has no growth and planned refurbishment/replacement of assets has not been required. Some improvements of the pipeline network are planned to address tree root intrusions.

Overall the Shire's operation of the Water Services Licence is compliant with the operational and asset management requirements of the Licence. Recommendations have been provided to improve the strength of internal controls to maintain compliance. The primary deficiencies with the operation of the Water Services Licence are in the area of asset management systems and creation, risk analysis, contingency and financial planning and capital expenditure planning of assets.

The AMP requires additional policies, procedures, registers and schedules be created and implemented to capture data and demonstrate that Asset Management as a system is working and continuously improved. The Shire needs a basic AMIS to keep track of activities and demonstrate that procedures are followed



#### 1. Introduction

This Operating Licence audit and Asset Management System review was carried out on the water services (sewerage) for the Shire of Gnowangerup (Ongerup Townsite) for the period between 1st December 2005 and 30<sup>th</sup> November 2008 in accordance with the approved Audit Plan and the Audit Guidelines of the Economic Regulation Authority. The purpose of this audit was to assess the Shire's level of compliance with the conditions of its licence for Non-Potable Water Supply and Sewerage Services.

Ongerup is a small town located approximately 410 kilometres south-east of Perth. The town has a population of approximately 150, 80 properties and provides for the operation, maintenance and expansion of the following Water Services:

- Approximately 2.3kms of sewer collection system for the Ongerup townsite; and
- Wastewater Treatment Plant (WWTP) which collects and treats approximately 8.7ML per annum of the residential and commercial wastewater. Treated wastewater is absorbed into the surrounding ground.

The scope of services and licence compliance requirements are detailed in the Shire of Gnowangerup's Operating Licence, Licence Registration Number IL/11, Licence Version 4 dated 23<sup>rd</sup> December 2004. This audit and review has been prepared in accordance with "The Economic Regulation Authority, Audit Guidelines: Electricity, Gas and Water Licences September 2006.

#### 1.1 Scope

The Audit covers the period 1<sup>st</sup> December 2005 to 30<sup>th</sup> November 2008. As it is impractical to review all relevant documents and data for this period, a sample of documents and services/events were examined in order to establish a thorough appreciation of the performance, and assess compliance.

The methodology, order and content of the audit was:

- Review of previous audit documentation and results;
- Review of Licence Documentation, Asset Management systems, plans etc;
- Interview with relevant personnel; and
- Preparation of draft and final report.

#### 1.2 **Documents Reviewed**

The following documents, which relate to the water services operations and asset management, were reviewed during the audit.

- Previous audit documentation and results January 2006 SMEC;
- Operating Licence 23 December 2004 (Refer to note on the following page);
- Asset Management Plan Reviewed June 2006;
- Customer Services Charter March 2006 Reviewed Version;
- Relevant correspondence between the Shire and the ERA;



- Asset Management Plan March 2006 Reviewed Version; and
- Reports (Schedule 3 forms).

Note: During the preparation of the Final Report, the auditor checked the currency of the Water Licence on the Authority's web site. The current Water Licence was amended on 15 May 2009 and is beyond the audit period of this audit; however, an amended Licence was recorded as issued on 6 August 2006 which is within the audit period. During the preparation of the Audit Plan, completion of the site visit and preparation of the draft report, the auditor was unaware of this oversight and had used the 2004 Licence version in preparing this audit. As the Shire staff did not have a copy of the 2006 Licence and the Audit Plan had been approved by the Authority on the 2004 version of the Licence, this document has been prepared on this version of the Licence, with recognition where appropriate on clauses and requirements which have changes in the newer versions of the Licence.

#### 1.3 Risk Assessment

An Operational Risk Assessment was completed for the audit plan, which identified audit priorities as detailed in Appendix A. They were:

- Asset Management System
- Specified information to be provided
- Customer Service Charter

An Asset Management System Risk Assessment completed for the audit plan identified review priorities as detailed in Appendix B. They were:

- Contingency Planning
- Capital Expenditure Planning
- Review AMS

The risk assessment scoring systems are included in Appendix C.

#### 1.4 Audit Team

The Audit Team was made up of fulltime employees of GHD. No subconsultants were engaged to assist in the audits.

### 1.5 Personnel Interviewed

The following personnel were interviewed on the management, maintenance and operation of the water systems including:

- The Shire
  - Chief Executive Officer Aaron Cook
  - Senior Finance Officer Ashleigh Nuttall



#### 1.6 Previous Audit

The Audit report of January 2006, which was for the period 1<sup>st</sup> December 2002 to 30<sup>th</sup> November 2005 was reviewed and the recommendations and non-compliance issues discussed in the later sections of this report. The Shire's operational licence has been amended since the 2006 report.

### 1.7 Assessment and Measurement of Compliance

The licensee's compliance with the licence requirements were assessed using the effectiveness scales in <u>Table 1Table 1</u> and <u>Table 2Table 2</u>

Table 1 Operating Licence Assessment Scales

Compliance status	Rating	Description of compliance
Compliant	5	Compliant with no further action required to maintain compliance
Compliant	4	Compliant apart from minor or immaterial recommendations to improve the strength internal controls to maintain compliance
Compliant	3	Compliant with major or material recommendations to improve the strength of internal controls to maintain compliance
Non-Compliant	2	Does not meet minimum requirements
Significantly Non- Compliant	1	Significant weaknesses and/or serious action required

Table 2 Asset Management System Assessment Scales

Effectiveness	Rating	Description
Continuously improving	5	Continuously improving organisation capability and process effectiveness
Quantitatively controlled	4	Measurable performance goals established and monitored
Well-defined	3	Standard processes documented, performed and coordinated
Planned and tracked	2	Performance is planned, supervised, verified and tracked
Performed informally	1	Base practices are performed
Not performed	0	Not performed (indicate if not applicable)

In addition to the above compliance assessment or in absence of a specific grading, observations and comments were made by the auditor with recommendations for improvement when deemed appropriate.



## 1.8 Audit Time Input

The professional resource requirements for the operations audit and asset management systems review were as follows:

To	tal	54 hrs
4.	Review and Amend Draft Report and Prepare Final Report	28 hrs
3.	Prepare the Draft Report	10 hrs
2.	Conduct the Audit and AM Review (including travel)	6 hrs
1.	Preparation of the Audit Plan and Risk Assessments	10 hrs



## 2. Previous Audit

The status of the recommendations from the January 2006 Audit Report by SMEC is shown in the following tables. The status of the recommendations demonstrates that some improvement has occurred since the previous audit and review. The following recommendations were completed under the Economic Regulation Authority's previous guidelines.

## 2.1 Operational Audit

 Table 3
 Operational Audit

Previous audit recommendation	Progress / Further action required				
Asset Management	Asset Management System (Clause 6)				
Update the Asset Management System and submit to the Authority. Prepare a maintenance recording system and implement its usage.	A simplified Asset Management Plan (AMP) was developed, but the Shire still needs to develop an Asset Management System (AMS) in accordance with the requirements of the Authority. Once completed, the Authority must be notified of the details of the system.				
	A Simple Maintenance Schedule and Register was developed as part of the Asset Management Plan, but the Register needs to be implemented to demonstrate that the Schedule is followed.				
Specific Information to b	pe Provided (Clause 14)				
The Shire to inform the Authority of any spills within five days of the occurrence.	Schedule 3 forms were completed and submitted. No other information to be reported.				
The Shire immediately completes Schedule 3 and forwards it to the Authority. SOG to ensure that the form is filled in and submitted to the Authority within 30 days of the end of each financial year.	The Shire completed and sent the Schedule 3 forms as required.				
Performance of functions	by Licensee (Clause 15)				
Emergency	Response				
Update the emergency response number registers.	Details were updated in the Customer Service Charter.				
Customer Service C	Charter (Clause 19)				
The Shire to place a copy of the Charter on display at the Council Counter and at the Ongerup Library.	The Customer Service Charter is prominently displayed at reception but should also be displayed in other areas customers would normally visit, for example the library.				



