

# AUDIT REPORT

## Asset Management Systems Review for Gas Distributions Licence GDL 2: Coastal Supply Area for ALINTA GAS NETWORKS

Date: 20 June 2007

Revision: 0 FINAL REPORT (Redacted)

Document No: 41202-REP-002



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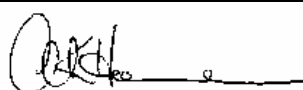
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**Limitations Statement**

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In preparing this report, OSD has relied upon and presumed accurate certain information (or absence thereof) relative to the site provided by the Client and others identified herein. Except as otherwise noted OSD has not attempted to verify the accuracy or completeness of any such information.

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Revision	Status	Prepared by	Checked by	Date
A	For Review by Client	Barry Parsons	Jodi Hayes	17 April 2007
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Signatures:				

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**Appendices – See Attached Document: 41202-REP-002A Rev 0**

## **1 EXECUTIVE SUMMARY**

Alinta Gas Networks Pty Ltd (AGN) has a gas distribution licence to construct, alter, operate and maintain and to transport gas through a distribution system within the licence area specified in Gas Distribution Licence No 2 (GDL 2). OSD Asset Services (OSD) carried out a review of the asset management systems in the GDL 2 licensed area, known formally as the Coastal Supply Area (GDL 2 supply area) during March and April 2007. The Coastal supply area is the largest of the three licensed gas supply areas within AGN's gas distribution business in Western Australia (WA), and includes the greater Perth metropolitan area. Alinta Asset Management (AAM) is the prime contractor for the maintenance and operation of AGN assets in WA.

The asset management system was reviewed using the approved OSD Audit Plan, (OSD Document No: 41202-AP-001 Rev 4 dated 2 March 2007), based on the Economic Regulation Authority's Audit Guidelines: Electricity, Gas and Water Licences.

The OSD Lead Auditor spent almost two weeks in Perth during from 6 March 2007 interviewing 13 AAM and ANH staff at the corporate office in the Perth CBD and at the operational base at Jandakot on 19, 20 and 23 March.

The OSD Lead Auditor also interviewed 4 staff at Alinta's office in Mt Waverley, Victoria on 15 and 16 March in relation to support to the WA gas distribution business; i.e. emergency management, information services and regulatory affairs.

One AAM staff member accompanied the Lead Auditor on the site visit to inspect a number of network facilities in the Canning Vale industrial area on 19 March.

All relevant documentation requested was made available to the Lead Auditor.

The asset management system operated by AGN in the GDL 2 supply area has now been in place since 2002.

However, since the last asset management systems review in January 2005, Alinta has acquired the AGL business units including Agility that is in the process of being systematically merged with AGN and other Alinta business units elsewhere in Australia. Notwithstanding this activity, the Lead Auditor has focused on the asset management systems currently operating in WA. Many facets of the asset management system are being reviewed across the Alinta businesses so that eventually a common and consistent approach will be applied across Australia.

A number of actions, primarily related to the GDL 2 supply area, are still outstanding from the previous asset management system review carried out by MC2 Pacific P/L in January 2005 - (Note: MC2 Pacific P/L review team visited Perth and Jandakot only in January 2005) - See Section 7.

Overall, OSD considers that the asset management system in the GDL 2 supply area is being applied in a reasonably effective manner, although a number of issues have been identified that require action as noted in the summary below and in Section 9.4.

The Effectiveness Rating applied for each process for the GDL 2 supply area is shown in the chart below. Refer to Appendix 1 for detail audit findings by OSD.

ASSET MANAGEMENT SYSTEM		Not performed	Performed informally	Planned and tracked	Well defined	Quantitatively controlled	Continuously improving
		GDL 2: Coastal Supply Area					
Process	Effectiveness rating	0	1	2	3	4	5
Asset Planning						X	
Asset Creation/Acquisition					X		
Asset Disposal						X	
Environmental Analysis					X		
Asset Operations						X	
Asset Maintenance					X		
Asset Management Information Systems							X
Risk Management						X	
Contingency Planning					X		
Financial Planning							X
Capital Expenditure Planning							X
Review of Asset Management System						X	

The basis of the assessed effectiveness for each process is discussed in section 9.3.

**Summary of Issues and Recommendations - See Section 9.4**

## **2 INTRODUCTION**

OSD carried out a review of the asset management system in AGN's **GDL 2 licensed area (GDL 2 supply area)**, known formally as the **Coastal Supply Area** during March and April 2007.

The gas networks within the GDL 2 supply area supply natural gas to approximately 550,700 industrial, commercial and domestic customers.

The GDL 2 supply area covers the non-contiguous series of gas distribution networks extending from Geraldton the north to Busselton in the south, and includes the Perth metropolitan area.

The gas distribution networks consist of approximately 134 km of class 600 and 555 km of class 150 mains high pressure steel pipelines. These pipelines are connected via gate stations/pressure regulating stations to the Dampier-Bunbury Natural Gas Pipeline (DBNGP) and the Parmelia Pipeline. Pipeline diameters vary from 50mm to 350mm, with maximum allowable operating pressures (MAOP) between 1900 – 6900 kPa.

The remaining (approximately 11,400 km) gas distribution networks are constructed from a range of materials including, steel, polyethylene (PE), PVC and cast iron ranging in diameters from 40 mm to 635 mm. MAOP for these networks varies from 7 – 800 kPa.

GDL 2 is one of three licensed supply areas within AGN's gas distribution business in Western Australia (WA). The remaining licensed supply areas are GDL 1: Goldfields – Esperance Supply Area and GDL 3: Great Southern Supply Area.

**OSD has produced separate audit reports for the asset management systems in these two licensed areas.**

The review covered the 24 month period ending 31 January 2007 and followed the processes outlined in Appendices 1, 2 and 3 of *Audit Guidelines: Electricity, Gas and Water Licences*, Economic Regulation Authority (the Authority), WA.

The asset management system was reviewed using the approved OSD Audit Plan, (OSD Document No: 41202-AP-001 Rev 4 dated 2 March 2007), based on the Economic Regulation Authority's *Audit Guidelines: Electricity, Gas and Water Licences*.

The review also complied with the following standards:

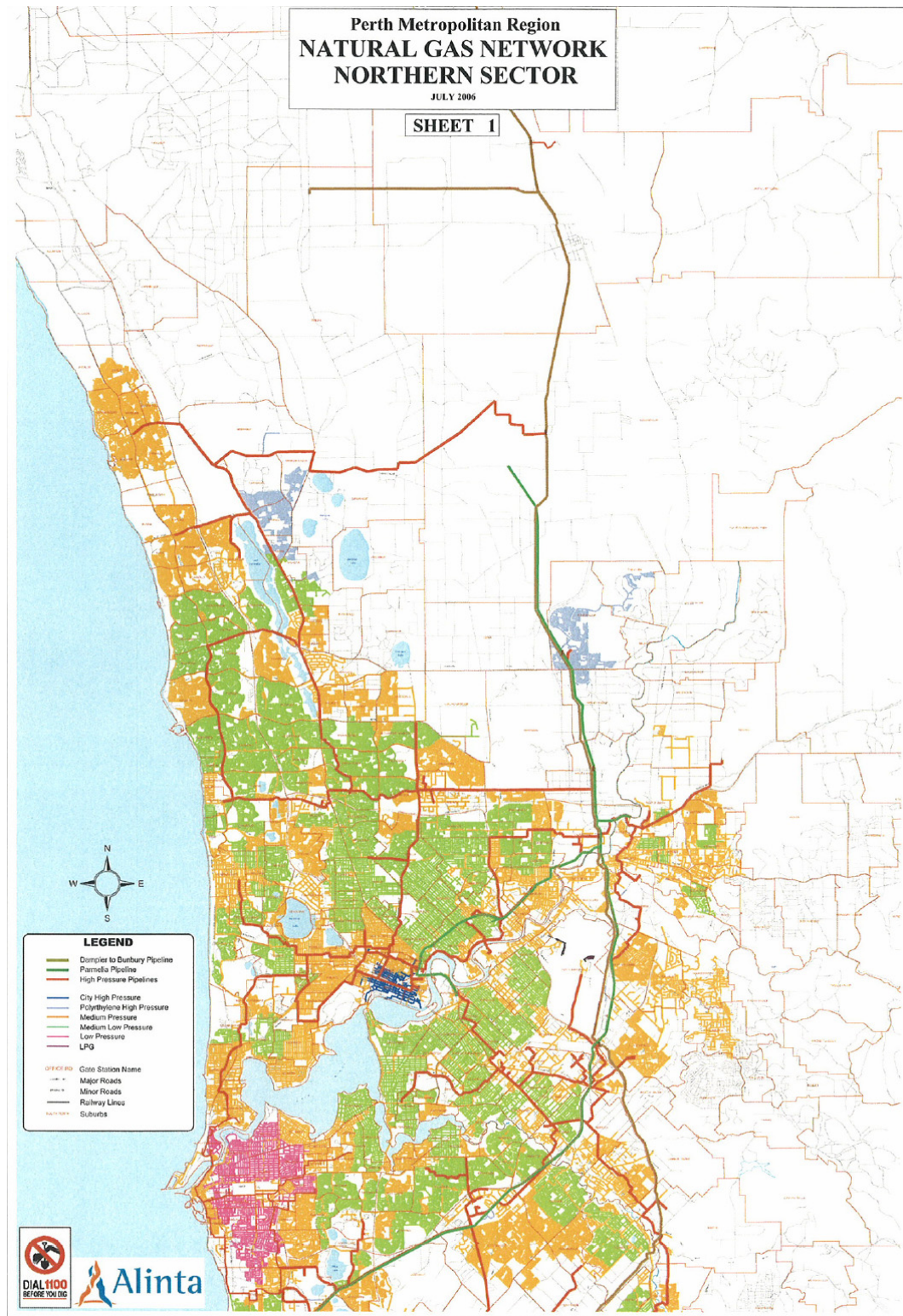
- ☐ Risk evaluation model set out in AS/NZS 4360:2004
- ☐ AUS 402 – Risk Assessment and Internal Controls
- ☐ AUS 502 – Audit Evidence
- ☐ AUS 806 – Performance Auditing
- ☐ AUS 808 – Planning Performance Audits
- ☐ AUS 810 – Special Purpose Reports on the Effectiveness of Control Procedures

