



BUSSELTON WATER BOARD |

Operational Audit and Asset Management Review

Final Report

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# Executive Summary

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## Introduction

Busselton Water Board (BWB) supply potable water to the township of Busselton, under an Operating Licence granted under Section 3 of the Water Services Licensing Act 1995 (Act).

In accordance with Section 37 (1) of the Act, operational audits are required to be undertaken not less than once in every 24 month period, or such longer periods allowed for by the Authority. The primary objective of this audit is to determine the effectiveness of measures taken by the BWB to maintain those quality and performance standards that are referred to in the BWB's Operating Licence.

Section 36 of the Act, and Clause 6 of the Attachment to the BWB's Operating Licence, require the BWB to provide and maintain an asset management system in respect of its assets. The system must set out the measures to be taken by the BWB for the proper maintenance of its assets and for the undertaking, maintenance and monitoring of its water services works.

The Act further requires BWB to provide the Authority with a report by an independent expert on the effectiveness of the asset management system.

BWB with the approval of the Economic Regulation Authority (ERA) has commissioned SMEC Australia to undertake an operation audit and review of their asset management system to assess the BWB's level of compliance with the conditions of its licence. This report documents the finding of the audit/review.

SMEC wishes to acknowledge and thank the CEO and staff for their input and support for the audit process.

## Objectives and Scope of Audit and Review

The scope of the operational audit was to assess BWB's systems and effectiveness of processes used to ensure compliance with the standards, outputs and outcomes which are:

- referred to in BWB's Operating Licence, and
- applied to BWB's Operating Licence, including those standards prescribed under Section 33 of the Water Services Licensing Act 1995.

The scope of the asset management review was to provide an opinion to the Authority on whether BWB has in place the appropriate systems for the planning, construction, operation and maintenance of its assets. The review examined:

- the adequacy of the asset management system by considering the outputs of the system, such as the operations and maintenance plans, asset registers and financial plans,
- the effectiveness of the asset management system by considering the systems established for the planning, construction, operation and maintenance of works,
- the identification, development and implementation of strategic initiatives to improve the effectiveness of asset management, and
- BWB's response to the recommendations made in the previous reviews.

The review focused on identifying those aspects of the asset management system that could be further strengthened, with the view to providing feedback to the BWB on the adequacy and effectiveness of the system.

## Time Frame of the Audit and Review

The audit and review covered a period from the 1<sup>st</sup> August 2004 to the 31<sup>st</sup> March 2007. The previous audit covered a period from the 1<sup>st</sup> August 2002 to 31<sup>st</sup> July 2004.

## Overview of Compliance Performance

TABLE 1. SUMMARY OF OPERATIONAL AUDIT FINDINGS

Operating Licence Condition	Standard	Compliance Scale
Clause 2/Schedule 1	Operating Areas	5
Clause 3/Schedule 2	Customer complaints, investigation, conciliation and arbitration	4
Clause 3/Schedule 3	Customer Charter	5
Clause 3/Schedule 4	Customer Consultation	4
Clause 3/Schedule 5	Water Service Provision	3
Clause 3/Schedule 6	Information to be Provided	4
Clause 4	Technical Standards	3
Clause 4/Schedule 7	Customer Service Standards	4
Clause 4/Schedule 7	Drinking Water System Standards: Quality, Pressure & Flow, Continuity, Drought Response & Services provided by Agreement	4
Clause 4/Schedule 8	Level of Service Standards, Performance Indicators and Reporting Requirements	3
Clause 5	Amendment of Licence	5
Clause 6	Contracting	3
	Asset Management System	3
	Accounts	4
	Prices or Charges	5

TABLE 2. OPERATIONAL / PERFORMANCE COMPLIANCE RATING SCALE

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

## Operational Audit Conclusion

The level of compliance found in the Operational Audit during the audit period indicates that the BWB is undertaking the necessary measures to maintain those quality and performance standards referred to in BWB's Operating Licence.

The audit has determined that BWB's assets are operated in compliance with the licence requirements.

## Overview of Asset Management System Review

TABLE 3. SUMMARY OF ASSET MANAGEMENT REVIEW

Activity	Description	Effectiveness Scale
Asset Planning	Provision for planning associated with the identification of assets and their long term management. Identification of appropriate service levels, options (including non-asset options), lifecycle costs, funding and consequences of failure are considered.	3
Asset Creation / Acquisition	Assessment of the policies and procedures around the creation and acquisition of assets.	3
Asset Disposal	Assessment of the policies and procedures around the disposal of assets. Is the usefulness of the assets reviewed on a regular basis?	2
Environmental Analysis	Environmental analysis examines the asset system environment and assesses all external factors affecting the asset system including compliance with service standards, investigation of breaches and corrective actions taken. Examination of the reporting and monitoring tools.	4
Asset Operations	Asset operations examines the policies and procedures covering the operation functions of the Board's assets. Issues to be examined include adequate resourcing, documentation of maintenance and testing procedures, recording and analysis of costs and the application of corrective actions.	3
Asset Maintenance	Assessment of the policies and procedures covering maintenance functions. Confirm that the policies are being followed, including maintenance schedules and analysis of costs.	3
Asset Management Information System	Assess the adequacy of policies and controls covering the computer systems. Confirmation that reports on standards / licence obligations are being reviewed and acted on.	3
Risk Management	Risk analysis involves the identification of risk and management within an acceptable level of risk. Contingency plans document the steps to deal with the unexpected failure of an asset. Assessment based on the adequacy of policies and procedures, application of risk management and understanding of the staff.	3

Contingency Planning	Contingency Plans provide an indication of how well prepared the organisation is in respect to unplanned emergencies. Contingency plans document how the organisation responds, levels of responsibility and communications within the organisation and externally.	2
Financial Planning	The financial planning component of the AMP brings together the financial elements of the scheme to ensure its financial viability over the long term. Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer. Projections over the next five years would be based on firm estimates.	3
Capital Expenditure Planning	The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure on each, over the next five or more years. This can be expressed as a schedule of projected annual expenditures offset by possible income from asset disposal, supported by documentation of the reasons for the decisions and evaluation of alternatives and options.	3
Review of AMS	Review of the Asset Management System assists to ensure the effective development and operation of Asset Management Plans. Determine when the plan was last updated and reviewed.	4

## Asset Management System Review Conclusion

There is an Asset Management Plan for the Busselton Water Supply system which is deemed to be adequate for the extent and complexity of the scheme. The current document is a good basis on which to build, but requires additional detail and documentation in certain areas, including the documentation of operation procedures and contingency plans.

Senior staff has a positive attitude to Asset Management and has made inroads into this area, but were viewing both the work completed to date and the documents as “works in progress”.

Overall it was considered that the Board has made progress since the last audit in addressing a number of issues previously identified as inadequate or non-conforming and that its systems provides both the consumer and government with a good level of surety.

## Post Audit Implementation Plan

This audit did not identify any non-conformances in respect to the operational aspects audited. However the audit has identified a number of areas that would benefit from further improvement. These are detailed in the following post-audit implementation plans.

This audit did not identify any non-conformances in respect to the asset management aspects audited. However the audit has identified a number of areas that would benefit from further improvement. These are detailed in the following post-audit implementation plans.