## 2.2 Asset Management System Review

### Table 4 Asset Management System Review

Previous Audit Recommendation	Progress / Further Action Required
Asset Manageme	nt System Analysis
Pipe condition assessment to be added to the Asset Register. The Asset Register should also refer to Council's sewer plans for asset locations.	The revised AMP (June 2006 includes additional details on the pipe network and As Constructed status of the network has been captured.
The AMP and Charter should be reviewed every 12 months at the same time as the annual budget, and updated as necessary. They should be updated within every 36 months, thus the Charter is due to be updated next year.	The AMP and Charter were reviewed and updated, although not submitted to the Authority for review and approval.



## 3. Operating Licence Audit

The wastewater infrastructure is generally in good condition, operated effectively and is well maintained. The system performs to an acceptable level and within operational requirements. The assets included:

- 2350m Reticulation Network;
- ▶ Wastewater Treatment Plant (WWTP) 4 Ponds;
- Infiltration into surrounding soil.

Operational improvements were progressively implemented over the period. Documentation of the "As Constructed" status of the systems has been captured.

Operations and maintenance manuals and contingency management plans are not available for any of the infrastructure.

The town's sewage demand profile has been stable in recent years. Growth is not predicted during the next five year period.

The Shire completes most of the breakdown and planned works from current staff resources, but has access to licensed plumbers from adjoining towns when required. The systems have proved very reliable over the past three years with hardly any breakdowns and very minor blockages.

#### 3.1 Operational Audit

The following information, evidence and inspections were audited:



Table 5 Operational Audit Checklist

Licence Clause or Schedule	The Licence Obligation	System established by the Licensee to comply with obligations of Licence	Compliance Scale
Operating Area Clause 2 (b) - Schedule 1	Is it in the correct operating area	Yes - Drawing OWR-OA-035 (B)	5
General duty to provide services - Clause 4.	(a) provide the Water Services; and	Yes	5
	(b) undertake, maintain and operate any Water Services Works, specified in the Licence.	Yes	5
Regulations prescribing standards of service - Clause 5.	The Licensee shall comply with Regulations prescribing standards of service made under section 61 of the Act.	Yes	5
Asset management system - Clause 6.	(a) The Licensee is to:		
	(i) provide for an asset management system in respect of the Licensee's Water Service Assets;	Basics are in place with a simple Asset Management Plan and asset register system.	2
		AMP does not include policies and procedures for sewer system.	
	(ii) notify details of the system and any changes to it to the Authority, and	No changes have occurred during the period.	N/A
	(iii) not less than once in every period of 36 months (or such longer period as the Economic Regulation Authority allows), provide the Economic Regulation Authority with a report by an independent expert acceptable to the Economic Regulation Authority as to the effectiveness of the system.	Water Services Audit and Asset Management Review Report of December 2005 provided to Economic Regulation Authority.	5



Licence Clause or Schedule	The Licence Obligation	System established by the Licensee to comply with obligations of Licence	Compliance Scale
	(b) The asset management system is to set out the measures to be taken by the Licensee for the proper maintenance of Assets used in the provision of Water Services and for the undertaking, maintenance and operation of Water Services works.	The general requirements for maintaining the system are documented in the Asset Management Plan (March 2006).	5
	(c) The Licensee is to undertake, maintain and operate its Water Services Works in accordance with the processes set out in the asset management system.	Routine and planned maintenance tasks completed in accord with the AMP; activities are not documented	2
	(d) The scope of the asset management system report under paragraph (a) (iii) will be set by the Economic Regulation Authority.	Noted.	
Operational Audit - Clause 7.	The Licensee is to, not less than once in every period of 36 months (or such longer period as the Economic Regulation Authority allows), provide the Economic Regulation Authority with an Operational Audit conducted by an independent expert acceptable to the Economic Regulation Authority.	The last Water Services audited and Asset Management System reviewed by SMEC for the period 1 December 2002 to 30 November 2005.	5
Technical Standards - Clause 8	The Licensee is to comply in line with gazetted technical standards	No longer a requirement of the Licence.	Not Applicable
Industry codes Clause 9.	The Licensee shall observe the Sewerage Code of Australia WSA 02 1999 in the design and construction of sewerage systems.	No longer a requirement of the Licence.	Not Applicable



Licence Clause or Schedule	The Licence Obligation	System established by the Licensee to comply with obligations of Licence	Compliance Scale
Accounting records - Clause 10.	The Licensee shall keep accounting records consistent with the requirements of the Local Government Act 1995, the Licensee shall prepare its accounts in a way which enables it to issue an operating statement which accurately describes its income and expenditure in relation to the Water Services provided under the Licence on an accruals basis:	Budgets and Annual are reports available and are compliant with the requirements of the Local Government Act 1995	5
Prices or charges- Clause 11.	In setting prices or charges for services to Customers the Licensee shall comply with the relevant provisions and regulations of the Health Act 1911 and the Local Government Act 1995	Prices and Charges are being set in accordance with the requirements of the Local Government Act.	5
Methods or principles to be applied in the provision of Water Services - Clause 12.	(a) Notwithstanding the engagement of any person or persons to provide Water Services on its behalf, the Licensee remains responsible to ensure those services comply with the terms and conditions of the Licence and with the relevant legislations	Shire staff understand their responsibilities. Where a contractor is appointed the staff ensure works are executed in accordance with the Shire's policies.	5
	(b) The Licensee shall ensure that its Water Services are available for Connection on request to any land situated in the Operating Area, subject to the applicant meeting any reasonable conditions the Licensee may determine to ensure safe, reliable and financially viable supply of services to land in the Operating Area in accordance with this Licence and any relevant legislation.	Application forms have not been prepared. Town is so small that personal approach to the Shire is all that is required.	5
	Satisfactory compliance with the conditions of Connection are an essential requirement of gaining approval to connect to the Licensee's schemes.	The processes are documented in the Customer Services Charter.	
Amendment, revocation or surrender - Clause 13.	The ERA may determine that the Licence is to be amended, etc	Noted.	N/A



Licence Clause or Schedule	The Licence Obligation	System established by the Licensee to comply with obligations of Licence	Compliance Scale
Specified information to be provided - Clause 14.	(a) Licensee shall inform the Authority of the occurrence of the following events within five days of their occurrence:		
	Overflows from wastewater / sewerage infrastructure, including wastewater treatment plants, pumping stations etc.	No occurrences during the period.	N/A
	(b) The ERA may require a detailed report on these events to be provided within 14 days of the request.	Not required during the period.	N/A
	(c) The Licensee shall report the information set out in Schedule 3. The reports are due within 30 days of the end of each financial year.	Submitted each year.	5
Performance of functions by the Licensee	(a) The Licensee shall comply with the quality and performance standards set out in Schedule 2.	Have not been able to record without flow metering on inflows to WWTP.	4
Clause 15.	(b) The Licensee shall provide annual notification to all Customers provided with non-potable water that the water supplied is not suitable for drinking.	The Shire is the only non-potable water user. Parks and ovals have warning signs.	5
	(c) The Licensee shall implement an emergency telephone system so a Customer can report an emergency and receive advice within one hour of the action to be taken by the Licensee. An emergency is an event, which causes, or threatens to cause, harm to people, the environment or property.	Emergency and after hours phone services established and published in local phone book, and Customer Charter. Policy to ensure one hour rule is adhered to exists.	5
	(d) The Licensee shall maintain and operate its sewerage scheme so that sewerage does not overflow on Customers' properties.	No incidents recorded during the period.	5