The asset management system operated by AGN in the GDL 2 supply area has now been in place since 2002.

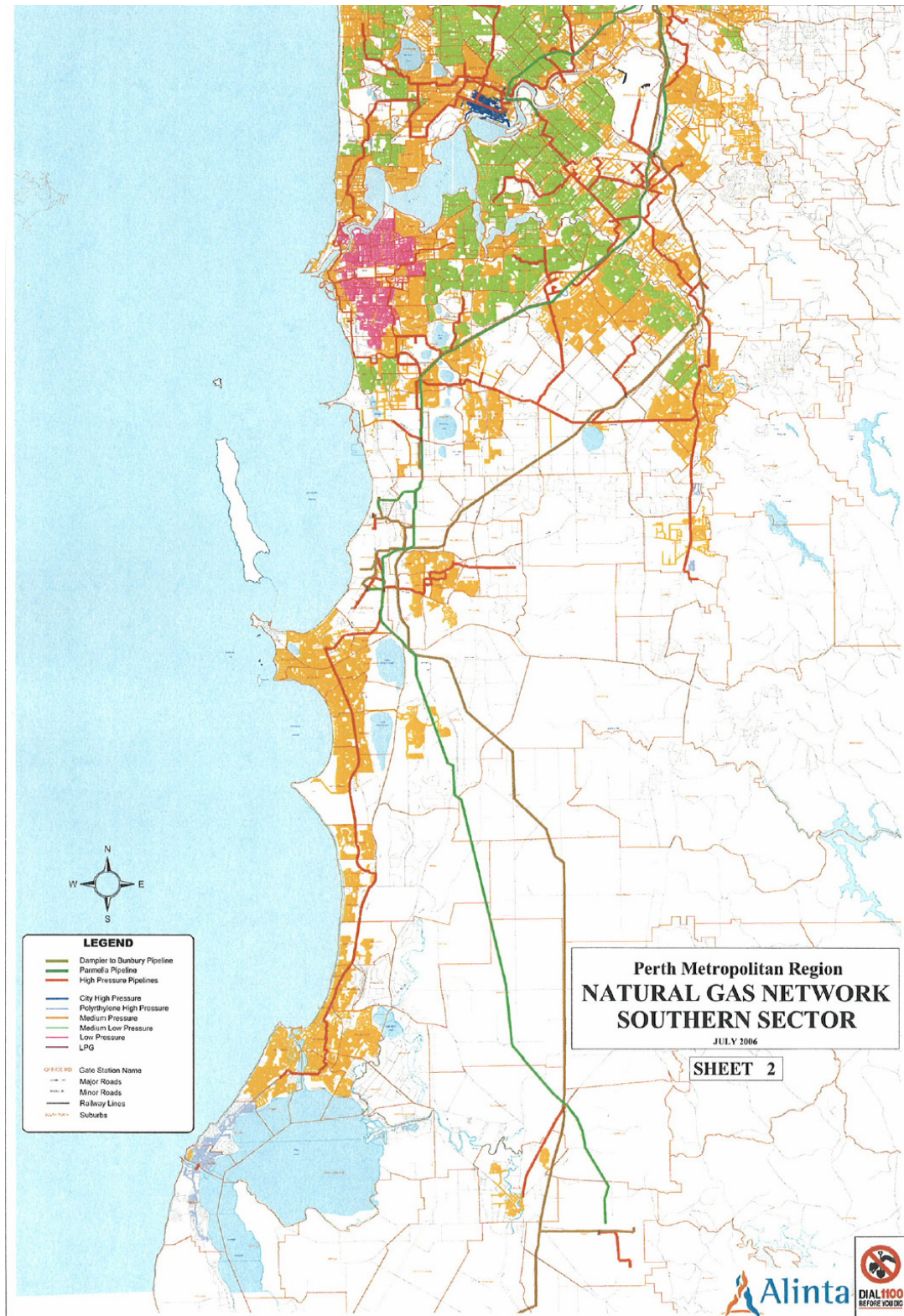
However, since the last review in January 2005, Alinta has acquired the AGL business units including Agility that is in the process of being systematically merged with the AGN and other Alinta business units elsewhere in Australia. Notwithstanding this activity, the Lead Auditor has focused on the asset management systems currently operating in WA. Many facets of the asset management system are being reviewed across the Alinta businesses so that eventually a common and consistent approach will be applied across Australia.

It should also be noted that during the review period, the Alinta Network Services (ANS)/National Power Services (NPS) WA Alliance Agreement expired on 31 March 2006, and a combined Alinta Asset Management (AAM) group was established effective 1 April 2006.