TABLE 4. OPERATIONS IMPLEMENTATION PLAN

Licence Clause	Current Rating	Issue	Recommendations	Responsible Officer	Proposed End Date
Clause 6	3	Lack of documented standards for contract works	Develop a set of standards for work that is likely to be contracted out in the future.	Manager – Production & Supply	June 08
Clause 4 Schedule 7	4	Ability to monitor response times to telephone system.	Establish system for monitoring response time for emergency telephone service or seek an exemption from the Authority	CEO	June 08
Asset Management System	3	Improve the level of documentation around operations and maintenance procedures	Undertake further work, to improve the documentation of Operations and Maintenance procedures including listing of operating limits, maintenance schedules, risks etc.  Refer also to recommendations in the Asset Management Plan section.	Manager – Production & Supply	Dec 08



TABLE 5. ASSET MANAGEMENT IMPLEMENTATION PLAN

Process	Current Rating	Issue	Recommendations	Responsible Officer	Proposed End Date
Asset Planning	3	Further justification required, including non-asset options.	Provide further justification for capital projects including discussion on economic, social and environmental impacts (positive and negative) of the project as well as examining possible non-asset options.	Manager – Production & Supply	June 08
Asset Creation / Acquisition	3	Strengthen documentation around asset creation.	Provide a more detailed guideline and process around the creation or acquisition of assets.	Manager – Production & Supply	Dec 08
Asset Disposal	2	Documented procedures and guidelines around the disposal of assets is poor.	Provide a more detailed guideline and process around the disposal of assets.	Chief Financial Officer	June 08
Environmental Analysis	4	Opportunities not identified in the risk register	Update risk register to include opportunities.	CEO	June 08
Asset Maintenance	3	<ul style="list-style-type: none"> <li>• Provide further detail on operating rules and maintenance targets;</li> <li>• Further detail required for operations and maintenance practices.</li> </ul>	Detail operating rules, limits, licence limits and guidelines in the relevant sections of the asset management plan. Include an indicative safety analysis.	Manager – Production & Supply	June 09
Risk Management	3	Standardise format for risk register and include residual risk.	<p>Standardise the format of the risk register across all documents.</p> <p>Include an analysis of the residual risk (risk remaining after treatment) in the register.</p>	CEO	June 08

Contingency Planning	2	Further development of contingency plans	Provide more detail for the contingency plans including roles, responsibilities, specific tasks, how the plans are implemented, relation to emergency response organizations and contact lists.	Manager – Production & Supply	Dec 07
Capital Expenditure	3	Further development of the capital works plans	See above comments in respect to Asset Planning. Expand plans to include sections on delivery timeline, responsibility for delivery, proposed delivery method (consultant, contractor, in-house) and economic analysis to compare options (if applicable).	Chief Financial Officer / Manager – Production & Supply	Dec 08

# 1 Introduction

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In May 2007 SMEC Australia was awarded a consultancy by Busselton Water Board (BWB), with the approval of the Economic Regulation Authority (the Authority), to undertake their third Operational Audit and Asset Management System Review. This audit/review assessed:

- the adequacy and effectiveness of measures taken by the BWB to maintain those quality and performance standards referred to in the licence, and
- the effectiveness of processes implemented by the BWB to maintain assets used in the provision of water services and for the undertaking, maintenance and operation of water service works.

Following acceptance of the Audit and Review Plan by the BWB and the Authority, Howard Baldwin and Debbie Unwin undertook the on-site component of the audit and review in early May 2007.

This report summarises the findings of the Operational Audit and Asset Management Review and identifies areas of the asset management system that could be improved or enhanced.

## 2 Objectives and Scope

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### 2.1 Operational Audit

In accordance with Section 37 (1) of the *Water Services Licensing Act 1995* operational audits are required to be undertaken not less than once in every 24 month period, or such longer period as the Economic Regulation Authority allows.

The primary objective of this audit is to determine the effectiveness of measures taken by BWB to maintain those quality and performance standards which are referred to in BWB's Supply Services Operating Licence (Operating Licence).

Specifically, the audit has considered the systems and effectiveness of processes used by BWB to ensure compliance with the standards, outputs and outcomes required by the Licence;

### 2.2 Asset Management Review

The *Water Services Licensing Act 1995* also requires that BWB provide for and maintain an asset management system. The system must set out the measures to be taken by BWB for the proper maintenance of its assets and for the undertaking, maintenance and monitoring of its water services works. The Act further requires BWB to provide the Authority with a report by an independent expert on the effectiveness of the system.

The review will provide an opinion to the Authority on whether BWB has in place the appropriate systems for the planning, construction, operation and maintenance of its water services works. In reaching this opinion, the auditors examined;

- the adequacy of the existing asset management system by considering the outputs of the system, such as the operations and maintenance plans, asset registers and financial plans;
- the effectiveness of the existing asset management system by considering the systems established for the planning, construction, operation and maintenance of works;
- whether the system provides for the identification, development and implementation of strategic initiatives to improve the effectiveness of asset management;

- the adequacy of the risk management system, including the risk assessment and contingency planning;
- the Licensee's response to the recommendations made in previous reviews.

The review also focused on identifying those aspects of the asset management system which may be further strengthened, with the view to providing feedback to BWB on the adequacy and effectiveness of the system.

## 2.3 Key Documents

The following documents and information were viewed during the audit:

- Previous audit report;
- The BWB's Customer Service Charter;
- BWB Policies and Technical Procedures established for the provision of water supply services, the management of customer services and management of its performance reporting requirements;
- Work instructions for the provision of water supply services;
- Monthly, quarterly and annual Performance Indicator data and reports;
- BWB's customer complaints handling procedures;
- Monthly Business Performance Management reports;
- Asset Management Plan/Manuals;
- MAINPAC software with example of data entries;
- BWB Annual Report 2005/2006
- Inspection of a typical water treatment and storage site in Busselton;
- Busselton Water Board Financial Plan, including Capital Works Plan. Audit Details

### 2.3.1 Timeframe

The audit/review was carried out on the 8<sup>th</sup> of May 2007 and covered the period from 1<sup>st</sup> August 2004 to 31<sup>st</sup> March 2007. The previous audit covered a period from the 1<sup>st</sup> August 2002 to 31<sup>st</sup> July 2004.

### 2.3.2 Key Personnel

The key representatives participating in the audit were:

- Shaun Millen                      Manager Production and Supply
- Keith White                        Chief Executive Officer
- Neill Rowlandson                Chief Financial Officer

The members of the audit team were;

- Howard Baldwin                  Chief Auditor    5.5 working days
- Debbie Unwin                      Auditor            4.5 working days

### 3 Risk Assessment

An operational risk assessment has been carried out prior to the audit, to assess the risk posed by non-compliance with licence standards and the adequacy of internal controls having regard to the findings of previous audits and reviews.

TABLE 6. CONSEQUENCE RATINGS

	Rating	Examples of Non-Compliance			
		Supply Quality	Supply Reliability	Consumer Protection	Breaches of legislation or other Licence Conditions
<b>1</b>	<b>Minor</b>	Minor Public Health or safety issues. Breach of 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.
<b>2</b>	<b>Moderate</b>	Event is restricted in both area and time e.g., supply of service to one street is affected for up to one day. Some remedial action is required.	Event is restricted in both and time e.g., supply of service to one street is affected for up to one day. Some remedial action 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.
<b>3</b>	<b>Major</b>	Significant system failure. Life threatening injuries or widespread health risks. Extensive remedial action required.	Significant system failure. Extensive remedial action required.		

(Table 6, Appendix 1, Audit Guidelines, Electricity, Gas and Water Licences)

TABLE 7. LIKELIHOOD RATINGS

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

(Table 7, Appendix 1, Audit Guidelines, Electricity, Gas and Water Licences)

TABLE 8. 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 8, Appendix 1, Audit Guidelines, Electricity, Gas and Water Licences)

TABLE 9. INHERENT RISK RATINGS

Level	Description
High	Likely to cause major damage, disruption or breach of licence conditions
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 9, Appendix 1, Audit Guidelines, Electricity, Gas and Water Licences)

TABLE 10. 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 risks

(Table 10, Appendix 1, Audit Guidelines, Electricity, Gas and Water Licences)

## Priority Rating

Priorities have been rated on a scale of 1 to 5 with 1 being the highest priority and the lowest being 5.