Licence Clause or Schedule	The Licence Obligation	System established by the Licensee to comply with obligations of Licence	Compliance Scale
	(e) The Licensee shall maintain and operate its sewerage scheme so that sewerage blockages are minimised.	Less than one blockage per annum during the period.	5
Terms and conditions of Customer contracts	(a) The Licensee may enter into agreements with Customers to provide Water Services.	There are no contracts in place.	N/A
Clause 16	(b) The Licensee may not enter into an agreement with a Customer that excludes, modifies or restricts the terms and conditions of the Licence without the prior written approval of the Economic Regulation Authority.	There are no contracts in place	N/A
Obligations to public authorities and other Licensees Clause 17.	Wastewater treatment plants operated by the Licensee shall have relevant Licences from the Department of Environmental Protection and be operated in compliance with those Licences.	Based on the daily volume WWTP is registered with DEC. License is not required.	5
Consumer consultation Clause 18.	(a) Prior to making major changes to the operation of a water service, such as the construction of a new wastewater treatment works or significant expansion of the sewerage network, the licensee will;		
	(i) Hold a public meeting to obtain the Customers views on the performance and operation of the scheme; or	Major changes have not occurred during the period.	N/A
	(ii) Advertise for written submissions on the proposal.	Not Required	N/A
	(b) The Licensee shall allow customers to raise matters of concern regarding the sewerage system at public question time in accordance with the Local Government Act 1995.	Public question time is available at Council Committee Meetings	5



Licence Clause or Schedule	The Licence Obligation	System established by the Licensee to comply with obligations of Licence	Compliance Scale
Customer Service Charter Clause 19.	(a) The Licensee must set out in writing the principles, terms and conditions upon which it intends to provide the Water Services to its Customers ('the Customer Service Charter')	Current Customer Services Charter (approved by the Authority on 16 August 2006) is compliant.	5
	(b) The Customer Service Charter must be submitted to the Authority for his approval by 1 July 1999.	Current CSC was approved by the Authority on 16 August 2006.	5
	(c) The Customer Service Charter:		
	(i) Should be drafted in 'plain English'; and	Yes	5
	(ii) Should address all of the service issues that are reasonably likely to be of concern to its Customers.	Yes	5
	(d) Different parts of the Customer Service Charter may be expressed to apply to different classes of Customers	Not considered in the Customer Charter, but not required by Customer basis.	N/A
	(e) The Licensee shall review the Customer Service Charter not less than once in every period of 36 months.	Reviewed and approved in 2006, revision will be due in July 2009.	5
	(f) Any proposed amendment to the Customer Service Charter or replacement thereof must also be forwarded to the Authority for approval prior to implementation.	A revised Charter is due in July 2009.	5



Licence Clause or Schedule	The Licence Obligation	System established by the Licensee to comply with obligations of Licence	Compliance Scale
	(g) The Licensee must make the Customer Service Charter available to its Customers in the following ways:	Copies are available on request at the Reception counter.	3
	(i) by prominently displaying it in those parts of the Licensee's offices to which Customers regularly have access;	The Charter is displayed in the reception area.	
	(ii) by providing a copy, upon request, and at no charge, to a Customer; and	Customers are not advised of the availability of the Charter on an	
	(iii) by advising Customers of the availability of the Customer Service Charter on an annual basis.	annual basis.	
	(h) It is a condition of the Licence that the Licensee provides services in a way that is materially consistent with its Customer Service Charter.	Services are provided in accordance with the requirements of the Licence.	5
Dispute resolution Clause 20.	(a) By 1 April 1999, the Licensee shall establish a system for recording, managing and resolving Customer Complaints within 21 days regarding a provided or requested Water Service.	A formal customer complaint process is in place and is managed by the CEO	5
	(b) To ensure the effectiveness of such a process the Licensee shall, as a minimum:		
	(i) Record details of each Customer Complaint and its outcome;	General complaints Log Book.	4
	(ii) Provide an appropriate number of designated officers who are trained to deal with Customer Complaints who are authorised to, or has access to officers who are authorised to make the necessary decisions to settle Customer Complaints or disputes; including where applicable, approving the payment of monetary compensation; and	Staff are trained adequately; although there have not been any no complaints received during the audit period.	4



Licence Clause or Schedule	The Licence Obligation	System established by the Licensee to comply with obligations of Licence	Compliance Scale
	(iii) Make such arrangements as are necessary to ensure that if possible Complaints can be resolved in the timeframes set out in subclause (a).	Council has a compliant complaints procedure documented as item 1.17 of the Policy manual.	5
	(c) Where a dispute arises between a Customer and the Licensee regarding a provided or requested water service, the Customer may refer the dispute to the Water Services Planning Branch of the Department of Water.	No complaints during the period.	N/A
	(d) Unless the Complaint or dispute is a matter in relation to which Section 3.22W of the Local Government Act 1995 applies, where the dispute has not been resolved within 21 days the Licensee shall inform the Customer of the option of referring their Complaint to the Water Services Planning Branch of the Department of Water	Not required during the period	N/A
	(e) The Water Services Planning Branch of the Department of Water may:  (i) Conciliate the dispute; or	Not required during the period.	N/A
	(ii) direct the Licensee and Customer to binding arbitration.		
	(f) During the process of investigation and conciliation, the Licensee shall make every endeavour to promptly cooperate with the Water Services Planning Branch of the Department of Water's (or his or her representative's), requests, which shall include the expeditious release of any information or documents requested by the Water Services Planning Branch of the Department of Water and the availability of the relevant staff of the Licensee.	Not required during the period.	N/A



Licence Clause or Schedule	The Licence Obligation	System established by the Licensee to comply with obligations of Licence	Compliance Scale
	(g) The Licensee shall, on request, provide the Water Services Planning Branch of the Department of Water with details of Complaints made, names and addresses of Customers who have made Complaints, and the manner in which the Complaint was managed and resolved.	Not required during the period.	N/A
Customer Surveys (Clause 21)	(a) Where an issue arises that the Authority considers to be of concern to customers, the Authority may require the Licensee to commission an independent customer survey that shall address and conform to the conditions and parameters set out in writing by the Authority.	Not required during the audit period	N/A
	(b) Such a survey will not be required more frequently than once every 12 months	Not required during the audit period	N/A



## 3.2 Operational Audit Compliance Summary

Table 6 Operational Audit Compliance Summary

Table o Operational Addit Compilarioe o							
Operating area	Operating Licence reference (Cl.=clause, Sch.=schedule)	(Re	fer to	omplia the 5-r able 1	oint r	ating so	cale in
		1	2	3	4	5	NA
Operating Area Schedule 1	Cl 2(b)					5	
General duty to provide services	Cl 4 (a & b)					5	
Regulations prescribing standards of services	CI 5					5	
Asset Management System	Cl 6 (a – d)			3			
Operational Audit	Cl 7 (a – c)					5	
Technical Standards	CI 8						NA
Industry Codes	CI 9						NA
Accounting Records	CI 10					5	
Prices or charges	CI 11					5	
Methods or principles to be applied in the provision of Water Services	Cl 12 (a – b)					5	
Amendment, revocation or surrender	CI 13						NA
Specified information to be provided	Cl 14 (a – c) Schedule 3					5	
Performance of functions by the Licensee	e CI 15						
Performance Standards – Sewerage Services	Schedule 2					5	
Terms and conditions of Customer Contracts	Cl 16 (a -b)						NA



Operating area	Operating Licence reference (Cl.=clause, Sch.=schedule)	(Re	fer to	the 5-p	ance R	ating so	cale in
		1	2	3	4	5	NA
Obligations to public authorities and other Licensees	CI 17					5	
Consumer consultation	Cl 18 (a – b)					5	
Customer Service Charter	Cl 19 (a – h)				4		
Dispute resolution	Cl 20 (a – g)				4		
Customer Surveys	Cl 21						NA



## Asset Management System Review

#### 4.1 Asset Management System Review

The Asset Management System comprises the Asset Management Plan, which is reasonably comprehensive and includes most of the sections and information required by the ERA. The Asset Management System is reasonably basic and understood by the staff and generally suitable for the scheme. The Shire does not have an Asset Management Software System and past activities are not recorded in a central repository. The time spent on maintenance and operations of infrastructure components are captured on timesheets, not specific sewerage schedules.