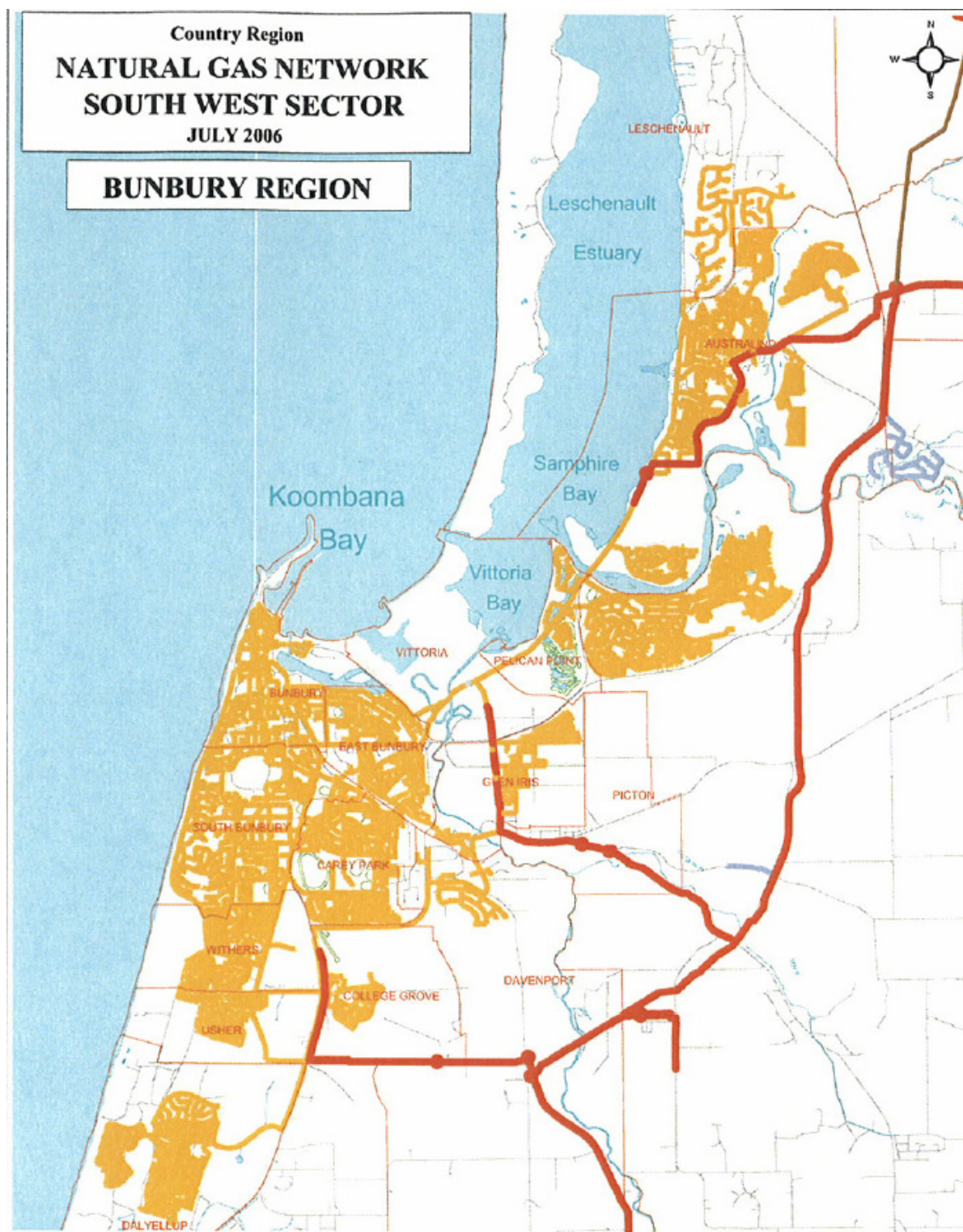


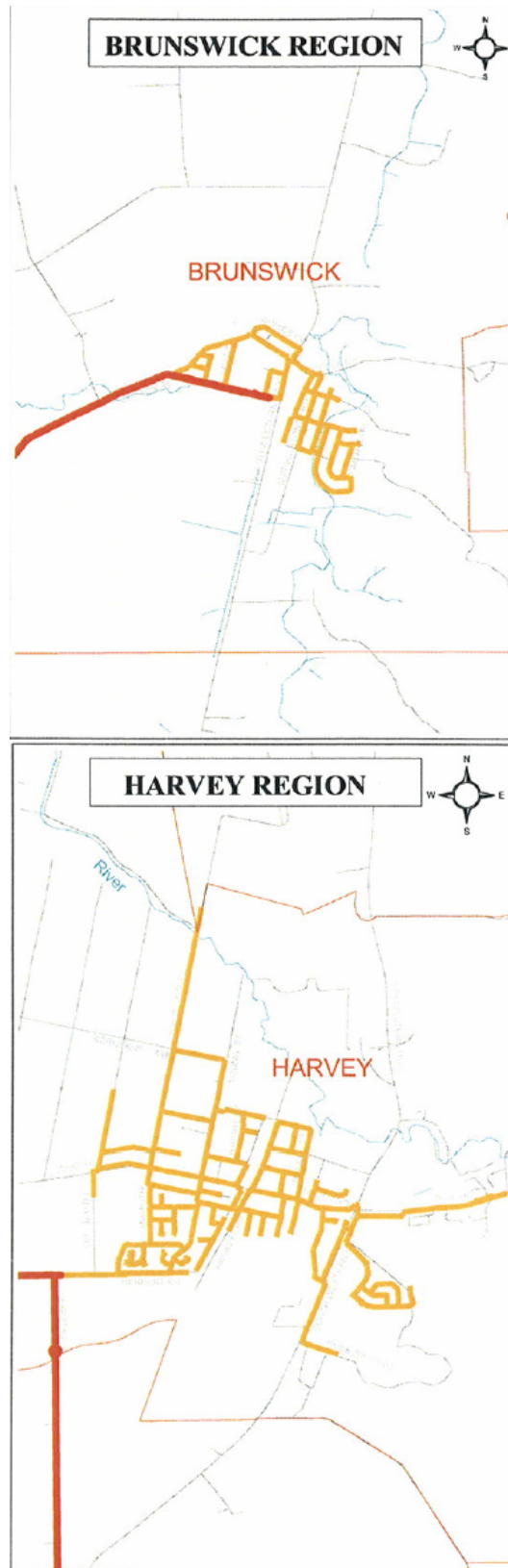


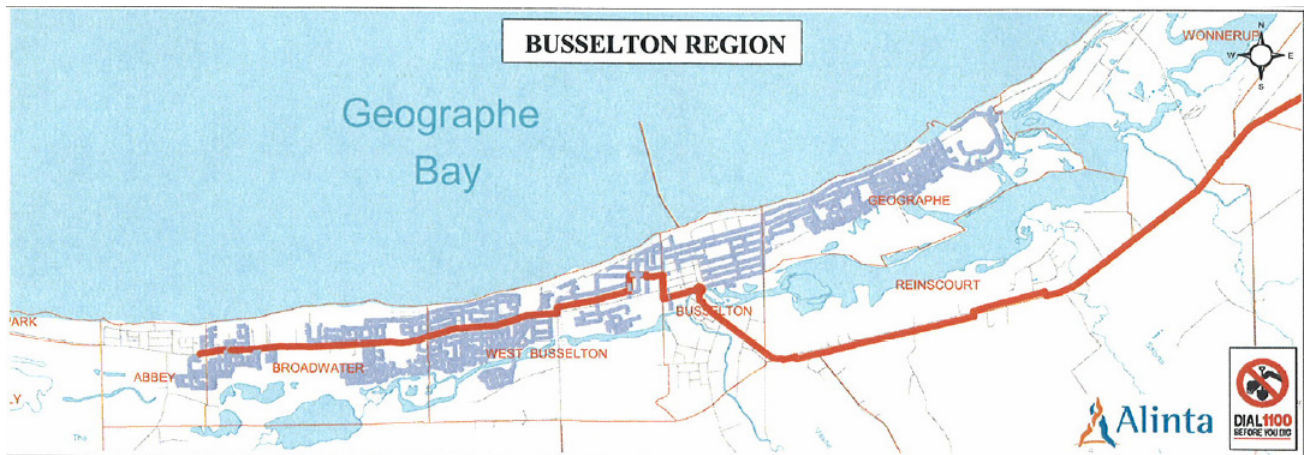












### 3 AUDIT REPORT MANDATE

Specific activities within AGN are subject to gas distribution licences under the Energy Conservation Act 1994 (WA), (the Act).

Section 11Y of the Act states that:

"it is a condition of every distribution licence that the licensee provides an asset management system".

A condition of the licence is that the licensee must provide the Authority with a **report** on the **effectiveness** of the asset management system not less than once in every 24 month period, prepared by an independent expert.

The Authority has approved OSD as an independent expert to carry out the review of the AGN asset management system and provide the effectiveness report.

The review has been undertaken in accordance with the Authority's *Audit Guidelines: Electricity, Gas and Water Licences*.

The Act, the Audit Guidelines and the Gas Distribution Licences provide the mandate for this Audit Report.

### 4 AUDIT REQUIREMENTS

The purpose of the asset management system review/audit was to assess the measures taken by the licensee for the proper management of assets used in the provision and operation of services and, where appropriate, the construction and alteration of relevant assets.



In accordance with the Authority's Audit Guidelines, the asset management system review/audit focused on the asset management system, including asset management plans, which set out the measures that are taken by the licensee for the proper operation and maintenance of the assets.

The plans are required to convey the licensee's business strategies to ensure the effective management of assets over at least a five year period.

The Audit Guidelines stipulate that the primary purpose of the review/audit is to assess the effectiveness of measures taken by the licensee to ensure compliance with licence conditions or effectively manage its assets respectively.

The Authority requires all audits to utilise a risk based approach to planning and conducting the audit/review. In accordance with AS/NZS 4360:2004, there should be more extensive audit testing of higher risk areas to provide sufficient assurance of compliance or effective control.

The scope of the review/audit is detailed in Section 7 of the OSD Audit Plan.

## **5 AUDIT OBJECTIVES**

The objectives of the audit were to:

- ☐ Assess compliance with licence conditions and requirements
- ☐ Assess effectiveness and implementation of business strategies and plans for proper operation, maintenance, construction and alteration of the assets
- ☐ Provide an overall ranking of the compliance against reviewed/audited items
- ☐ Detail action items or recommendations for improvement of the asset management system.