TABLE 11. RISK ASSESSMENT

Operating Licence Compliance Element	Operating Licence Reference	Failure during period audited		Inherent Risk (3)	Adequacy of existing controls (4)	Priority (5)
		Consequence(1)	Likelihood (2)			
<b>OPERATING AREAS</b>						
Water Services in designated operating area	<i>C2.5, Sched 1</i>	1	C	Low	Strong	5
<b>CUSTOMER COMPLAINTS</b>						
Recorded	<i>C3.2, Sched 2.1</i>	1	B	Low	Strong	5
Investigation, conciliation & arbitration	<i>C3.2, Sched 2.2.1</i>	1	C	Low	Moderate	4
Responsiveness (eg solution within 21 days)	<i>C3.2, Sched 2.2.2</i>	2	B	Medium	Moderate	4
<b>CUSTOMERS</b>						
Charter in place, reviewed and followed	<i>C3.3, Sched 3</i>	1	B	Low	Strong	5
Ongoing consultation and feedback established	<i>C3.4, Sched 4</i>	1	B	Low	Moderate	4
<b>WATER SERVICES PROVISION</b>						
Conditions for connection followed	<i>Sched 5</i>	2	B	Medium	Moderate	3
Availability	<i>Sched 5</i>	1	B	Low	Moderate	4
Discontinuance	<i>Sched 5</i>	2	C	Medium	Moderate	4
Billing		1	A	Medium	Moderate	4
<b>INFO PROVIDED TO AUTHORITY</b>						
Customer complaints (12 monthly)	<i>Sched 6.1.2</i>	1	B	Low	Strong	5
Quarterly reports	<i>Sched 8</i>	1	B	Low	Strong	4
Annual Benchmarking report	<i>Sched 6.3</i>	1	B	Low	Strong	5
Incidents (reported within 5 days)	<i>Sched 6.2</i>	3	B	High	Strong	5
<b>CONTRACTING OF SERVICES</b>						
Maintenance of Licence Standards	<i>C6.2</i>	2	B	Medium	Weak	2
<b>STANDARDS</b>						
Adherence to Regulation	<i>C4.13</i>	2	B	Medium	Strong	3
Adherence to technical standards	<i>C4.12</i>	2	B	Medium	Moderate	3
Adherence to industry codes		N/a				
Accounting records – prepared to standard		2	B	Medium	Strong	5
Pricing and charges – approval of ERA		2	C	Medium	Strong	4
Services provided by agreement	<i>Sched 7.4</i>	N/a				
Obligations to other licensees adhered to						
Customers advised re planned disruptions	<i>Charter</i>	2	B	Medium	Strong	4
Customers contacted re emergency	<i>Charter</i>	3	C	High	Moderate	2
Emergency telephone service operational	<i>Sched 6.1</i>	2	C	Medium	Moderate	2
<b>STANDARDS SPECIFIC TO:</b>						
<b>DRINKING WATER</b>						
Quality	<i>Sched 7.2.1</i>	3	C	High	Moderate	1
Pressure and flow	<i>Sched 7.2.2</i>	2	C	Medium	Moderate	2
Interruptions	<i>Sched 7.2.3</i>	1	B	Low	Moderate	4
Drought response	<i>Sched 7.2.4</i>	2	C	Medium	Moderate	4
Leaks and bursts	<i>Sched 7.1.1</i>	2	A	High	Moderate	3

## 4 Review of Previous Audit Recommendations

A review of the findings of the previous audit, undertaken in February 2005 by KPMG, was carried as part of the previous audit. Amongst these recommendations was one issue which remained outstanding from the 2002 audit. Of the 19 recommendations made by KPMG all have been closed out or significant progress made. There is still room for improvement in a number of areas. Further detail of this can be found in the output tables from the audit/review (Sections 5 and 6).

TABLE 12. RECOMMENDATIONS FROM PREVIOUS AUDIT

Item No.	Recommendation	Action Taken
<b>Operational Audit</b>		
1.1	Define what a complaint is-to differentiate operational faults from general queries.	An administration protocol has been drawn up detailing the definition of a compliant and the complaint procedure. <i>Closeout Recommended</i>
1.2	Update the complaints procedures to incorporate the definition of a complaint and the requirement to provide a unique identifying compliant number for each complaint received.	See above
1.3	Within the complaints procedure formally document the protocols for resolving customer complaints within 21 days.	See above
1.4	Revise the reporting format provided to the Authority to add statistics on written complaints resolved in greater than 21 days.	Reporting format updated. <i>Closeout Recommended</i>
1.5	Ensure all standards are reported to the Authority as per Licence requirements.	Ability to monitor telephone answer response time still being worked out though BWB are looking at a system that will enable them to do this. <i>In progress.</i> <i>Refer to Recommendation Section 5.2 Cl 4, Sch 7Emergency Response</i>
1.6	Where exemptions from reporting on particular standards are necessary, seek formal approval from the Authority for those reporting exclusions.	See above.
<b>Asset Management Review</b>		
2.1	Clearly define and document the process for carrying out failure mode analysis in the Asset Management Manual (AMM). Undertake the failure mode analysis on a regular basis, and record the results in MAINPAC. Incorporate the results of the analysis into the maintenance planning process to minimize the opportunity for asset failure. Annually generate Asset Life Summary & Maintenance History- type reports from MAINPAC to review the maintenance costs and remaining economic life of assets against the replacement costs. This will assist in identifying optimum	BWB have instigated annual asset condition assessment inspections and grading. The information from this is recorded in MAINPAC. This information is then fed into the planning process, via annual reports that are generated by MAINPAC. The process for this still needs to be documented in the AMP. <i>In progress. Refer to Recommendation Section 6.2 'Asset Maintenance'</i>