While the current components provide a basic maintenance management system, they do not include the predictive and records history capabilities desirable in an Asset Management System as detailed in the International Infrastructure Management Manual.

Information, such as, the Levels of Service, asset performance, asset descriptions and condition have been documented and the level of equipment detail for most assets is adequate to good.

The following information, evidence and inspections were reviewed:

Table 7 Asset Management System Review Checklist

1 Asset Planning	Rating	Comments
Planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	3	Adequately addressed in the AMP for a small town, small system, with no growth, on operate and maintain basis.
Service levels are defined	5	Well covered in the AMP for a small town, small system, no growth, only operate and maintain.
Non-asset options (e.g. demand management) are considered	2	Not addressed in the AMP, however minimal opportunities for a small town and small system.
Lifecycle costs of owning and operating assets are assessed	1	Lifecycle costing is not addressed in the AMP.
Funding options are evaluated	5	Grants and rates income are the sole source of income.
Costs are justified and cost drivers identified	4	Costs are detailed at summary level in the AMP with sufficient information for management decisions.
Likelihood and consequences of asset failure are predicted	2	Likelihood and consequences of asset failure are informally evaluated, but not documented.
Plans are regularly reviewed and updated	3	Plans have been reviewed approximately every 3 years; need to be updated by the Shire to contain the required information,



2 Asset Creation and Acquisition	Rating	Comments
Full project evaluations are undertaken for new assets, including comparative assessment of non-asset solution	3	Has not been required during period for new assets. Replacement assets have minimal options and are replaced as and when required, e.g. pumps. Adequate for the scheme.
Evaluations include all life-cycle costs	2	The AMP does not adequately address the process of asset lifecycle cost evaluation.
Projects reflect sound engineering and business decisions	NA	Has not been required during the audit period. Consultants would be used. Suppliers approached for equivalent replacement.
Commissioning tests are documented and complete	NA	Has not been required during the audit period. Will be documented when required as a project strategy/requirement.
Ongoing legal/environmental/safety obligations of the asset owner are assigned and understood	4	Included in the Shire's policies and procedures documents.

3 Asset Disposal	Rating	Comments
Under-utilised and under-performing assets are identified as part of a regular systematic review process	2	Not programmed, but completed during planned maintenance activities. No systemic review process in place
The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	2	Not completed in a systemic way. Only reactive as problems occur.
Disposal alternatives are evaluated	3	Minimal opportunities and limited options.  Normally old pumps taken by supplier.  Effective process in place.
There is a replacement strategy for assets	3	Not detailed in the AMP. Past practice has been to replace on an as and when required basis. Effective for small scheme

4 Environmental Analysis	Rating	Comments
Opportunities and threats in the system environment are assessed	1	Not addressed in AMP.
Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved	1	Performance of assets is not measured and evaluated.
Compliance with statutory and regulatory requirements	5	The Shire does comply with requirements.



4 Environmental Analysis	Rating	Comments
Achievement of customer service levels	5	System has been operated effectively and no customer complaints have been received

5 Asset Operations	Rating	Comments
Operational policies and procedures are documented and linked to service levels required	2	Only safety policies and procedures are documented. System operational policies and procedures to be documented and linked to required service levels.
Risk management is applied to prioritise operations tasks	2	Emergency response procedure in place. However minimal risk management completed.
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	5	Asset register is compliant and up to date.
Operational costs are measured and monitored	4	Operational Budget vs Actual are monitored via the financial system
Staff receive training commensurate with their responsibilities	3	Staff have adequate training on operating the system with additional training on safety (chlorine, hygiene, etc). Staff would benefit from training in Asset Management Systems.

6 Asset Maintenance	Rating	Comments
Maintenance policies and procedures are documented and linked to service levels required	2	Maintenance policies and procedures have not been developed.
Regular inspections are undertaken of asset performance and condition	3	Regular inspections, cleaning and maintenance are undertaken based on a schedule, but records are not kept.
Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	3	Maintenance schedule has been created, but not implemented.
Failures are analysed and operational/maintenance plans adjusted where necessary	2	Informally analysed. Ad hoc analysis in completed when corrective work is required.



6 Asset Maintenance	Rating	Comments
Risk management is applied to prioritise maintenance tasks	2	Risk Management is conducted informally. Shire does not have a risk register or documentation of maintenance task risk.
Maintenance costs are measured and monitored	4	Maintenance Budget vs Actual is monitored by the financial system.

7 Asset Management Information System	Rating	Comments
Adequate system documentation for users and IT operators	0	No AMIS in place
Input controls include appropriate verification and validation of data entered into the system	0	No AMIS in place
Logical security access controls appear adequate, such as passwords	0	No AMIS in place
Physical security access controls appear adequate	0	No AMIS in place
Data backup procedures appear adequate	0	No AMIS in place
Key computations related to licensee performance reporting are materially accurate	0	No AMIS in place
Management reports appear adequate for the licensee to monitor licence obligations	1	Only annual Schedule 3 reporting.

8 Risk Management	Rating	Comments
Risk management policies and procedures exist and are being applied to minimise internal and external risks associated with the asset management system	1	Risk management policies and procedures have not been documented for the sewerage system. Application of risk is informally completed by staff.
Risks are documented in a risk register and treatment plans are actioned and monitored	0	Risk analysis has not been completed or documented.
The probability and consequences of asset failure are regularly assessed	1	Informally performed. A formal system of assessing asset failure risk has not been completed.



9 Contingency Planning	Rating	Comments
Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	2	"Emergency Procedures" are in place. Contingency plans have not been prepared or tested.

10 Financial Planning	Rating	Comments
The financial plan states the financial objectives and strategies and actions to achieve the objectives	4	Partly addressed in AMP, but adequately covered in the Shire's annual report and financial plan.
The financial plan identifies the source of funds for capital expenditure and recurrent costs	4	Briefly addressed in AMP in sufficient detail.
The financial plan provides projections of operating statements (profit and loss) and statement of financial position (balance sheets)	3	Briefly addressed in AMP, but covered in the Shire's financial plans.
The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period	1	Briefly addressed at summary level in the AMP, but insufficient detail on income for next five years.
The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	1	Briefly addressed in the AMP, but at summary level and insufficient detail to properly address the adequacy.
Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary	1	Briefly addressed in the AMP, but not in detail to understand reasons or wether corrective actions occurred.

11 Capital Expenditure Planning	Rating	Comments
There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates	1	Briefly addressed at summary level in the AMP, but lacking details on actions, responsibilities and dates.
The plan provide reasons for capital expenditure and timing of expenditure	1	Briefly addressed at summary level in the AMP, but insufficient detail on why expenditure was required or timing.
The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	1	Briefly addressed at summary level in the AMP, but insufficient detail to assess consistency with asset lives or condition.
There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	1	Last revision was for the June 2006 revised AMP. No system in place to ensure an annual review is completed



12 Review of Asset Management System	Rating	Comments
A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current	2	While the AMP was updated in June 2006, a systematic review of the plan has not been implemented. The AMP is lacking in a number or areas as detailed above.
Independent reviews (eg internal audit) are performed of the asset management system	3	The AMS is reviewed at approximately 3 yearly internals as part of the Water Licence Audit.