## **6 METHODOLOGY**

OSD prepared an Audit Plan, (OSD Document No: 41202-AP-001 Rev 4 dated 2 March 2007), based on the Authority's Audit Guidelines: Electricity, Gas and Water Licences.

The Audit process comprised the following aspects:

- ☐ Approval of Audit Plan by AGN
- ☐ Approval of Audit Plan by the Authority
- ☐ OSD conducting audit/field reviews, including a review of documentation and systems, a review of legislative documentation and interviews with relevant personnel from AGN's business

- ☐ Preparation of the Audit Report, incorporating an agreed post-audit implementation plan
- ☐ Approval of the Audit Report and post-audit implementation plan by Authority
- ☐ Implementation or actioning of Audit Report action items or non-compliances.

A meeting was undertaken with the Authority and Energy Safety WA on 28 February 2007 in conjunction with an AGN representative to discuss the Audit Plan and to ensure that the Audit Plan meets the requirements of the Authority.

The Authority approved the Audit Plan on 6 March 2007.

The audit review field work was undertaken as follows:

Perth, WA on 6-9 March and 23 March;

Melbourne, VIC on 15 & 16 March;

Jandakot, WA on 19 & 20 March and 23 March

## **6.1 AUDIT PERSONNEL**

The Audit was conducted by the following OSD personnel:

- ☐ Barry Parsons – Lead Auditor (full time)
- ☐ Jodi Hayes – Assistant Auditor (part time)
- ☐ Keith Horstmann – Project Director (part time/overview only)

## **6.2 AUDIT/FIELD REVIEW**

OSD carried out a review of the asset management systems in the GDL 2 supply area, known formally as the Coastal Supply Area during March and April 2007.

The OSD Lead Auditor spent almost two weeks in Perth during from 6 March 2007 interviewing 12 AAM and ANH staff at the corporate office in the Perth CBD and at the operational base at Jandakot on 19, 20 and 23 March.

One AAM staff member accompanied the Lead Auditor on the site visit to inspect a number of network facilities in the Canning Vale industrial area on 19 March.

All relevant documentation requested was made available to the Lead Auditor.

OSD also sourced and reviewed relevant documentation relating the GDL 2 supply area from AGN offices in Perth and Jandakot in WA and Melbourne in Victoria.



The asset management system was reviewed using the Protocol outlines in Section 3 of the Audit Plan which is based on the criteria outlined in Table 12, Appendix 3 (A Guide to the AMS Effectiveness Framework), Audit Guidelines, Electricity, Gas and Water Licences, Economic Regulation Authority, WA.

The audit incorporated a review of documentation and systems, a review of legislative documentation and interviews with relevant personnel from the AGN business, in the various locations stated above.

The audit also included a review of the previous audit action plan to verify that actions have been completed; considered actions that are not yet complete and these actions have been incorporated into the current audit review action plan where required.

### 6.2.1 Audit Priority Rating

The review/audit priority rating detailed below has been determined based on the management system risk of each key process combined with the deficiencies identified in the previous audit conducted in January 2005.

Key Process	Inherent Risk	Adequacy of Previous Controls (based on previous audit action items)	2007 Audit Priority
Asset Planning	Medium	Strong	4
Asset creation and acquisition	Medium	Moderate	3
Asset disposal	Low	Strong	4
Environmental analysis	Medium	Moderate	3
Asset operations	High	Moderate	2
Asset maintenance	High	Moderate	2
Asset management information system	Medium	Strong	4
Risk management	High	Weak	1
Contingency planning	High	Strong	4
Financial planning	Low	Strong	4
Capital expenditure planning	Low	Strong	4

Key Process	Inherent Risk	Adequacy of Previous Controls (based on previous audit action items)	2007 Audit Priority
Review of AMS	Low	Strong	4

### 6.3 REPORT

Following completion of the field review, OSD discussed the findings with AGN and prepared this Report and a Post Audit Implementation Plan based on our discussions with AGN.

## 7 PREVIOUS AUDIT

The previous asset management system audit undertaken in January 2005 produced an Implementation Plan detailing corrective actions in respect of the asset management system processes reviewed by the previous auditor(s).

The Implementation Plan and the corrective actions required and the status of the actions as of the time of the 2007 review were assessed by the OSD Lead Auditor.

**A number of actions, primarily related to the GDL 2 supply area, are still outstanding from the previous asset management system review carried out by MC<sup>2</sup> Pacific P/L in January 2005 - (Note: MC<sup>2</sup> Pacific P/L review team visited Perth and Jandakot only in January 2005).**

**THE AMS EFFECTIVENESS AUDIT ACTION PLAN PREPARED BY MC<sup>2</sup> PACIFIC P/L FOR ACTIONING BY AGN WAS AS FOLLOWS, WITH PROPOSED AGN ACTION COMPLETION DATES SHOWN IN THE 4<sup>TH</sup> COLUMN.**

AMS Elements	Issues	Action Required	Responsibility
AMS2	No formal evidence of maintenance requirements and frequency changes that includes a documented risk assessment for the change.	Incorporate <del>minor</del> documentation to reflect changes in future Asset Management Maintenance Plan document usually finalised for issue in October	Asset Mgt  <i>By October 2005</i>
AMS2, AMS3, AMS7 & AMS8  <i>ERA items 1, 3, 4</i>	<p>AUDITS AND CAR RELATED ISSUES</p> <p>Outstanding CAR related to Environmental Management System process not being strictly adhered to.</p> <p>Monitoring implementation, progress and closing CAR's</p> <p>ANS to monitor NPS audit process applied to their contractors</p> <p>Need to improve provision of evidence that recommendation from incidents, audits and emergency exercises have been implemented and effective</p> <p>Contract management process audit does not target high risk areas</p> <p>Non – conformance to Contractor Management Strategy</p>	<p>Implement an integrated audit plan and CAR's status monitoring process.</p> <p>As above</p> <p>As above</p> <p>Set up monitoring process to ensure recommendations from audits, incidents reporting or emergency exercises are implemented and review their effectiveness</p> <p>Need to audit Contract management process from project plan to completion and review.</p>	<p>Tech Compliance</p> <p><i>First 3 dot points are already implemented.</i></p> <p><i>Process developed by August 2005</i></p> <p>Inaugural audit to commence June 2005 and ongoing thereafter</p>
AMS3  ERA items 1,14,	<p>Currency of project management procedure</p> <p>No evidence of completed project design review</p> <p>Quality control issues relating to implementation and improvement recommendations from contract management process audit</p>	<p>Implement document control procedure</p> <p>Review completed project designs</p> <p>Incorporate finding and recommendations into future maintenance and project management plans</p>	<p>Document Controller</p> <p><b><i>Already implemented</i></b></p> <p>Engineering Services</p> <p><i>By October 2005</i></p> <p>Asset Mgt and Engineering</p>

AMS Elements	Issues	Action Required	Responsibility
			Services <b>By October 2005</b>
AMS4 & AMS5  ERA items 5, 7, 9, 13	General lack of monitoring and performance reporting of KPI's	Set up quarterly task on Outlook to ensure AMS KPI's are monitored and performance reported. Identify action taken to correct non-compliance.  OHS & Environmental KPI's	Asset Mgt <b>By June 2005</b>  Tech Compliance <i>Already implemented</i>
AMS6  ERA item 9	No corporate plans  Need to review plans, identify changes and formalise achieved outcomes	Include statement in AMS showing the link to Corporate OGAM's  Document changes, requirements and achievements in the next relevant plans	Asset Mgt  <b>First dot point by Feb 2006</b>  <b>Second dot point by October 2005</b>
AMS3, AMS7  <i>ERA items 2 &amp; 10</i>	Lack of monitoring of position responsibilities  Job descriptions do not cover all AMS responsibilities and relevant strategies, plans or procedural documents not reviewed	Ensure process exist where regular reviews are carried out.  Review documents and personnel responsibilities	Alliance Mgr  Alliance Mgr  <i>By Sept 2005</i>
AMS8  <i>ERA item 11</i>	Lack of or non existence monitoring and trend analysis of the HSEQ Strategic Plan	HSEQ index is monitored monthly for corporate reporting to the Leadership Team and the Board. The Health & Safety Group currently undertakes and will continue to undertake to monitor the HSEQ index	Mgr Health, Safety & Environment  <i>Already implemented</i>
AMS10	Outdated emergency management plans and procedures are in need of improved implementation, monitoring and review	Ensure that emergency management documents are reviewed and implement risk management process including maintaining skills and testing	Risk Engineer  <b>By July 2005</b>

The status of the actions undertaken by AGN was summarised in a letter addressed to the ERA on 22 June 2005. A copy of this letter is shown below:

22 June 2005

Mr Paul Kelly  
Director Licensing, Monitoring & Customer Protection  
Economic Regulation Authority  
Level 6 Governor Stirling Tower  
197 St George's Terrace  
Perth WA 6000



**Alinta**  
AlintaGas Networks  
Pty Ltd  
ABN 90 089 531 975  
The Quadrant  
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GPO Box W2030  
Perth WA 6846  
Telephone 08 9486 3000  
Facsimile 08 9486 3030

Dear Mr Kelly

**RE: GAS DISTRIBUTION LICENCE PERFORMANCE AUDIT – IMPLEMENTATION PLAN**

Your letter of 23 May 2005 requested that AlintaGas Networks Pty Ltd ("AGN") provide an implementation plan detailing the corrective actions that are to be undertaken to address the issues identified in the auditor's report.