	<p>asset replacement times.</p> <p>Decisions made as a results of the review should be recorded in MAINPAC</p>	
2.2	<p>Implement a capital expenditure proposal form to be used for all capital works proposals. Should include an evaluation and justification component.</p> <p>Consider possible non-asset solutions and incorporate commentary in the capital works proposals.</p> <p>For major/high risk capital works projects, a comprehensive project evaluation report or business case study should be undertaken, and provided to the Busselton Water Board as part of the capital works proposal submission process.</p> <p>For major/high risk capital works projects, discounted cash flow techniques such as NPV, IRR or Payback Method should be incorporated into the project proposal process.</p> <p>Provide detailed guidance in the preparation of a capital expenditure proposal, including assistance in what to consider and what justification is required to be clearly demonstrated in the proposal.</p>	<p>Capital Expenditure proposal form developed and utilized. <i>Closeout Recommended</i></p> <p>The form contains area for the consideration of non-asset solutions. <i>Closeout Recommended</i></p> <p>Detailed procedures/guide notes still to be developed/documentated to provide detail in determining and evaluating the need for new assets. <i>In progress. Refer to Recommendation Section 6.2 'Asset Planning'</i></p> <p>Discounted cash flow techniques and similar need to be considered to compare options for the larger capital projects. The manual should include some details in respect to guidelines around when these techniques should be used.</p> <p>See above.</p>
2.3	<p>Update the AMM to provide procedural guidance on the creation, refurbishment and disposal of assets. Additionally, the manual should address asset operation, maintenance, risk and contingency plans.</p>	<p>Procedures and Contingency plans developed. Additional detail/improvement required. <i>In progress. Refer to Recommendation Section 6.2 'Contingency Planning'</i></p>
2.4	<p>Complete post completion evaluation reviews for all completed capital works projects.</p>	<p>Evaluations carried out however process still to be documented. <i>In progress. Refer to Recommendation Section 6.2 'Asset Creation/Acquisition'</i></p>
2.5	<p>Capital expenditure should be reported as per approved capital works project.</p> <p>Variance analysis should be undertaken to measure and report on actual expenditure incurred against the comparative budget figure per capital works project.</p> <p>Commentary and explanations should be provided on material variances, from a cost and progress point of view.</p> <p>Undertake an annual review of capital works projects and provide Board with analysis and commentary on the progress to date, actual versus approved expenditure, and explanation on material variances.</p>	<p>Reporting occurring. <i>Closeout Recommended</i></p> <p>Undertaken and detailed in financial system. Variances in project expenditure require report to and approval from Board. <i>Closeout Recommended</i></p> <p>See above.</p> <p>See annual report.</p>
2.6	<p>Incorporate asset condition assessments into the planned maintenance program and schedule.</p> <p>Record the results of the assessments in MAINPAC.</p> <p>Record all system failures and the reasons for the failure in MAINPAC.</p> <p>Undertake an annual review of asset life and maintenance needs to shortlist</p>	<p>Incorporated. Results recorded in MAINPAC. <i>Closeout Recommended</i></p> <p>Results recorded in MAINPAC. <i>Closeout Recommended</i></p> <p>MAINPAC record detail of all failures. <i>Closeout Recommended</i></p>

	<p>assets that require further analysis on the failure frequency and the cost of capital repairs. The review and analysis should determine whether a capital works proposal is required to rectify increasing asset failures and maintenance costs.</p> <p>Review and update the maintenance schedules and intervals to take cognizance of assets performance and condition.</p>	<p>Annual review undertaken after condition assessment undertaken. Process to be documented. <i>In progress. Refer to Recommendation Section 6.2 ‘Asset Operations’</i></p> <p><i>In Progress. Refer to Recommendation Section 6.2 ‘Asset Maintenance’</i></p>
2.7	Update AMP to reflect current asset management practices.	AMP continually being updated. <i>Closeout Recommended</i>
2.8	<p>Review maintenance schedules on an annual basis.</p> <p>Update maintenance plan to incorporate the impact of condition assessments, inspections, known asset failures and the annual asset life/optimization reviews.</p>	<p>Documentation to be updated.</p> <p><i>In progress. Refer to Recommendation Section 6.2 ‘Asset Maintenance’</i></p>
2.9	Update AMM to provide consideration guidelines when assessing and forecasting asset replacement requirements	<i>In progress. Refer to Recommendation Section 6.2 ‘Asset Planning’</i>
2.10	<p>Review the Risk Assessment an Action Plan and Update accordingly.</p> <p>If possible, incorporate updated Risk Assessment and Action Plan into Risk Base to allow risk management to be centrally coordinated and managed.</p> <p>Incorporate the information provided in the risk assessments on critical assets into MAINPAC. This will strengthen the maintenance planning process by ensuring that asset failure consequences are factored in when optimizing asset maintenance replacement.</p> <p>Incorporate procedural guidance on asset risk assessment in the AMM and AMP.</p>	<p>Risk Assessment was updated since last audit and details entered into Risk Base.</p> <p><i>Closeout Recommended</i></p>
2.11	<p>Undertake review to determine where contingency plans to be developed and implemented. Areas for consideration include;</p> <ul style="list-style-type: none"> <li>-Water quality incident management</li> <li>-Disaster recovery.</li> </ul>	<p>Some contingency plans developed. Improvement and further detail required.</p> <p><i>In progress. Refer to Recommendation Section 6.2 ‘Contingency Planning’</i></p>
2.12	<p>Implement process to develop a comprehensive five year plan. Ensure the plan is reviewed and updated on an annual basis.</p> <p>The financial plan needs to adequately address the financial objectives, as well as strategies and actions necessary to achieve those objectives.</p> <p>Ensure the financial plan provides projections of the operating statements and statement of financial position.</p>	<p>10 year plan developed and has been ratified by Board. Includes objectives and strategies, financial projections and capital expenditure plan. Improvements could be made and further detail added. <i>In progress. Refer to Recommendation Section 6.2 ‘Financial Planning’</i></p>

	<p>The five year plan should be developed alongside the capital expenditure plan. Ensure the plan is ratified b the Board.</p>	
2.13	<p>Develop a five year capital expenditure plan and submit to the Board for ratification.</p> <p>The plan should be reviewed and updated on an annual basis and resubmitted to the Board.</p> <p>The plan should adequately detail the reasons for and expected timing of expenditure.</p> <p>A detailed annual capital expenditure plan should be developed from the five year plan and submitted to the Board.</p>	<p>A capital expenditure plan has been developed as part of 10 year financial plan and has been submitted to the Board. Plan could include more detail or link to another document giving justification and timelines for actions proposed.</p> <p><i>In progress. Refer to Recommendation Section 6.2 'Capital Expenditure Planning'</i></p>

## 5 Operational Audit

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### 5.1 Operational Audit Summary

For the operational audit, the Licencee was assessed for compliance with the licence requirements against the following scale:

TABLE 13. OPERATIONAL AUDIT COMPLIANCE RATING SCALE

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 1, Section 7.4.1, Audit Guidelines, Electricity, Gas and Water Licences).*

TABLE 14. OPERATIONAL AUDIT COMPLIANCE SUMMARY

Operating Area	Operating Licence Reference C. = Clause Sched. = Schedule	Consequence 1 = minor 2 = moderate 3= major	Likelihood A = likely B = probable C= unlikely	Inherent Risk Low, Medium, High	Adequacy of existing controls S = Strong M = Moderate	Compliance Rating				
						1	2	3	4	5
<b>OPERATING AREAS</b>										
Water Services in designated operating area	C2.5, Sched 1	1	C	Low	Strong					
<b>CUSTOMER COMPLAINTS</b>										
Recorded	C3.2, Sched 2.1	1	B	Low	Strong					
Investigation, conciliation & arbitration	C3.2, Sched 2.2.1	1	C	Low	Moderate					
Responsiveness (eg solution within 21 days)	C3.2, Sched 2.2.2	2	B	Medium	Moderate					
<b>CUSTOMERS</b>										
Charter in place, reviewed and followed	C3.3, Sched 3	1	B	Low	Strong					
Ongoing consultation and feedback established	C3.4, Sched 4	1	B	Low	Moderate					
<b>WATER SERVICES PROVISION</b>										
Conditions for connection followed	Sched 5	2	B	Medium	Moderate					
Availability	Sched 5	1	B	Low	Moderate					
Discontinuance	Sched 5	2	C	Medium	Moderate					
Billing		1	A	Medium	Moderate					
<b>INFO PROVIDED TO AUTHORITY</b>										
Customer complaints (12 monthly)	Sched 6.1.2	1	B	Low	Strong					
Quarterly reports	Sched 8	1	B	Low	Strong					
Annual Benchmarking report	Sched 6.3	1	B	Low	Strong					
Incidents (reported within 5 days)	Sched 6.2	3	B	High	Strong					
<b>CONTRACTING OF SERVICES</b>										