# 4.2 Asset Management System Review Effectiveness Summary

Table 8 Asset Management System Effectiveness Summary

Asset Management System	Not Performed	Performed Informally	Planned and Tracked	Well Defined	Quantitatively Controlled	Continuously Improving
Process Effectiveness rating	0	1	2	3	4	5
Asset planning				3		
Asset creation/ acquisition				3		
Asset disposal				3		
Environmental analysis				3		
Asset operations				3		
Asset maintenance				3		
Asset Management Information System	0					
Risk management	0					
Contingency planning			2			
Financial planning			2			
Capital expenditure planning		1				
Review of AMS				3		



## Recommendations

The outcome of the inspection of the water services documentation and interviews with the Shire staff was that the sewerage system is operated effectively, within the current standards and code requirements and present minimal risks to the customers and residents. While, the level of documentation and management systems is very basic, these are generally adequate for the number and complexity of the water services assets.

The Shire has no growth and planned refurbishment/replacement of assets has not been required. Some improvements of the pipeline network are planned to address tree root intrusions.

Overall the Shire's operation of the Water Services Licence is compliant with the operational and asset management requirements of the Licence. Recommendations have been provided to improve the strength of internal controls to maintain compliance. The primary deficiencies with the operation of the Water Services Licence are in the area of asset management systems and creation, risk analysis, contingency and financial planning and capital expenditure planning of assets.

The AMP requires additional policies, procedures, registers and schedules be created and implemented to capture data and demonstrate that Asset Management as a system is working and continuously improved. The Shire needs a basic AMIS to keep track of activities and demonstrate that procedures are followed.

### 5.1 Operational Audit

The following recommendations are provided to improve with the compliance of the Shire's Operating Licence requirements:

Licence Condition	Compliance Rating	Non-Compliance Issue	Recommended Action
Asset management system - Clause 6	2	Basics are in place with a simple Asset	Develop and implement policies and procedures
(a) The Licensee is to:		Management Plan and asset register system.	for sewer system and include in AMP.
(i) provide for an asset management system in respect of the Licensee's Water Service Assets;		AMP does not include policies and procedures for sewer system.	
(c) The Licensee is to undertake, maintain and operate its Water Services Works in accordance with the processes set out in the asset management system.	2	Routine and planned maintenance tasks completed in accord with the AMP; activities are not documented	Shire needs to document operations, repairs and maintenance activities.



Licence Condition	Compliance Rating	Non-Compliance Issue	Recommended Action
Customer Service Charter – Clause 19	3	Customers are not advised of the	Shire to notify customers of the CSC,
(g) The Licensee must make the Customer Service Charter available to its Customers in the following ways:		availability of the Charter on an annual basis.	such as through newsletters, at least once a year.
(iii) by advising customers of the availability of the Customer Service Charter on an annual basis.			



### 5.2 Asset Management System Review

The following improvements are recommended for the Asset Management System:

Asset Management Process	Effectiveness Criteria	Compliance Rating	Non-Compliance Issue	Recommended Action
Asset planning	Non-asset options (e.g. demand management) are considered	1	Not addressed in the AMP, however minimal opportunities for a small town and small system.	Identify non-asset options to manage demand and include in AMP.
	Lifecycle costs of owning and operating assets are assessed	1	Lifecycle costing is not addressed in the AMP.	Identify and document asset objectives and lifecycle costs for all assets and include in AMP.
	Likelihood and consequences of asset failure are predicted	2	Likelihood and consequences of asset failure are informally evaluated, but not documented.	Assess the risk or asset failures and include in the AMP.
	Plans are regularly reviewed and updated	3	Plans have been reviewed approximately every 3 years; need to be updated by the Shire to contain the required information.	Create and document a review procedure in-line with Authority guidelines for the AMP.
Asset creation/ acquisition	Evaluations include all life-cycle costs	2	The AMP does not adequately address the process of asset lifecycle cost evaluation.	Identify and document asset objectives and lifecycle costs for all assets and include in AMP.



Asset Management Process	Effectiveness Criteria	Compliance Rating	Non-Compliance Issue	Recommended Action
Asset disposal	Under-utilised and under- performing assets are identified as part of a regular systematic review process	2	Not programmed, but completed during planned maintenance activities. No systemic review process in place.	Create and implement a process for identifying capacity of assets and recording past performance. Include in AMP.
	The reasons for under-utilisation or poor performance are critically examined and corrective action or disposal undertaken	2	Not completed in a systemic way. Only reactive as problems occur.	Create and implement a review process for when under or poor performing assets are identified and include in AMP.
	Disposal alternatives are evaluated	3	Minimal opportunities and limited options. Normally old pumps taken by supplier. Effective process in place.	Create asset disposal options for all assets and include in the AMP
	There is a replacement strategy for assets	3	Not detailed in the AMP. Past practice has been to replace on an as and when required basis. Effective for small scheme.	Create and implement replacement strategy for assets and include in AMP.
Environmental analysis	Opportunities and threats in the system environment are assessed	1	Not addressed in AMP.	Identify, document and apply SWOT analysis to opportunities and threats. Include in AMP.
	Performance standards (availability of service, capacity, continuity, emergency response, etc) are measured and achieved	1	All works well, just not measured and evaluated.	Identify and document performance requirements for all assets including availability of service and capacity. Include in AMP.



Asset Management Process	Effectiveness Criteria	Compliance Rating	Non-Compliance Issue	Recommended Action
Asset operations	Operational policies and procedures are documented and linked to service levels required	2	Only safety policies and procedures are documented. System operational policies and procedures to be documented and linked to required service levels.	Create, document and implement operational policies and procedures and link to service levels required. Include in AMP.
	Risk management is applied to prioritise operations tasks	2	Emergency response procedure in place. However minimal risk management completed.	Create and implement a regular review procedure for the operational schedule to prioritise tasks based on risk management.
Asset maintenance	Maintenance policies and procedures are documented and linked to service levels required	2	Maintenance policies and procedures have not been developed.	Create and document policies linked to maintenance procedures and service levels for assets.
	Regular inspections are undertaken of asset performance and condition	3	Regular inspections, cleaning and maintenance are undertaken based on a schedule, but records are not kept.	Expand the maintenance schedule to include procedures for recording maintenance tasks, performance and condition. Include in AMP.
	Maintenance plans (emergency, corrective and preventative) are documented and completed on schedule	3	Maintenance schedule has been created, but not implemented.	Implement the maintenance schedule
	Failures are analysed and operational/maintenance plans adjusted where necessary	3	Informally analysed. Ad hoc analysis in completed when corrective work is required.	Create, document and regularly review a maintenance plan for assets including emergency, corrective and preventative measures.



Asset Management Process	Effectiveness Criteria	Compliance Rating	Non-Compliance Issue	Recommended Action
	Risk management is applied to prioritise maintenance tasks	3	Risk Management is conducted informally. Shire does not have a risk register or documentation of maintenance task risk.	Complete the risk assessment of all maintenance tasks, develop a management plan for unacceptable risks and document in the AMP.
Asset Management Information System	Adequate system documentation for users and IT operators	0	No AMIS in place	Purchase / Develop Asset Management software and roll over all asset data to one system.
	Input controls include appropriate verification and validation of data entered into the system	0	No AMIS in place	Create data verification procedure for updating asset data in Asset Management software.
	Logical security access controls appear adequate, such as passwords	0	No AMIS in place	Ensure Asset Management Information System can only be accessed by authorised persons.
	Physical security access controls appear adequate	0	No AMIS in place	Ensure adequate physical security access controls such as swipe cards are implemented.
	Data backup procedures appear adequate	0	No AMIS in place	Create and implement backup procedure for asset data.
	Key computations related to licensee performance reporting are materially accurate	0	No AMIS in place	Create and implement procedures for producing regular reports to monitor assets and link to licence obligations.
	Management reports appear adequate for the licensee to monitor licence obligations	1	Only annual Schedule 3 reporting.	Create and implement procedures for producing regular reports to monitor assets and link to licence obligations.