AGN has developed a number of improvement measures from the recent audit of the AMS. The actions and the current status of the implementation is as follows:

Reference	Corrective Action	Completion
AMS3	• Implement a document control procedure.	Completed
	• Review completed project designs.	October 2005
	• Implement an integrated audit plan and a status monitoring process for CAR's.	Completed
	• Establish an audit of the Contract management process from project plan to completion and review.	June 2005
	• Set up a monitoring process to ensure recommendations from audits, incident reporting or emergency exercises are implemented and review their effectiveness.	August 2005
	• Incorporate findings and recommendations into future maintenance and project management plans.	October 2005
AMS4	• Establish a process to ensure the AMS KPI's are monitored and performance reported on a monthly basis, including any remedial actions.	June 2005
	• Update appropriate documentation to reflect the decision to exclude the reporting of the Customer Average Interruption Frequency Index (CAIFI).	June 2005

Reference	Corrective Action	Completion
AMS5	<ul style="list-style-type: none"> <li>Verify the operation of the escalation procedures for instances of failed KPI's.</li> </ul>	June 2005
AMS6	<ul style="list-style-type: none"> <li>Include a statement in the AMS demonstrating the link to the Corporate Objectives, Goals, and Measures.</li> <li>Document the changes, requirements and achievements in relevant plans.</li> </ul>	February 2006 October 2005
AMS7	<ul style="list-style-type: none"> <li>Verify that regular reviews are incorporated into the Integrated Planning Framework for AGN.</li> <li>Review job descriptions and responsibilities for personnel with associated activities or obligations in the AMS.</li> </ul>	September 2005 September 2005
AMS8	<ul style="list-style-type: none"> <li>Ensure that monthly monitoring is in place and trend analysis performed, with reporting to the Health, Safety and Environment committee, the Leadership Team, and the Board.</li> </ul>	Completed
AMS11	<ul style="list-style-type: none"> <li>Amend the KPI reporting process to document the actions taken to rectify non-conforming KPI's.</li> <li>Review, with the aim to rationalise, performance criteria impacting the AMS. This may include the removal of low value KPI's and equalisation of the KPI's across the various AMS plans.</li> </ul>	Completed September 2005
AMS13	<ul style="list-style-type: none"> <li>Implement a document control procedure and review current documents for compliance with AGN's numbering and dating standards.</li> </ul>	Completed

These actions are currently assigned to the relevant Business Unit within Alinta Network Services, and have been included in their respective annual work programmes. It is the objective of AGN to have completed the implementation of the measures listed above prior to the next performance audit of the AMS.

If you should have any further questions, I can be contacted on 9486 3156.

Yours sincerely



Justin Scotchbrook  
WA REGULATORY DEVELOPMENT MANAGER

AGN has advised the OSD Lead Auditor that no further status reports on the actions has been issued to ERA during the remainder of the review period.

ERA, for their part, did not request a further update from AGN on the status of the outstanding actions after the date of this letter.

AGN did amend the action plan on 23 August 2005 as follows:



AMS3: Need to audit Contract management process from project plan to completion and review.

Technical Compliance stated "we no longer do contract management audits – however, audits in project management (Engineering Services) will target high risk areas such as assessment of contractors work for acceptance. Note that field audits of contractors are to be done by NPS).

OSD assessment – AAM are carrying out audits and assessments of external contractors as noted in Key Process #2.

AMS 3: Set up monitoring process to ensure recommendations from audits, incidents reporting or emergency exercises are implemented and review their effectiveness.

Technical Compliance stated: CARS are logged in CARS register. Incident investigation recommendations are recorded in incident register kept by Tech Comp. **Still need to set up register for emergency exercises.** In relation to evaluation of effectiveness: CARS – as part of audit process; incidents – evaluation in the form of tracking number of incidents; and emergency exercises – effectiveness evaluated at next annual exercise.

OSD considers the outstanding **non-completed** actions from the MC<sup>2</sup> Pacific January 2005 audit must be completed as part of this AMS review. AGN must notify ERA when the outstanding actions have been completed or what alternative actions have been taken by AGN to mitigate the deficiency.

#### **Recommendation GDL2-1:**

**AGN must complete the outstanding non-completed actions from the MC<sup>2</sup> Pacific January 2005 audit by as part of the OSD AMS review, and notify ERA when the outstanding actions have been completed or what alternative actions have been taken by AGN to mitigate the deficiency.**

## **8 AGN SAFETY CASE**

The Safety Case for the AGN asset management system, as required by the Gas Standards (Gas Supply and System Safety) Regulations 2000, has yet to be approved by the Director of Energy Safety.

As agreed with the Authority and the Director of Energy Safety, this review has not considered the Safety Case in respect of the asset management system. A draft version of the Safety Case currently awaiting approval from the Director of Energy Safety was reviewed by the Lead Auditor for information purposes only.

However, the asset management system has been reviewed in terms of compliance with the recognised codes and standards stated in Schedule 2 of the Gas Standards (Gas Supply and System Safety) Regulations 2000.

## **9 SUMMARY OF AUDIT FINDINGS**

As stated in Section 5 above, the objectives of the audit were to:

- ☐ Assess compliance with licence conditions and requirements
- ☐ Assess effectiveness and implementation of business strategies and plans for proper operation, maintenance, construction and alteration of the assets
- ☐ Provide an overall ranking of the compliance against reviewed/audited items
- ☐ Detail action items or recommendations for improvement of the asset management system

In terms of determining whether AGN met the audit objectives, it was necessary for OSD to determine whether the AGN asset management system was effective in itself.

AUS 806, "*Performance Auditing*", defines effectiveness as the achievement of objectives or other intended effects of activities.

In most cases, intended outcomes are usually measured by Key Performance Indicators (KPIs) that are documented in various business plans.

From this perspective, OSD has focused on the outcomes intended by AGN in their asset management strategies, plans and procedures, and specifically on the KPIs established by AGN for, and the outcomes achieved at certain times throughout the review period.

OSD has also reviewed several plans that have been prepared by AAM for 2007 and beyond in terms of KPIs.

OSD's assessment of AGN's compliance and effectiveness in respect of the objectives is as follows:

### **9.1 ASSESS COMPLIANCE WITH LICENCE CONDITIONS AND REQUIREMENTS**

#### **9.1.1 Relationship of Asset Management System to Alinta Business Processes**

A specific requirement in the Licence is that:

"An asset management system is to set out the measures to be taken by the licensee for the proper maintenance of assets used in the supply or provision of gas and where relevant, the construction, operation and disposal of these assets."

AGN has a formal strategy document entitled "Asset Management System" AAM-S-09001 that provides the framework for AAM to deliver the required obligations to AGN under the operating services agreement between the two parties and to satisfy the licence requirements.

AGN has stated that the primary focus of the asset management system strategy is to provide a safe, reliable and cost effective delivery of natural gas to the energy consumers of Western Australia.

This document was originally approved by the Coordinator of Energy in May 2002. AGN has recently revised this document in January 2007.