Maintenance of Licence Standards	C6.2	2	B	Medium	Weak					
<b>STANDARDS</b>										
Adherence to Regulation	C4.13	2	B	Medium	Strong					
Adherence to technical standards	C4.12	2	B	Medium	Moderate					
Adherence to industry codes		N/a								
Accounting records – prepared to standard		2	B	Medium	Strong					
Pricing and charges – approval of ERA		2	C	Medium	Strong					
Services provided by agreement documented	Sched 7.4	N/a								
Obligations to other licensees adhered to		N/a								
Emergency telephone service operational	Sched 6.1	2	C	Medium	Moderate					
<b>STANDARDS SPECIFIC TO DRINKING WATER:</b>										
Quality	Sched 7.2.1	3	C	High	Moderate					
Pressure and flow	Sched 7.2.2	2	C	Medium	Moderate					
Interruptions	Sched 7.2.3	1	B	Low	Moderate					
Drought response	Sched 7.2.4	2	C	Medium	Moderate					
Leaks and bursts	Sched 7.1.1	2	A	High	Moderate					
<b>ASSET MANAGEMENT SYSTEM</b>										
Asset Management System in place	C4.1	2	C	Medium	Strong					
Authority notified of changes to system	C4.2	2	C	Medium	Moderate					
Measures taken by BWB in proper maintenance and operation of assets set out.	C4.3	2	C	Medium	Moderate					

## 5.2 Operational Audit Observations

TABLE 15. OPERATIONAL AUDIT COMPLIANCE ASSESSMENT

Operating Licence Clause or Schedule	Specific Compliance Issues/Requirements	Auditee	Activity Compliance	Comments/Remarks	Actions
<b>Clause 2(b) Operating Area Schedule 1</b>	Does the operating area identified in Schedule 1 correspond to the area in which BWB provides its water services?	SM	5	Yes – the system is contained within the area detailed on the plan.	
<b>Clause 3 Customer Complaints Schedule 2</b>	Does the Licencee have in place a process for effectively receiving, recording, managing and resolving customer complaints within a time frame of 21 days?	KW	4	Yes – documented system is in place.	
	To ensure the effectiveness of the system the Licencee shall establish: <ul style="list-style-type: none"> <li>a) system for providing each aggrieved customer with a unique identifying number;</li> <li>b) provide appropriate number of staff trained to deal with complaints;</li> <li>c) complaint resolution protocol which is designed to resolve complaints/disputes within 21 day timeframe;</li> <li>d) system for accurately monitoring and recoding the number, nature and outcome of complaints.</li> </ul>	KW	4	<ul style="list-style-type: none"> <li>a) Complaints received by staff are submitted regularly to the CEO who enters them into the data base which provides a unique identifier.</li> <li>b) Staff are provided with Customer Service Training</li> <li>c) System is designed to resolve complaints quickly (within 21 days).</li> <li>d) All complaints / actions are recorded on the data base.</li> </ul>	
	Have there been occurrences of complaints unresolved/ not fully resolved within set time frame?	KW	4	Last annual report indicated that all complaints received that year had been resolved within the appointed time frame. At time of audit there was one outstanding complaint..	

<b>Clause3 Schedule 3 Customer Service Charter</b>	Does the BWB have a “plain English” Customer Service Charter?		5	Yes-Charter sighted.	
	Does the Charter address all of the service issues reasonably likely to be of concern to its Customers?		5	Yes	
	Has the Charter been reviewed within the last three years? The licence requires the Charter be updated every 2 years.		5	Version 4, updated 2006 is current version. Charter has been updated regularly.	
	Have any changes to the Charter been approved by the Authority?	KW	5	All changes are approved by the Authority.	Ensure that all documents relating to the charter, including the abridged version, are to be approved by the Authority
	How does the BWB make the Charter available to its Customers?	KW	4	Available at the Office counter, on the website and abridged version is also sent out with the rates notice.	
	Does the BWB provide services that are consistent with the Charter?		4	Yes	
<b>Clause 3 Schedule 4 Consumer Consultation</b>	Have the BWB held a public meeting or advertised for written submissions prior to making major changes to the operation of the water service?	KW	5	No changes have been made to the system to warrant the need for a public meeting.	
	Does the BWB allow customers to raise matters of concern regarding the water system at public question time in accordance with regulations?	KW	4	BWB have established at least two measures for ongoing customer consultation. An annual meeting for customer interaction is held and an annual survey is undertaken.	
<b>Clause 3</b>	How does the BWB ensure that water services provided on its behalf comply with the terms and	SM	4	Water quality and other monitoring is undertaken regularly and reported at	



<b>Schedule 5</b>  <b>Methods or principles to be applied in the provision of Water Services</b>	conditions of the Licence and relevant legislation?			regular intervals.	
	How does the BWB ensure that its water services are available for connection on request to any land within the Operating Area?	SM	4	Developers submit applications to allow BWB to assess and provide conditions of connection and plan for additional infrastructure if required.	
	How does the BWB ensure that the services it supplies are safe, reliable and financially viable?	SM/NR	5	Water quality is monitored and tested regularly against standards. BWB has in place financial systems that tracks costs and operations costs are being covered by current revenue.	
<b>Clause 3</b> <b>Schedule 6</b> <b>Information to be supplied</b>	Has BWB advised the Authority every 6 months of number of complaints relating to water quality, interruptions, pressure and accounts?	KW	4	Quarterly and six monthly reports are provided to the Authority on all reportable items.	
	Is the reporting of resolved complaints classified into the specified six categories?	KW	5	Yes-Copy of report sighted.	
	Is the reporting of non-resolved complaints classified into the specified descriptions?	KW	5	Yes	
	Are the number of written complaints reported to the Authority, including details of the number successfully resolved in 21 days and those resolved in greater than 21 days?	KW	5	Yes	
	Has an annual independent customer survey been undertaken if required by the Authority?	KW	3	The Board undertakes a survey using in-house resources only on an annual basis. The survey is posted to customers.	<b>Consider undertaking an independent survey at least once every 5 years.</b>
	Has the BWB informed the Authority within five days of any a) non-conformance with water quality standards?	KW	5	a) There have been no water quality non-conformances within the last couple of years. b) No interruptions to supply meeting the criteria have taken	

	b) interruptions greater than 1 hour affecting more than 300 connections, with reasons.			place in the last 12 months.	
	If requested, have detailed reports been provided to the authority within 14 days of the request?	KW	5	No requests for detail reports have been requested by the Authority.	
	Has the BWB provided the information in Schedule 6 been reported to the Authority by 1 September each year?	KW	5	Information is reported on Quarterly.	
<b>Clause 4 Schedule 7 Technical &amp; Industry Standards</b>	Does the BWB comply with the technical standards for the provision of and the undertaking, maintenance and operation of Water Services works as published in the Government Gazette?	SM	5	BWB is complying with all standards. There are no separate agreements in place for which different standards may apply.	
<b>Emergency response</b>	Has BWB implemented an emergency telephone number? Do 90% of customers receive advice within one hour of reporting an emergency?	KW	4	Yes – listed on the customer charter.  No system in place at the current time to monitor compliance in respect to answer time through BWB are looking into a phone system that will enable them to do so.	<b>Establish system for monitoring response time for emergency telephone service or seek an exemption from the authority.</b>
<b>Quality</b>					
<b>Pressure &amp; Flow</b>	Does water supplied, designated as drinking water, comply with the direction made by the Minister for Health (Section 3 of schedule)	KW/SM	5	Water supplied complies with all health and quality requirements.	
<b>Continuity</b>	For each 12 month period, have 99.8% of customers had pressure & flow supplied as is listed in schedule.	KW	5	Yes	
<b>Drought Response</b>	Over a 12 month period, have 75% of connected properties not experienced a complete interruption in flow lasting longer than 1 hr;  Have all connected properties experienced less than three interruptions exceeding 1 hr in any 12	KW	5	99.98% of connected properties have not experienced interruptions lasting longer than 1 hour.  All connected properties have experienced less than 3 interruptions in	