Asset Management Process	Effectiveness Criteria	Compliance Rating	Non-Compliance Issue	Recommended Action
Risk management	Risk management policies and procedures exist and are being and procedures have not been documented for the external risks associated with the asset management system  Risk management policies and procedures have not been documented for the sewerage system.  Application of risk is informally completed by staff.	Create risk management procedures and policies to be included in AMP.  Ensure policy includes risk reviewing procedure.		
	Risks are documented in a risk register and treatment plans are actioned and monitored	1	Risk analysis has not been completed or documented.	Create and document risk register including the treatment and consequences of asset failure.
	The probability and consequences of asset failure are regularly assessed	2	Informally performed. A formal system of assessing asset failure risk has not been completed.	Create and document risk register including the treatment and consequences of asset failure. Include in AMP.
Contingency planning	Contingency plans are documented, understood and tested to confirm their operability and to cover higher risks	2	"Emergency Procedures" are in place. Contingency plans have not been prepared or tested.	Create and implement a review procedure for the Contingency Plan and include in AMP.
Financial planning	The financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period	1	Briefly addressed at summary level in the AMP, but insufficient detail on income for next five years.	Create and document 5 year financial plan including predicted costs for operation, maintenance and capital upgrade and expansion. Include in AMP.
	The financial plan provides for the operations and maintenance, administration and capital expenditure requirements of the services	1	Briefly addressed at summary level in the AMP, but insufficient detail on income for next five years.	Create and document 5 year financial plan including predicted costs for operation, maintenance and capital upgrade and expansion. Include in AMP.



Asset Management Process	Effectiveness Criteria	Compliance Rating	Non-Compliance Issue	Recommended Action
	Significant variances in actual/budget income and expenses are identified and corrective action taken where necessary	1	Briefly addressed in the AMP, but at summary level and insufficient detail to properly address the adequacy.	Create and implement a review procedure for the Financial Plan and include in AMP.
Capital Expenditure Planning	There is a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates	1	Briefly addressed at summary level in the AMP, but lacking details on actions, responsibilities and dates.	Create and implement Capital Expenditure Plan to include actions, responsibilities and dates.
	The plan provide reasons for capital expenditure and timing of expenditure	1	Briefly addressed at summary level in the AMP, but insufficient detail on why expenditure was required or timing.	Include reasons for capital expenditure and timing of expenditure in Capital Expenditure Plan.
	The capital expenditure plan is consistent with the asset life and condition identified in the asset management plan	1	Briefly addressed at summary level in the AMP, but insufficient detail to assess consistency with asset lives or condition.	Include asset life and condition in Capital Expenditure Plan.
	There is an adequate process to ensure that the capital expenditure plan is regularly updated and actioned	1	Last revision was for the June 2006 revised AMP. No system in place to ensure an annual review is completed.	Create and implement a review procedure for the Capital Expenditure Plan.



Asset Management Process	Effectiveness Criteria	Compliance Rating	Non-Compliance Issue	Recommended Action
Review of AMS	A review process is in place to ensure that the asset management plan and the asset management system described therein are kept current	2	While the AMP was updated in June 2006, a systematic review of the plan has not been implemented. The AMP is lacking in a number or areas as detailed above.	Create asset management review procedure to ensure system is reviewed regularly.
	Independent reviews (eg internal audit) are performed of the asset management system	3	The AMS is reviewed at approximately 3 yearly internals as part of the Water Licence Audit.	Create and implement independent review policy for Asset Management Plan and System.



#### 5.3 Conclusion

The Shire's wastewater services systems are generally in reasonable condition and operated effectively by the Shire's staff.

A number of improvements have been implemented to the operation of the scheme and the management systems. The staff's attitude to continuous improvement and their high motivation levels are admirable, and bode well for further improvement in scheme operational efficiency and effectiveness over the next audit period.

The suggested improvements to the operational/performance with regard to the Operating Licence and Asset Management System should provide the Shire with an assurance that the wastewater system can continue to perform effectively. The purchase of Asset Management System software would assist in the recording of works activities and predictive capital and maintenance requirements.

#### 5.4 Compliance Statement

Cecil Hensley has performed this audit/review and prepared this report for the Shire with the assistance of James Alexander

It is certified that the "Economic Regulation Authority – Audit Guidelines – Electricity, Gas and Water Licences – September 2006" have been followed in conducting the audit and review, making the findings and preparing the report.

The assessment, findings and recommendations contained in this report reflect the professional opinion of the Reviewer.



# 6. Post-audit Implementation Plan

#### 6.1 Operational Post-Audit Implementation Plan

The CEO of the Shire is ultimately responsible for the implementation/rectification of applicable clauses/requirements. The CEO must delegate responsibility or instruct an officer of the Shire or appoint a consultant/contractor to ensure all the requirements as set out by the Licence is adhered to.

All matters listed should be attended to. Implement those which don't comply at all, review and upgrade those which are partially implemented and review and keep those which are in place, up to date.

All matters listed, should be fully implemented, in accordance with the Licence requirements by 30 November 2010.

The Shire shall inform the Authority of its implementation, reviewing, upgrading program and update the Authority 6 monthly (June and December) each year of its progress (difficulties and accomplishments).

Table 9 Post Audit Implementation Plan – Operational Issues

Clause	Recommended Action	Responsible Position	Date Action to be Completed
Asset management system - Clause 6  (a) The Licensee is to:  (i) provide for an asset management system in respect of the Licensee's Water Service Assets;	Develop and implement policies and procedures for sewer system and include in AMP.	CEO	30 <sup>th</sup> November 2010
(c) The Licensee is to undertake, maintain and operate its Water Services Works in accordance with the processes set out in the asset management system.	Shire needs to document operations, repairs and maintenance activities.	CEO	7 <sup>th</sup> October 2009 Operating License file has been created with Audit, Service Charter and other information including maintenance and works record sheet.
Customer Service Charter - Clause 19 (g) The Licensee must make the Customer Service Charter available to its Customers in the following ways: (iii) by advising Customers of the availability of the Customer Service Charter on an annual basis.	Shire to notify customers of the CSC, such as through newsletters, at least once a year.	CEO	7 <sup>th</sup> October 2009  – Listed in  Councils Bring up file for regular yearly advertising.