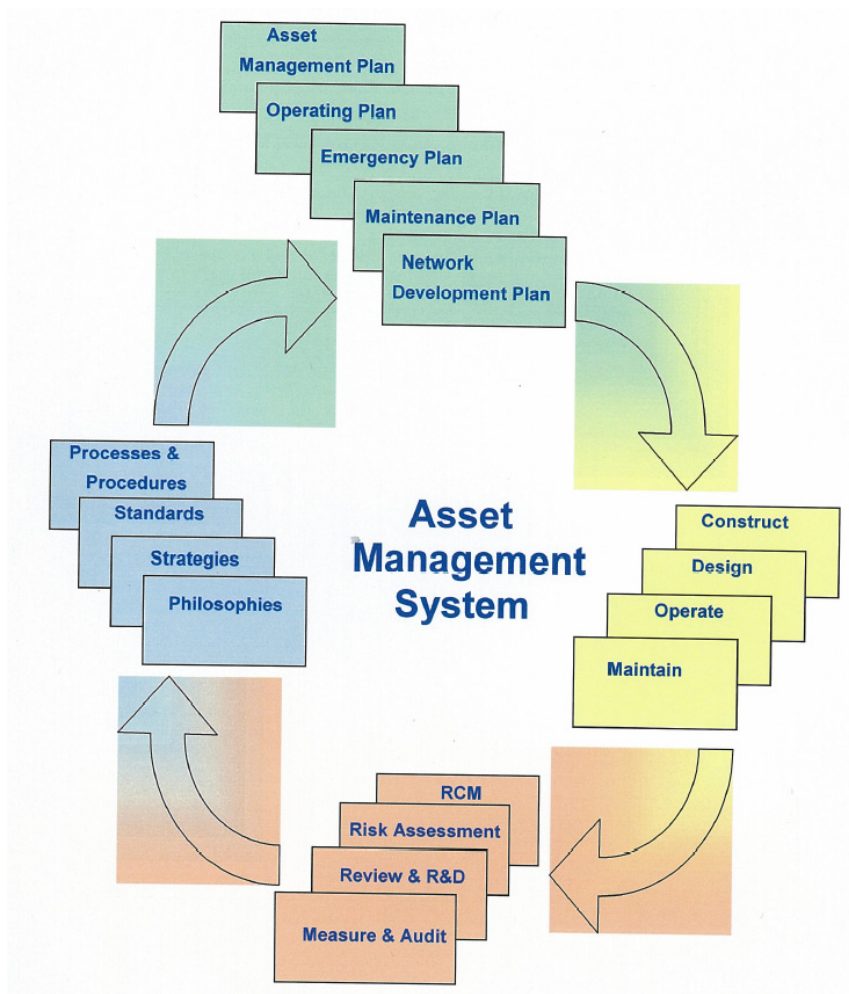
AGN has developed a holistic approach to asset management that is described by a system that integrates the key business elements in the network asset life cycle, and the critical mass support required at different levels of the organisation to implement this system.

The full life-cycle cost of asset purchase, operation, maintenance and disposal is taken into account in asset investment decision making.

The asset management system employed by AGN encompasses all elements required to achieve a complete approach to asset management.

Accordingly the key business elements need to be identified independently of the current business processes.

Based on a complete examination of the asset life cycle the key business elements that facilitate the asset management system are shown in the chart below.



**AGN Asset Management System Improvement Cycle**

### 9.1.2 AGN Accountabilities and Responsibilities

AAM is responsible for maximising the return on investment for assets in AGN's gas distribution network while:

- ☐ Ensuring a high level of service, security and reliability of supply to gas consumers
- ☐ Minimising the financial, safety and environmental risks associated with managing these assets
- ☐ Meeting all legal and regulatory requirements.

The effectiveness of the asset management system in achieving these requirements is determined from the Key Performance Indicators (KPIs) shown in the table below.

The AAM teams have the ultimate responsibility for the implementation, monitoring and evaluation of the asset management system. The job functions within AAM that are responsible for the management of various aspects of the AGN Asset Management System are shown in the following table:

Job Function	Responsibility
General Manager Asset Services	Overall Responsibility for Asset Services
General Manager Operations	Overall Responsibility for Operations
Manager Asset Management Gas	Strategic, Opex, Capex and Asset Management Plans
Manager Technical Compliance	Manage statutory and regulatory technical compliance requirement of operating the network.
Asset Manager AGN WA	Asset management and performance. Network planning and integrity. Asset Management, Network Development and Maintenance Plans.
Manager Gas Distribution West	Management of the Maintenance, Construction and Field Activities. Ensure emergency preparedness and response system of the network.
Principal Engineer – Engineering Services	Project Management Plan. Construction and Facility Design

Safety & Risk Engineer	Safety Case, QA system, DMS system, Safety Case system audits
GNIS Coordinator	Asset Register in GNIS
Field Auditor	QA and Safety Case Systems Audit

### 9.1.3 Performance Analysis

AGN annually review the improvement in the development of the gas distribution networks as well as the outcomes from the scheduled and unscheduled asset maintenance activities.

These results of these reviews are documented in the following documents:

- ❑ *"High Pressure Gas Distribution"* and *"Medium Pressure Gas Distribution"* Network Development Plans, which have details of the system enhancements carried in the preceding and previous year(s)
- ❑ *"Review of Distribution System Performance"*, which evaluate the effectiveness of the enhancement program implemented in the preceding year
- ❑ *"Distribution Network Asset Management Maintenance Plan"*, which has detailed maintenance activities and new maintenance strategies from the previous year's plan.

AGN also evaluates and makes comparisons of actual performance on an annual basis against performance targets for each indicator, which are listed in the table below.. If necessary, a more in depth review of the background information is conducted to achieve overall performance improvements in these indicators.

From the review of these indicators and related background information new improvement initiatives are developed which cover areas such as:

- ❑ improved work procedures
- ❑ new construction as well as maintenance and operation techniques
- ❑ new materials/designs or improved technologies to be used in the network.

The tools/triggers utilised for identifying possible improvements in the design or materials for network assets or for established operational activities include:

- ❑ fault analysis in the RCM analysis
- ❑ review of technical specifications and design guidelines
- ❑ feedback from field personnel
- ❑ annual review of quality systems (work procedures etc.)



### Performance Indicators for the Asset Management System

Performance Indicator	Parameter	Target	Data Recorded (where/who)	Monitoring (frequency / how)
<b>Design and Planning</b>				
No. of "Low-Pressure Alarm" Instances	Total No.	<10/year	Control Room	Weekly Network Operations Bulletin
No. of "Operating Outside Expected Range" Instances	Total No.	<20/year	Control Room	Weekly Network Operations Bulletin
<b>Commissioning</b>				
HP Pipeline	Complete Manufactures Data Report	< 7 Days of completion	Contracts & Resource Management	Monthly Report
<b>Maintenance Pipelines / Laterals</b>				
Instances of Damage to HP Pipelines	Total km of Main per Instance of Damage per Year	>100 km per Instance per Year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan
Instances of Damage to MP/LP Pipelines	Total km of Main per Instance of Damage per Year	>30 km per Instance per Year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan
Instances of Damage to Warning Signs	Total Instances per Year	<100 Instances per Year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan
Defects (Leaks) per km of main	Total km of Main per Instance of Defect per Year	>5 km per Instance per Year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan
No. of Test Points with potential higher (worse) than -0.85V	No. of Test Points per Total No. of Test Points per Year	<5% per Year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan
<b>Maintenance Regulator Sets</b>				
No. of HP Regulator Set Failures	No of Failures per 100 HP Regulator Sets per Year	<2 Failures per 100 HP Regulator Sets per Year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan
No. of MP Regulator Set Failures	No of Failures per 100 MP Regulator Sets per Year	<5 Failures per 100 MP Regulator Sets per Year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan
<b>Maintenance Pressure Reducing Stations</b>				
No. of PRS Failures	No of Failures per 100 PRS' per Year	<2 Failures per 100 PRS' per Year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan
<b>Maintenance Isolation Valves</b>				
No of Valves not operational	No. of Valves per Total No. of Valves per Year	<1% per Year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan
<b>Maintenance Industrial/Commercial Meter Sets (AL30 and above)</b>				
No of Meter Set Failures	No of Failures per 100 Meter Sets per year	<2 Failures per 100 Meter Sets per year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan

No of Meter found Operating Outside Prescribed Accuracy	No of Meter found Operating Outside Prescribed Accuracy per 100 Meter Sets per Year	<5% per Year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan
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#### Maintenance Domestic/Small Commercial Meter Sets (AL12 and below)

No. of Defects per Total No. of Domestic Meter Installations	No. of Defects per 100 Domestic Meter Installations per Year	<2 Defects per 100 Domestic Meter Installations per Year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan
No. of Defects per Total No. of Small Commercial Meter Installations	No. of Defects per 100 Small Commercial Meter Installations per Year	<8 Defects per 100 Small Commercial Meter Installations per Year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan
No. of Instances of Damage per Total No. of Meter Installations	No of Instances of Damage per 100 Meter Installations per Year	<1 Instance of Damage per 100 Meter Installations per Year	SAP/R3 - PM Module Asset Management	A - Maintenance Plan
No. of Meter Population failing Statistical Sampling	No of populations	All population pass	Outcome Report Asset Management	A – Statistical Sampling