	month period.			the last 12 months.	
	During periods of restrictions on water use, is sufficient water available to meet essential in-house demand?	KW	5	System relies on ground water which is currently meeting all demands and not indicating any limits on supply.	
<b>Clause 4 Schedule 8 Levels of Service &amp; Reporting</b>	Does BWB monitor, comply with the standards in Schedule 8 and report to the Authority on respective levels of service, 30 days before the end of each quarter:  a) Health & non-health related quality b) Pressure & flow c) Continuity d) Drought response e) Leaks and bursts f) Services provided by agreement g) Emergency response h) Customer complaints	KW	4	Yes to all sections. Reports for December 2006 and March 2007 were viewed.	
<b>Clause 5 Amendment of Licence</b>	The authority may amend the Licence terms, condition or scope, provided 28 days notice is given to the Licencee.  Within 28 days, or longer as given by the Authority, the Licencee shall submit comments or submissions with regard to the amendment.	KW	5	Only 1 amendment to the licence in respect to reporting. The Board submitted a no comment.. Comment was previously provided in a working group.	
<b>Clause 6 Contracting</b>	Has BWB ensured that all water services, provided by persons engaged to do so on its behalf are provided in compliance with its Licence conditions and legislation?	SM	3	The majority of work is undertaken by Board Staff or under their direct supervision in accordance with licence conditions.	<b>BWB needs to develop documentation and standards in respect to Contractor works.</b>
<b>Asset Management System</b>	Is there an Asset Management System in place for the water service assets of the BWB?	SM	4	MAINPAC is the Board's asset management recording system.	
	Have the details of the system, and any changes,	KW/SM	5	MAINPAC has been in place for 5	

	been forwarded to the Authority?			years. There have no upgrades or changes in that time.	
	Does the system set out the measures to be taken by the BWB for the proper maintenance of its assets and the undertaking, maintenance and operation of water service works?	SM	3	BWB has in place measures for undertaking the maintenance and operation of its works. Some of these are documented in their technical procedures and the AMP, however the documentation could be improved	<b>Further documentation would improve the maintenance system.</b>
	Has the information on maintenance activities been collected and recorded in accordance with documented procedures?	SM	3	MAINPAC records details on all maintenance activities. There is a need to improve the documentation of procedures.	<b>See above.</b>
	Are the procedures understood by staff?	M	3	The current documented procedures are well understood.	<b>See above</b>
<b>Accounts</b>	Are the BWB's accounts consistent with the requirements of the <i>Water Boards Act</i>	NR	5	Accounts are audited annually and reporting is now in accordance with International Financial Standards.	
	Does the BWB 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?	NR	5	A full statement of its accounts are included in the Annual Report (2005/2006 Annual Report viewed).	
<b>Prices or charges</b>	Do the prices and charges set by the BWB comply with the <i>Health Act 1911</i> and the <i>Water Boards Act</i>	NR	4	Prices and Charges are set by Government.	

## 6 Asset Management Review

### 6.1 Asset Management Summary

For the Asset Management Review, the following scale was used in assessing each key area of the asset management system.

TABLE 16. ASSET MANAGEMENT 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							
Asset Creation / acquisition							
Asset Disposal							
Environmental Analysis							
Asset Operations							
Asset Maintenance							
Asset Management Systems Information System							
Risk Management							
Contingency Planning							
Financial Planning							
Capital Expenditure Planning							
Review of AMS							

## 6.2 Asset Management Observations

### Asset Planning

Provision for planning associated with the identification of assets and their long term management. Identification of appropriate service levels, options (including non-asset options), lifecycle costs, funding and consequences of failure are considered.

Test	Comments	Effectiveness
Have the strategic objectives for assets been identified?	Strategic Objectives are detailed in the Asset Management Plan (AMP).	3
Have the life cycle costs been considered?	Refer to Page 38, Vol 1 of AMP for Life Cycle costs. Financial plan also includes provision for replacement of some assets.	3
Has the need for new assets been determined and full project evaluation processes been followed, including comparative assessment of non-asset solutions?	Financial Plan includes a 10 year capital program. <b>Recommendation:</b> The justifications could be improved including the option of non-asset solutions.	2
Have documents recording relevant details on the asset been collected?	MAINPAC has a limited amount of information recorded. Product manuals and other similar details are kept at the works depot.	4

**Overall Assessment;**                3

#### Overall Comments & Recommendations;

A 10 year financial plan has now been developed which includes the identification of a range of future capital works. It is recommended that further justification be provided for future asset creation including consideration of non-asset options.

## Asset Creation / Acquisition

Assessment of the policies and procedures around the creation and acquisition of assets.

Test	Comments	Effectiveness
Are acquired assets designed in accordance with appropriate water industry standards?	BWB has generally adopted WSAA standards, but is yet to develop specific standards for developer constructed works (it is noted that minimal work is undertaken by developers at this stage).	3
Are there appropriate project management processes in place for asset creation and refurbishment?	Processes are in place but the system is not well documented. <b>Recommendation:</b> Details need to be included in the AMP.	2
Do assets reflect the objectives identified in the asset creation/acquisition phase?	The assets reflect the objectives identified.	3
Are actual costs as predicted?	Budgets are established for all acquisitions and projects and costs are tracked accordingly. Over budget expenditure requires Board approval.	4

**Overall Assessment;**                    3

**Overall Comment & Recommendations:**

The Board should consider the development and documentation of standards in regards for the creation and acquisition of assets. Currently all work is undertaken by the Board, however in future it is anticipated the majority of work associated with new urban development will be undertaken by developers, which will necessitate the development of such standards.

## Asset Disposal

Assessment of the policies and procedures around the disposal of assets. Is the usefulness of the assets reviewed on a regular basis?

Test	Comments	Effectiveness
Are there appropriate project management processes in place for the disposal of assets?	Processes are in place in the financial register and accounting system, but the system is not well documented. <b>Recommendation:</b> Details need to be included in the AMP.	1
Are there appropriate procedures in place to check the condition and operation of assets?	The Board has commenced annual condition assets of its assets. Documents on the results to date were viewed.	3

**Overall Assessment;**            2

**Overall Comment & Recommendations:**

The Board should consider the development and documentation of procedures for the disposal of assets. The process is largely controlled through the financial and accounting system and is need of a formal procedure in the Asset Management Plan to document the procedure for the disposal of assets and their removal from the asset register.

The Board has commenced a regular review of asset condition and performance.



## Environmental Analysis

Environmental analysis examines the asset system environment and assesses all external factors affecting the asset system including compliance with service standards, investigation of breaches and corrective actions taken. Examination of the reporting and monitoring tools.

Test	Comments	Effectiveness
Have the performance requirements (availability of service, capacity, continuity, emergency response) been documented?	Performance requirements are documents and reported quarterly. CEO separately checks all water quality data.	4
Are the asset system objectives documented?	Objectives are documented in the AMP (Vol 1).	3
Have the opportunities and threats in the system environment been assessed?	AMP Vol 1 contains a risk register. No opportunities were noted. <b>Recommendation:</b> Opportunities to be identified and included.	3
Are regulatory obligations and statutory/regulatory requirements documented?	AMP Vol 1 contains a list of all requirements.	4
Is the asset meeting the level of service required by users of the service?	Performance targets are being met and no shortfalls have been identified by the staff. Records indicate a high level of conformance with all standards.	4
Do the assets meet regulatory requirements?	The assets are meeting all regulatory requirements.	4

**Overall Assessment;**                    4

### Overall Comment & Recommendations:

The water supply system has an adequate reserve and no shortfalls in supply are anticipated in the near future. Multiple pumps and treatment facilities provide a high level of backup. The system has a consistent high standard in respect to water quality and pressure (water quality records indicated consistent high levels of conformance with the standards including low levels of Coliforms). Testing of water quality is undertaken by an independent laboratory. There have been no recorded breaches of water quality standards in the last 12 months.