# 6.2 Asset Management System Post-Audit Implementation Plan

Table 10 Pot Audit Implementation Plan – Asset Management Systems Issues

Asset Management Process	Recommended Action	Responsible position	Date action to be completed
Asset Planning	Identify non-asset options to manage demand and include in AMP.	CEO	30 <sup>th</sup> November 2010
	Identify and document asset objectives and lifecycle costs for all assets and include in AMP.		
	Assess the risk or asset failures and include in the AMP.	_	
	Create and document a review procedure in line with ERA guidelines for the AMP.		
Asset Creation/ Acquisition	Identify and document asset objectives and lifecycle costs for all assets and include in AMP.	CEO	30 <sup>th</sup> November 2010
	Create and implement commissioning process for assets and include in the AMP.		
Asset Disposal	Create and implement a process for identifying capacity of assets and recording past performance. Include in AMP.	CEO	30 <sup>th</sup> November 2010
	Create and implement a review process for when under or poor performing assets are identified and include in AMP.		
	Create asset disposal options for all assets and include in the AMP.	_	
	Create and implement asset disposal procedure based on performance of assets.		
Environmental Analysis	Identify, document and apply SWOT analysis to opportunities and threats. Include in AMP.	CEO	30 <sup>th</sup> November 2010
	Identify and document performance requirements for all assets including availability of service and capacity. Include in AMP.	-	



Asset Operations	Create, document and implement operational policies and procedures and link to service levels required. Include in AMP.	CEO	30 <sup>th</sup> November 2010		
	Create and implement a regular review procedure for the operational schedule to prioritise tasks based on risk management.	_			
Asset Maintenance	Create and document policies linked to maintenance procedures and service levels for assets.	CEO	30 <sup>th</sup> November 2010		
	Expand the maintenance schedule to include procedures for recording maintenance tasks, performance and condition. Include in AMP.				
	Implement the maintenance schedule				
	Create, document and regularly review a maintenance plan for assets including emergency, corrective and preventative measures.	_			
	Complete the risk assessment of all maintenance tasks, develop a management plan for unacceptable risks and document in the AMP.	-			
Asset Management Information	Purchase / Develop Asset Management software and roll over all asset data to one system.	CEO	30 <sup>th</sup> November 2010		
System	Create data verification procedure for updating asset data in Asset Management software.	-			
	Ensure Asset Management Information System can only be accessed by authorised persons.				
	Ensure adequate physical security access controls such as swipe cards are implemented.				
	Create and implement backup procedure for asset data.				
	Create and implement procedures for producing regular reports to monitor assets and link to licence obligations.	-			



Create and implement procedures for producing regular reports to				
monitor assets and link to licence obligations.				
Create risk management procedures and policies to be included in AMP.	CEO	30 <sup>th</sup> November 2010		
Ensure policy includes risk reviewing procedure.				
Create and document risk register including the treatment and consequences of asset failure.				
Create and document risk register including the treatment and consequences of asset failure. Include in AMP.				
Create and implement a review procedure for the Contingency Plan and include in AMP.	CEO	30 <sup>th</sup> November 2010		
Create and document 5 year financial plan including predicted costs for operation, maintenance and capital upgrade and expansion. Include in AMP.	CEO	7 <sup>th</sup> October 2009. A 5 year financial plan has been created for		
Create and document 5 year financial plan including predicted costs for operation, maintenance and capital upgrade and expansion. Include in AMP.		Council and this includes the operational and maintenance costs for the system and		
Create and implement a review procedure for the Financial Plan and include in AMP.		potential capital upgrade and expansion.		
Expand Capital Expenditure Plan to include actions, responsibilities and dates.	CEO	30 <sup>th</sup> November 2010		
Include reasons for capital expenditure and timing of expenditure in Capital Expenditure Plan.				
Include asset life and condition in Capital Expenditure Plan.				
Create and implement a review procedure for the Capital Expenditure Plan.				
	and policies to be included in AMP.  Ensure policy includes risk reviewing procedure.  Create and document risk register including the treatment and consequences of asset failure.  Create and document risk register including the treatment and consequences of asset failure. Include in AMP.  Create and implement a review procedure for the Contingency Plan and include in AMP.  Create and document 5 year financial plan including predicted costs for operation, maintenance and capital upgrade and expansion. Include in AMP.  Create and document 5 year financial plan including predicted costs for operation, maintenance and capital upgrade and expansion. Include in AMP.  Create and implement a review procedure for the Financial Plan and include in AMP.  Expand Capital Expenditure Plan to include actions, responsibilities and dates.  Include reasons for capital expenditure and timing of expenditure and timing of expenditure in Capital Expenditure Plan.  Include asset life and condition in Capital Expenditure Plan.  Create and implement a review procedure for the Capital	and policies to be included in AMP.  Ensure policy includes risk reviewing procedure.  Create and document risk register including the treatment and consequences of asset failure.  Create and document risk register including the treatment and consequences of asset failure.  Create and implement a review procedure for the Contingency Plan and include in AMP.  Create and document 5 year financial plan including predicted costs for operation, maintenance and capital upgrade and expansion. Include in AMP.  Create and document 5 year financial plan including predicted costs for operation, maintenance and capital upgrade and expansion. Include in AMP.  Create and document 5 year financial plan including predicted costs for operation, maintenance and capital upgrade and expansion. Include in AMP.  Create and implement a review procedure for the Financial Plan and include in AMP.  Expand Capital Expenditure Plan to include actions, responsibilities and dates.  Include reasons for capital expenditure and timing of expenditure and timing of expenditure in Capital Expenditure Plan.  Include asset life and condition in Capital Expenditure Plan.  Create and implement a review procedure for the Capital		



Review of AMS	Create asset management review procedure to ensure system is reviewed regularly.	CEO	30 <sup>th</sup> November 2010
	Create and implement independent review policy for Asset Management Plan and System.		

# 6.3 Disagreement between the Auditor and Licensee

None.



# Appendix A

# Operational Risk Assessment



Table 11 Operational Risk Assessment

Operating Licence Compliance Element	Operating Licence Reference	Risk Consequence Rating	Likelihood Rating	Inherent Risk Rating	Adequacy of Existing Controls	Audit Priority
Operating Area Schedule 1	Cl 2(b)	1	С	Low	Strong	5
General duty to provide services	Cl 4 (a & b)	2	С	Medium	Strong	4
Regulations prescribing standards of services	CI 5	2	С	Medium	Strong	4
Asset Management System	Cl 6 (a – d)	2	Α	High	Weak	1
Operational Audit	Cl 7 (a - c)	2	С	Medium	Strong	4
Technical Standards	Cl 8	1	С	Low	Weak	5
Industry Codes	CI 9	1	С	Low	Weak	5
Accounting Records	CI 10	2	С	Medium	Strong	4
Prices or charges	CI 11	2	С	Medium	Strong	4
Methods or principles to be applied in the provision of Water Services	Cl 12 (a – b)	2	В	Medium	Strong	4
Specified information to be provided	Cl 14 (a - c) Schedule 3	2	Α	High	Weak	1
Performance of functions by the Licensee Performance Standards – Sewerage Services	CI 15 Schedule 2	2	В	Medium	Strong	4
Terms and conditions of Customer Contracts	Cl 16 (a -b)	NA	NA	NA	NA	NA
Obligations to public authorities and other Licensees	CI 17	2	В	Medium	Strong	4
Consumer consultation	Cl 18 (a – b)	1	С	Low	Strong	5



Operating Licence Compliance Element	Operating Licence Reference	Risk Consequence Rating	Likelihood Rating	Inherent Risk Rating	Adequacy of Existing Controls	Audit Priority
Customer Service Charter	Cl 19 (a – h)	2	Α	High	Moderate	2
Dispute resolution	Cl 20 (a – g)	1	С	Low	Strong	5
Customer Surveys	CI 21	NA	NA	NA	NA	NA



# Appendix B

# Asset Management System Risk Assessment



Table 12 **Asset Management System Risk Assessment** 

Key process	Tested by asking the following questions below. If the answer is no, then ask what the effect would be to determine the Consequence and how often will the answer be no to determine the Likelihood and provide an average for each Key Process.	Consequence Rating	Likelihood Rating	Inherent Risk Rating	Adequacy of Existing Controls	Review Priority
Asset planning	Do the planning process and objectives reflect the needs of all stakeholders and is integrated with business planning	1	С	Low	Moderate	5
	Are Service Levels defined					
	Are non-asset options (eg demand management) considered					
	Are lifecycle costs of owning and operating assets assessed					
	Are funding options evaluated					
	Are costs justified and cost drivers identified					
	Are likelihood and consequences of asset failure predicted					
	Are plans regularly reviewed and updated					
Asset creation/ acquisition	Are full project evaluations undertaken for new assets, including comparative assessment of non-asset solution	1	С	Low	Moderate	5
	Do evaluations include all life-cycle costs					
	Do projects reflect sound engineering and business decisions					
	Are commissioning tests are documented and complete					
	Are ongoing legal/ environmental/ safety obligations of the asset owner assigned and understood					