#### Operations Major Events and Incidents

No. of Broken Mains	Total No.	2.5 per 1000km of Main	Control Room	Weekly Network Operations Bulletin
No. of Broken Services	Total No.	0.25 per 1000 Delivery Points	Control Room	Weekly Network Operations Bulletin

#### Operations System Performance

Unaccounted For Gas (UAFG)	% of Total GJ	Coastal Network 2.6%	Network Monitoring	A – UAFG Report
Minutes per customer lost due to unplanned supply interruptions	<u>CMOS</u> Avg. No. of customers	0.66 mins/cust/ year	Control Room	Weekly Network Operations Bulletin
Supply interruptions per 1000 customers	<u>No incidents x 1000</u> Avg. No. of customers	6 / 1000 customers	Control Room	Weekly Network Operations Bulletin

#### Decommissioning

Demolitions	% completed and “made safe” (within 7 working days)	100%	SAP/R3 – PM Module Field Services	M-Networks Report
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#### Auditing

No. of audits and non-conformances	Total No of Audits conducted per Month and no. of non-conformances	As per Annual Internal Quality Audit Plan	Quality Assurance Section	M – Technical Compliance
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#### Customer Service Standards

Customer Connection Time	% of Services Connected to established LOM within 7 days	95%	SAP R/3 Field Services Section	F - Branch Meetings M - Networks Report A - Annual Report
Attendance to Broken Mains and Services	% of Faults attended to within 1 Hour	95%	SAP R/3 Field Services Section	M - Networks Report
Attendance to Gas Smells in a Public Area	% attended to within 2 Hours	95%	SAP R/3 Field Services Section	M - Networks Report
Attendance to Gas Smells at Meter – Standard Response	% attended to within 48 Hours	95%	SAP R/3 Field Services Section	M - Networks Report

Attendance to Gas Smells at Meter – Urgent Response Urgent Response is set at the discretion of the Faults Call Centre Operator.	% attended to within Specified Time	95%	SAP R/3 Field Services Section	M - Networks Report
Attendance to No Gas (Commercial)	% attended to within 2 Hours	95%	SAP R/3 Field Services Section	M - Networks Report
Attendance to No Gas (Domestic)	% attended to within 3 Hours	95%	SAP R/3 Field Services Section	M - Networks Report

The requirements in relation to performing maintenance activities within the pre-requisite time frames and to the specified standards are set to maximise resource utilisation within AAM and to an agreed two weeks window prior to the activity requiring to start.

In summary, OSD considers that AGN's asset management system of its gas distribution networks in the Coastal supply area demonstrates compliance with the conditions and requirements as stated in the GDL 2 supply area licence.

This is discussed in further detail under the **Audit Findings** for each process.

## **9.2 ASSESS EFFECTIVENESS AND IMPLEMENTATION OF BUSINESS STRATEGIES AND PLANS FOR PROPER OPERATION, MAINTENANCE, CONSTRUCTION AND ALTERATION OF ASSETS**

The implementation of business strategies and plans is documented in the Alinta Network Holdings "*Strategic Plan 2006-2010*" issued in November 2005. This document is still in "draft" form, and still awaits formal approval from the Alinta Board.

As noted in the excerpt from the Preface to the Strategic Plan (refer below), this Plan is underpinned by the Asset Management Plan that is reviewed annually by AAM, which provides the major long term strategy for the AGN gas distribution business in WA.

## PREFACE

The following plan sets out the five-year forward strategy and corresponding financial forecasts for Alinta Network Holdings Pty Ltd (ANH).

An important part of the plan for the ANH business is the Asset Management Plan – which sets out the long term strategy for management of the distribution network which underpins the capital and maintenance spend planned for the forthcoming five year period. That plan has been prepared by Alinta Network Services (ANS), under the Operating Services Agreement and represents a “sub-plan” under this overarching strategic plan. A number of other key aspects of the business need similar such sub-plans that form part of the five year strategic plan and financial forecasts. These plans include:

- Information Technology strategy and plan; and
- Occupational, Health and Safety and Environmental plans.

These sub-plans are also keys to the management of the Operating Services Agreement with ANS, providing a clear and agreed plan for how the business is to be operated in the various areas.

This plan has been developed for ANH, but as most of the company's business occurs in the AlintaGas Networks subsidiary, with very little at the holding company level, most of the discussion in the plan refers to the operating subsidiary.

The business strategies and plans that AGN and AAM had in place over the review period and those in place going forward are being reviewed continuously, particularly in view of the ongoing integration of the AGL/Agility businesses into the Alinta group.

Obviously, this is necessary to enable Alinta and its operating subsidiaries to satisfy the various stakeholders and to maintain a sustainable gas distribution business in WA and elsewhere in Australia in the long term.

**In summary, OSD considers that AAM demonstrates a reasonably high level of effectiveness with the asset management system used on the AGN gas distribution networks in the Coastal supply area to ensure that the asset owner's business objectives are met and the gas distribution networks are operated, maintained, constructed and altered in accordance with accepted industry practice.**

**This is discussed in further detail under the Audit Findings for each process.**

### 9.3 PROVIDE AN OVERALL RANKING OF THE COMPLIANCE AGAINST REVIEWED/AUDITED ITEMS

The previous January 2005 review of the asset management system did not provide a numerical ranking for the various processes or elements. The assessment terminology used was inadequate, largely adequate, adequate and excellent.

The OSD ranking is shown in the chart below:

ASSET MANAGEMENT SYSTEM		Not performed	Performed	Planned and	Well defined	Quantitatively	Continuously
		GDL 2: Coastal Supply Area					
Process	Effectiveness rating	0	1	2	3	4	5
Asset Planning						X	
Asset Creation/Acquisition					X		
Asset Disposal						X	
Environmental Analysis					X		
Asset Operations						X	
Asset Maintenance					X		
Asset Management Information Systems							X
Risk Management						X	
Contingency Planning					X		
Financial Planning							X
Capital Expenditure Planning							X
Review of Asset Management System						X	

The following table provides a description of the compliance status and the relative rating.

Compliance status	Rating	Description of compliance
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)

OSD has also attempted to determine if AGN has improved its performance in respect of the asset management system since the previous 2005 review. Whilst the processes/elements have been revised, it is possible to gauge what processes/elements have seen an improvement during the current review period. This is shown in the table below:

Process/Element	2005 Review	AMS	2007 Review	AMS	OSD assessment
Asset Planning	Adequate (3)		Quantitatively controlled (4)		AGN regularly monitors and reviews the planning process
Asset Creation & Acquisition	Largely Adequate (4)		Well defined (3) +		AGN has well defined processes for most aspects of the asset creation process; further improvements required



Process/Element	2005 Review	AMS	2007 Review	AMS	OSD assessment
Asset Disposal	Adequate (3)		Quantitatively controlled (4)		AGN is moving progressively toward a continuously improving AMS asset creation and acquisition process
Environmental Analysis	<i>Not measured</i>		Well defined (3)		AGN has active monitoring in place; processes are still evolving
Asset Operations	Adequate (3)		Quantitatively controlled (4)		AGN is moving progressively toward a continuously improving AMS asset operations process
Asset Maintenance	Adequate (3)		Well defined (3)		AGN needs to improve on the maintenance processes
Asset MIS	Largely Adequate (4)		Continuously improving (5)		AGN has a robust asset MIS that is scheduled for further enhancements
Risk Management	Adequate (3)		Quantitatively controlled (4)		AGN is moving progressively toward a continuously improving risk management

Process/Element	2005 Review	AMS	2007 Review	AMS	OSD assessment
					process
Contingency Planning	Largely Adequate (4)		Well defined (3)		AGN has well defined processes for most aspects of the asset creation process; further improvements required
Financial Planning	Adequate (3)		Continuously improving (5)		AGN has a robust financial planning process in conjunction with the parent company
Capital Expenditure Planning	Adequate (3)		Continuously improving (5)		AGN has a robust capex planning process in conjunction with the parent company
Review of AMS	Adequate (3)		Quantitatively controlled (4)		AGN undertakes annual reviews of the AMS

**The OSD assessment recognises that the gas distribution networks in the Coastal supply area are relatively mature networks. The gas distribution networks outside the major Perth metropolitan area vary in size. As noted previously, the previous AMS review was focused solely on the GDL 2 Coastal supply area.**

**Any improvements noted in the table above is what OSD considers to be the situation at the end of the review period. OSD is also of the**

opinion that with the integration of the AGL business into Alinta, and the current reviews of all documentation and processes across Alinta, it is envisaged that the AGN asset management system in the GDL 2 supply area should reach a level of capability that is continuously improving over time and providing a high level of process effectiveness.