It is recommended that opportunities be identified and included in the risk register.

## Asset Operations

Asset operations examines the policies and procedures covering the operation functions of the Board's assets. Issues to be examined include adequate resourcing, documentation of maintenance and testing procedures, recording and analysis of costs and the application of corrective actions.

Test	Comments	Effectiveness
Are the asset system components documented?	AMP Vol 3 includes a list of major assets and further breakdown is located in the MAINPAC system (viewed system and data).	4
Has the asset performance and condition been assessed?	Asset condition assessments have been recently undertaken for all assets. This information is being recorded on the MAINPAC system. Performance of mechanical plant is also assessed.	4
Does the AMP include an asset register and plans of asset system components?	The AMP includes an asset register and schematics of the system.	3
Does the register record asset type, location, material and an assessment of assets' physical/structural condition?	Yes, recorded on MAINPAC and a register is included in Vol 4, Table 3 of the AMP.	4
Are systems in place to assess asset and practice efficiency?	Generic plans have been developed, but more detail would be of assistance.	3
Are actual assets and human resources appropriate for performance requirements?	Performance requirements are being met. Additional staffing requirements have been identified in the Financial Plan.	4

**Overall Assessment; 3 to 4**

### Overall Comment & Recommendations:

Busselton Water Board is continuing to develop its asset data base (MAINPAC) and utilising this as an operational tool. The Board has technical manuals in respect to a number of procedures which would benefit from further detail.

The financial plan has identified the need for future resources in respect to staffing levels.

## Asset Maintenance

Assessment of the policies and procedures covering maintenance functions. Confirm that the policies are being followed, including maintenance schedules and analysis of costs.

Test	Comments	Effectiveness
Assets assessed for capability and deficiencies of current assets to meet performance requirements?	Assets performance is assessed regularly. No shortfalls have been identified.	3
Are practices covering operating rules and maintenance documented?	Procedures Manual Vol 1 covers technical procedures. <b>Recommendation:</b> The procedures would benefit from further detail.	2
Do maintenance plans cover preventative and corrective maintenance?	AMP Vol 4 has generic maintenance plans. The MAINPAC system flags scheduled maintenance and inspections.	2
Do operation and maintenance practices reflect performance targets?	Current practices are meeting performance requirements. <b>Recommendation:</b> Improvement in documentation of procedures would be of benefit.	2
Are costs measured and recorded?	MAINPAC records costs against assets including materials and labour.	4
Is the asset under-utilised?	The BWB system currently has spare capacity, but the area is undergoing significant growth and has significant seasonal population changes (holiday / resort area).	4
Is the level of maintenance justified against replacement cost?	Data is still being collected and loaded into the MAINPAC system to enable comparison of maintenance against replacement costs.	3
Has the asset been inspected?	All assets were recently inspected as part of their condition assessment. Maintenance scheduling flagged by MAINPAC includes inspections.	4

Is the assets' theoretical life known?	MAINPAC and the asset register includes theoretical economic life for all assets. It is proposed to adjust this based on the recent condition rating.	4
Does the assess management plan enable the prediction of asset deterioration and failure.	Currently based on theoretical economic life only. Life of asset will be adjusted following further condition rating assessments.	3
Do the maintenance plans and operational plans relate to what is required to achieve the levels of service required of the system?	Notes on level of service not included in the maintenance plans. All assets are currently providing a high level of service (nearly 100 % compliance in a number of areas).	3

**Overall Assessment;            3**

**Overall Comment& Recommendations:**

There is a good asset management system in place. The asset management plan and support documents are understood by staff to be dynamic documents and the current versions are a good basis on which to improve. Further detail and documentation is required in some areas, including assessment of plant efficiency, operating rules and procedures.

The comments made above reflect the relative newness of the MAINPAC system and the amount of established data available. As time passes and more data is collected and trends established, this will enable the amore accurate documentation and assessment of maintenance cost versus replacement costs and the prediction of asset failure.

## Asset Management Information System

Assess the adequacy of policies and controls covering the computer systems. Confirmation that reports on standards / licence obligations are being reviewed and acted on.

**Overall Assessment;            3**

**Overall Comment& Recommendations:**

The operation of the MAINPAC system recording the data was reviewed. Data is supplied in hard copy and entered by the system operator, who is also responsible for producing the outputs from the system including the maintenance schedules.

The CEO provided documentary evidence that he was reviewing and recording the water quality data separately to ensure that compliance with the licence was being achieved.

## Risk Management

Risk analysis involves the identification of risk and management within an acceptable level of risk. Contingency plans document the steps to deal with the unexpected failure of an asset. Assessment based on the adequacy of policies and procedures, application of risk management and understanding of the staff.

Test	Comments	Effectiveness
Has a risk assessment of assets been conducted?	Risk Register is included in the AMPs.	3
Has the probability and consequences of asset failure have been identified?	Yes.	4
Is risk management practiced?	Yes.	3
Where unacceptable risks have been identified have risk control measure been implemented?	Risk register includes details of mitigation strategies and actions. All plant is monitored by a SCADA system to provide appropriate alarming and warning.	3

**Overall Assessment: 3**

### Overall Comment& Recommendations:

It was noted that the AMPs contained 2 different formats for the risk register including the one based on the Australian Standard (Vol 4.) and the other on another system (Vol 1.). These are based on the output from the risk management program Risk-Chase. The second register did not include a risk ranking and both did not include any ranking of residual risk (risk remaining after treatment). It is recommended that one format be adopted across all volumes and that additional columns are added including assessing and ranking residual risk. It was not clear how or identified in the risk register if unacceptable risks were being translated into actions for inclusion in the capital works plan. It is recommended that the risk register be reviewed periodically.

## Contingency Planning

Contingency Plans provide an indication of how well prepared the organisation is in respect to unplanned emergencies. Contingency plans document how the organisation responds, levels of responsibility and communications within the organisation and externally.

Test	Comments	Effectiveness
Are appropriate contingency plans in place?	Contingency plans for a number of identified emergencies have been developed. <b>Recommendation:</b> Contingency plans to be improved	2
Where events that may result in severe consequences have been identified have contingency plans been developed?	Risk Register did not have any severe or extreme risks (highest noted was HIGH). Contingency plans for disaster and some other events have been developed.	2

**Overall Assessment:** 2

### Overall Comment & Recommendations:

This area would benefit from additional work to “flesh out” the disaster management plans. This includes providing details on responsibilities, flow charts, connection to the district disaster plan, contact lists, action plans, relevant schematics and drawings and how and when the action plans are activated.

It is also recommended that the impact of a Tsunami be added to this list. Busselton is a low lying coastal development that would be impacted in the event of a Tsunami.

## Financial Planning

The financial planning component of the AMP brings together the financial elements of the scheme to ensure its financial viability over the long term. Since capital investments tend to be large and lumpy, projections would normally be expected to cover at least 10 years, preferably longer. Projections over the next five years would be based on firm estimates.