Key process	Tested by asking the following questions below. If the answer is no, then ask what the effect would be to determine the Consequence and how often will the answer be no to determine the Likelihood and provide an average for each Key Process.	Consequence Rating	Likelihood Rating	Inherent Risk Rating	Adequacy of Existing Controls	Review Priority
Asset disposal	Are under-utilised and under-performing assets identified as part of a regular systematic review process	1	С	Low	Moderate	5
	Are the reasons for under-utilisation or poor performance critically examined and corrective action or disposal undertaken					
	Are disposal alternatives evaluated					
	There is a replacement strategy for assets					
Environmental	Are opportunities and threats in the system environment assessed	1	В	Low	Weak	5
analysis	Are performance standards (availability of service, capacity, continuity, emergency response, etc) measured and achieved					
	Does Shire comply with statutory and regulatory requirements				Adequacy existing existing Controls	
	Does Shire achieve customer service levels				Adeduacy Moderate  Weak  Weak	
Asset operations	Are operational policies and procedures documented and linked to service levels required	2	В	Medium	Weak	3
	Is risk management applied to prioritise operations tasks					
	Are assets documented in an Asset Register including asset type, location, material, plans of components, an assessment of assets' physical/structural condition and accounting data				Moderate  Weak  Weak	
	Are operational costs measured and monitored					
	Do staff receive training commensurate with their responsibilities					



Key process	Tested by asking the following questions below. If the answer is no, then ask what the effect would be to determine the Consequence and how often will the answer be no to determine the Likelihood and provide an average for each Key Process.	Consequence Rating	Likelihood Rating	Inherent Risk Rating	Adequacy of Existing Controls	Review Priority
Asset maintenance	Are maintenance policies and procedures documented and linked to service levels required	2	В	Medium	Weak	3
	Are regular inspections undertaken of asset performance and condition					
	Are maintenance plans (emergency, corrective and preventative) documented and completed on schedule					
	Are failures analysed and operational/maintenance plans adjusted where necessary					
	Is risk management applied to prioritise maintenance tasks					
	Are maintenance costs measured and monitored					
Asset	Is system documentation for users and IT operators adequate	1	Α	Medium	Weak	3
Management Information System	Are input controls in place, which include appropriate verification and validation of data entered into the system					
Cycle	Do logical security access controls appear adequate, such as passwords					
	Do physical security access controls appear adequate					
	Do data backup procedures appear adequate					
	Are key computations related to licensee performance reporting materially accurate					
	Do management reports appear adequate for the licensee to monitor licence obligations					



Key process	Tested by asking the following questions below. If the answer is no, then ask what the effect would be to determine the Consequence and how often will the answer be no to determine the Likelihood and provide an average for each Key Process.	Consequence Rating	Likelihood Rating	Inherent Risk Rating	Adequacy of Existing Controls	Review Priority
Risk management	Do risk management policies and procedures exist and are they applied to minimise internal and external risks associated with the asset management system	2	В	Medium	Weak	3
	Are risks documented in a risk register and treatment plans are actioned and monitored					
	Are the probability and consequences of asset failure regularly assessed					
Contingency planning	Are contingency plans documented, understood and tested to confirm their operability and to cover higher risks	3	В	High	Moderate	2
Financial planning	Does the financial plan state the financial objectives and strategies and actions to achieve the objectives	2	В	Medium	Moderate	4
	Does the financial plan identify the source of funds for capital expenditure and recurrent costs					
	Does the financial plan provide projections of operating statements (profit and loss) and statement of financial position (balance sheets)					
	Does the financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period					
	Does the financial plan provide for the operations and maintenance, administration and capital expenditure requirements of the services					
	Are significant variances in actual/budget income and expenses identified and corrective action taken where necessary					



Key process	Tested by asking the following questions below. If the answer is no, then ask what the effect would be to determine the Consequence and how often will the answer be no to determine the Likelihood and provide an average for each Key Process.	Consequence Rating	Likelihood Rating	Inherent Risk Rating	Adequacy of Existing Controls	Review Priority
Capital expenditure	Is there a capital expenditure plan that covers issues to be addressed, actions proposed, responsibilities and dates	3	В	High	Moderate	2
planning	Does the plan provide reasons for capital expenditure and timing of expenditure					
	Is the capital expenditure plan consistent with the asset life and condition identified in the asset management plan					
	Is there an adequate process to ensure that the capital expenditure plan is regularly updated and actioned					
Review of AMS	Is a review process in place to ensure that the asset management plan and the asset management system described therein are kept current	2	Α	High	Moderate	2
	Are independent reviews (eg internal audit) performed of the asset management system					



The following criteria were used to assess internal controls:

- Customer focus
- Regulatory compliance
- Adequate documents and records
- Segregation of duties
- Access controls
- Validity of data
- Performance reviews
- Monitoring



# Appendix C Risk Assessment Tables



As per the ERA's Audit Guidelines – September 2006

Table 13 Consequence Ratings

			Examples of non-o	ompliance	
	Rating	Supply quality	Supply reliability	Consumer Protection	Breaches of legislation or other licence conditions
1	Minor	Minor public health or safety issues. Breach of quality standards minor - minimal impact on customers.	System failure or connection delays affecting only a few customers.  Some inconvenience to customers.	Customer complaints procedures not followed in a few instances.  Nil or minor costs incurred by customers.	Licence conditions not fully complied with but issues have been promptly resolved.
2	Moderat e	Event is restricted in both area and time eg; supply of service to one street is affected for up to one day.  Some remedial action is required.	Event is restricted in both area and time eg supply of service to one street is affected for up to one day.  Some remedial is required.	Lapse in customer service standards is clearly noticeable but manageable.  Some additional cost may be incurred by some customers.	Clear evidence of one or more breaches of legislation or other licence conditions and/or sustained period of breaches.
3	Major	Significant system failure. Life-threatening injuries or widespread health risks. Extensive remedial action required.	Significant system failure. Extensive remedial action required.		

Table 14 Likelihood Ratings

	Level	Criteria
Α	Likely	Non-compliance is expected to occur at least once or twice a year
В	Probable	Non-compliance is expected to occur once every three years
С	Unlikely	Non-compliance is expected to occur once every 10 years or longer



Table 15 Inherent Risk Rating

Likelihood	Consequence				
	1. Minor 2. Moderate		3. Major		
A. Likely	Medium	High	High		
B. Probable	Low	Medium	High		
C. Unlikely	Low	Medium	High		

Table 16 Description of Inherent Risk Ratings

Level	Description
High	Likely to cause major damage, disruption or breach of licence obligations
Medium	Unlikely to cause major damage but may threaten the efficiency and effectiveness of service
Low	Unlikely to occur and consequences are relatively minor

Table 17 Adequacy Ratings for Existing Controls

	Level	Description
3	Strong	Strong controls that are sufficient for the identified risks
2	Moderate	Moderate controls that cover significant risks; improvement possible
1	Weak	Controls are weak or non-existent and have minimal impact on the risks

		Adequacy of existing controls				
		Weak Moderate Strong				
Inherent	High	Audit priority 1	Audit p	riority 2		
Risk	Medium	Audit priority 3	Audit priority 4			
	Low	Audit priority 5				



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