Test	Comments	Effectiveness
Does the Financial Plan provide projections of operating statements (profit and loss) and statement of financial position ?	Financial Plan includes a 10 Year Profit Loss Statement.	4
Does the financial plan cover the financial objectives and strategies and actions to achieve the objectives?	Financial Plan covers all financial objectives and includes both operating costs/revenue and capital works.	4
Does the financial plan identify the source of funds for the capital expenditure plan?	The Financial Plan has identified that the Board is cash flow positive for a number of years and is capable of funding its operations and capital program from revenue and reserves. Only 1 possible project was identified as requiring future loan funds.	3
Are the sources of funds for operation, maintenance and administration identified in the financial plan?	Yes – fully funded from rates and revenue.	3
Does the financial plan provide firm predictions on income for the next five years and reasonable indicative predictions beyond this period?	The Financial Plan includes details on predictions for the next 10 years.	4
Does the financial plan provide for the operation and maintenance, administration and capital expenditure requirements of the scheme?	The operation, maintenance and administration of the scheme and future capital expenditure is provided for the in the 10 year Financial Plan.	3

**Overall Assessment;** 3 to 4

**Overall Comment& Recommendations:** See recommendations relating to Capital Expenditure Planning below.



## Capital Expenditure Planning

The capital expenditure plan provides a schedule of new works, rehabilitation and replacement works, together with estimated annual expenditure on each, over the next five or more years. This can be expressed as a schedule of projected annual expenditures offset by possible income from asset disposal, supported by documentation of the reasons for the decisions and evaluation of alternatives and options.

Test	Comments	Effectiveness
Has a capital expenditure plan been prepared?	A capital expenditure plan has been included in the 10 year Financial Plan.	3
Does the plan cover the issues to be addressed, the actions proposed, the centre of responsibilities, and deadline dates?	The capital plan covers the issues and actions proposed, however does not detail responsibilities or deadlines.	3
Does the plan provide reasons for capital expenditure and timing of expenditure?	Plan provides reason for the expenditure (issue to be addressed), but there were no details regarding justification or timing.	2
Is the capital expenditure plan consistent with the asset life and condition identified in the AMP?	Apart from minor works, there are no major assets to be replaced. The only exception mentioned was the replacement of AC mains because of the asbestos material.	3

**Overall Assessment:** 3

### Overall Comment& Recommendations:

A Financial Plan covering the next 10 years, including listing and detailing a number of proposed capital works projects. We recommend that the capital works section in the Financial Plan be more of a summary and a separate detailed capital works plan be developed.

The capital works projects would benefit from:-

- Each project being allocated a unique identifier (number or other such coding);
- More detail being provided in the justification including short discussion of non-asset solutions;
- Identifying the main beneficiaries of the project (social, economic, environmental);
- How the works are proposed to be delivered (including design) – i.e. consultants, external contractors, in-house resources;
- List any relevant delivery deadlines and examine a timeline to deliver;

## Review of Asset Management System

Review of the Asset Management System assists to ensure the effective development and operation of Asset Management Plans. Determine when the plan was last updated and reviewed.

Test	Comments	Effectiveness
Is a review process in place to ensure that AMPs are kept current?	The current AMP was recently updated. <b>Recommendation:</b> A section needs to be included in the plan on review and timelines for future updates.	4
Are AMPs being reviewed at appropriate intervals?	See above.	4
Are the AMPs current?	See above.	4

**Overall Assessment:** 4

### Overall Comments & Recommendations:

The BWB staff have a view that the AMP is a dynamic document and it is being updated as the system develops and further procedures are documented. It is important however that a formal review process is implemented.

## 7 Recommendations

This audit did not identify any non-conformances in respect to the operational aspects audited. However the audit has identified a number of areas that would benefit from further improvement. These are detailed in the following post-audit implementation plans.

This audit did not identify any non-conformances in respect to the asset management aspects audited. However the audit has identified a number of areas that would benefit from further improvement. These are detailed in the following post-audit implementation plans.

The time frames proposed in the post-audit implementation plan reflect the fact that they relate to improvements rather than non-conformances. The time frames proposed take into account the need for the Board officers to maintain their current work practices and to undertake the recommended improvements over a period of time. They are intended to ensure that the product be a much more considered document rather than one that is rushed together.

### 7.1 Post-Audit Implementation Plan

TABLE 17. OPERATIONS IMPLEMENTATION PLAN

Licence Clause	Current Rating	Issue	Recommendations	Responsible Officer	Proposed End Date
Clause 6	3	Lack of documented standards for contract works	Develop a set of standards for work that is likely to be contracted out in the future.	Manager – Production & Supply	June 08
Clause 4 Schedule 7	4	Ability to monitor response times to telephone system.	Establish system for monitoring response time for emergency telephone service or seek an exemption from the Authority	CEO	June 08
Asset Management System	3	Improve the level of documentation around operations and maintenance procedures	Undertake further work, to improve the documentation of Operations and Maintenance procedures including listing of operating limits, maintenance schedules, risks etc.  Refer also to recommendations in the Asset Management Plan section.	Manager – Production & Supply	Dec 08

The above operations improvement plan has been developed by the auditor and has been agreed to by the licensee (Busselton Water Board).

TABLE 18. ASSET MANAGEMENT IMPLEMENTATION PLAN

Process	Current Rating	Issue	Recommendations	Responsible Officer	Proposed End Date
Asset Planning	3	Further justification required, including non-asset options.	Provide further justification for capital projects including discussion on economic, social and environmental impacts (positive and negative) of the project as well as examining possible non-asset options.	Manager – Production & Supply	June 08
Asset Creation / Acquisition	3	Strengthen documentation around asset creation.	Provide a more detailed guideline and process around the creation or acquisition of assets.	Manager – Production & Supply	Dec 08
Asset Disposal	2	Documented procedures and guidelines around the disposal of assets is poor.	Provide a more detailed guideline and process around the disposal of assets.	Chief Financial Officer	June 08
Environmental Analysis	4	Opportunities not identified in the risk register	Update risk register to include opportunities.	CEO	June 08
Asset Maintenance	3	<ul style="list-style-type: none"> <li>Provide further detail on operating rules and maintenance targets;</li> <li>Further detail required for operations and maintenance practices.</li> </ul>	Detail operating rules, limits, licence limits and guidelines in the relevant sections of the asset management plan. Include an indicative safety analysis.	Manager – Production & Supply	June 09
Risk Management	3	Standardise format for risk register and include residual risk.	<p>Standardise the format of the risk register across all documents.</p> <p>Include an analysis of the residual risk (risk remaining after treatment) in the register.</p>	CEO	June 08

Contingency Planning	2	Further development of contingency plans	Provide more detail for the contingency plans including roles, responsibilities, specific tasks, how the plans are implemented, relation to emergency response organizations and contact lists.	Manager – Production & Supply	Dec 07
Capital Expenditure	3	Further development of the capital works plans	See above comments in respect to Asset Planning. Expand plans to include sections on delivery timeline, responsibility for delivery, proposed delivery method (consultant, contractor, in-house) and economic analysis to compare options (if applicable).	Chief Financial Officer / Manager – Production & Supply	Dec 08

The above asset management improvement plan has been developed by the auditor and has been agreed to by the licensee (Busselton Water Board).

## 7.2 Changes to the Licence

No changes to the Busselton Water Board Operating Licence are proposed at this time.

## 8 Confirmation of the Audit

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We confirm that the audit carried out at Busselton Water Board in May 2007 and recorded in this report is an accurate presentation of our findings and opinions.

Debbie Unwin



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SMEC Australia Pty Ltd

12 St George Terrace

Perth WA

28<sup>th</sup> May 2007