#### 9.4 DETAIL ACTION ITEMS OR RECOMMENDATIONS FOR IMPROVEMENT OF THE ASSET MANAGEMENT SYSTEM

OSD has identified the following issues and the recommended actions required for the GDL 2 supply area following the assessment of the asset management system processes used by AAM on the AGN gas distribution network assets in the Coastal supply area.

Key Process	Issue	Recommendation
<b>Section 7 Previous Audit</b>	OSD considers the outstanding <b>non-completed</b> actions from the MC <sup>2</sup> Pacific January 2005 audit must be completed as part of this AMS review. AGN must notify ERA when the outstanding actions have been completed or what alternative actions have been taken by AGN to mitigate the deficiency. (See additional comments in the Appendices)	<b>Recommendation GDL2-1:</b>  AGN must complete the outstanding non-completed actions from the MC <sup>2</sup> Pacific January 2005 audit by as part of the OSD AMS review, and notify ERA when the outstanding actions have been completed or what alternative actions have been taken by AGN to mitigate the deficiency.
<b>#2 Asset Creation &amp; Acquisition</b>	██████ development AGN provided assistance to the Developer for inspection services of the private reticulation in ██████ on a fee for service basis. AGN was unaware that the Developer had not obtained the requisite license from the Authority to design and install a gas distribution infrastructure in ██████.	<b>Recommendation GDL2-2:</b>  AGN needs to have in place: (a) trained staff that are aware of the legislative issues relating to gas distribution in WA, and (b) Documented procedures to ensure that any issues similar to this ██████ development are properly processed and actioned.
<b>#2 Asset Creation &amp; Acquisition</b>	████████████████████ Station works, ██████ The issue of concern is the fact that the gas pipeline passes through a reinforced concrete footing that supports one of the pier structures	<b>Recommendation GDL2-3:</b>  AGN should communicate with Energy Safety Division in situations where alternative design practices are proposed

Key Process	Issue	Recommendation
	that in turn supports the elevated platform/concourse area at the station. The pipeline has been encased with concrete for the full length of the crossing under the station complex and the freeway.	that do not comply with the requirements of AS 2885, and/or normal gas industry practice.
<b>#2</b> <b>Asset Creation &amp; Acquisition</b>	The main issue has been the minimum depth of cover over the riser pipe during the transition from below ground to above ground, particularly in situations where the building foundation protrudes out from the building line.	<b>Recommendation GDL2-4:</b>  AGN should resolve the issue of service riser pipes with Energy Safety Division to achieve a practical outcome that satisfies the code and is cost effective.
<b>#5</b> <b>Asset Operations</b>	OSD found no evidence that AGN had undertaken or acted upon the recommendations in the notifiable incident reports. To ensure that these matters are properly closed out, AGN should include a section in the notifiable incident report that states the actions taken by whom and when, and signed off by the relevant persons and their supervisor.	<b>Recommendation GDL 2-5:</b>  AGN should include a section in the notifiable incident report that states the actions taken by whom and when, and signed off by the relevant persons and their supervisor.
<b>#6</b> <b>Asset Maintenance</b>	In general, most of the sites were in reasonably good condition, although corrosion on the pipework was visible at several sites. The maintenance inspection records for all of the 9 sites were reviewed. All of the sites visited had been last inspected late 2006 or early 2007. Corrosion was not stated as an action on one of the reports where rust is prevalent on the pipework at a bakery meter set - see picture below. No action has been taken to date.	<b>Recommendation GDL2-6:</b>  AGN shall ensure that corrosion on pipework is properly addressed during scheduled maintenance work on all network assets.
<b>#6</b> <b>Asset Maintenance</b>	During the site visits, a number of post-mounted warning signs were found to be in a damaged state and a number of signs were no longer legible, following prolonged exposure to ultra-violet light. Given the importance of these warning signs as the first line of defence	<b>Recommendation GDL2-7:</b>  AGN shall ensure that warning signage (post-mounted or otherwise) is legible at all times – many signs have been damaged and also many have faded from ultra-violet

Key Process	Issue	Recommendation
	against unauthorized third-party works, it is essential that the warning signs are maintained in good condition.	exposure.
<b>#6 Asset Maintenance</b>	<p>The mains breaks recorded in the Coastal gas distribution networks are <b>well below</b> AGN's internal maximum KPI target of 3/100 km main; 0.025 for 2005 and 0.018 for 2006.</p> <p>In OSD's view, AGN should review the KPI target for the level of mains breaks to reflect more closely the actual number of <b>mains breaks</b> occurring on a monthly basis. This action may result in AGN taking a more proactive approach to controlling the level of mains breaks including further education programs with the relevant parties undertaking works over the gas distribution networks in the GDL 2 supply area. OSD notes that AGN has an established awareness program.</p>	<p><b>Recommendation GDL2-8:</b></p> <p>AGN should reassess the target KPI for mains breaks and consider specific additional education measures to reduce the number of mains breaks in the Coastal gas distribution networks.</p>
<b>#6 Asset Maintenance</b>	<p>OSD's view is that the total <b>service breaks</b> over the period are significant and are on average matching the KPI threshold set by AGN.</p> <p>OSD's assessment is that additional, specific education measures for customers are required to reduce the number of breaks on gas services within customer's properties. This may best be achieved via the customer's gas retailer.</p>	<p><b>Recommendation GDL2-9:</b></p> <p>AGN should consider specific additional education measures (give greater emphasis to prevention of damage to gas services in its information bulletins) to reduce the number of breaks on service connections in the Coastal gas distribution networks.</p>
<b>#6 Asset Maintenance</b>	A snapshot of gas leaks or escapes reported by the public in the period is shows that actual reported escapes are well down on what was planned. Obviously, AGN need to reassess the plan for 2007 to reflect the current trend in reported leaks or gas escapes.	<p><b>Recommendation GDL2-10:</b></p> <p>AGN should reassess the target KPI for publicly reported gas leaks or escapes to reflect current reporting trends.</p>

Key Process	Issue	Recommendation
<b>#9</b> <b>Contingency Planning</b>	OSD is of the view that AGN should consider the approach that a test of the emergency preparedness capability should be conducted annually within each of the licensed supply areas, including GDL 2 supply area. Testing should be conducted on a rotating schedule in other significant urban areas within the GDL 2 supply area so that all areas are tested within a 5 year period.	<b>Recommendation GDL2-11:</b>  AGN should review the current testing program for emergency preparedness capability within each of the licensed supply areas, with a minimum requirement of at least one field exercise carried out annually. AGN should initiate discussions with Energy Safety Division to ascertain an acceptable frequency for emergency exercises in the Coastal supply area.
<b>#9</b> <b>Contingency Planning</b>	AGN should consider whether more frequent tests are carried out particularly in highly populated areas where large evacuations may be required.	<b>Recommendation GDL2-12:</b>  AGN should consider whether more frequent tests are carried out particularly in highly populated areas where large evacuations may be required. AGN should initiate discussions with Energy Safety Division to ascertain an acceptable frequency for emergency exercises in the Coastal supply area.
<b>#9</b> <b>Contingency Planning</b>	OSD recommends that AGN must ensure that actions derived from the debriefing sessions following planned emergency exercises are followed through and completed to the agreed timelines and AGN should review the emergency testing program to ensure adequate field based testing is carried on an annual basis in each of the licensed supply areas as noted above.	<b>Recommendation GDL2-13:</b>  AGN should ensure that all actions arising from completed planned emergency exercises are followed through and completed to the agreed timelines.
<b>#9</b> <b>Contingency Planning</b>	AGN has no documented policy and operational procedures for handling situations where water enters the gas distribution networks that affects one or more customers supplied off that section of the network.	<b>Recommendation GDL2-14:</b>  AGN must develop a policy and operational procedures for handling situations where water enters the gas distribution networks that affects one or more customers

Key Process	Issue	Recommendation
		supplied of that section of the network.

## 9.5 POST AUDIT IMPLEMENTATION PLAN

### 9.5.1 Post Audit Activities

OSD issued a Final Draft of the audit report for the GDL 3 supply area to AGN on 26 April 2007.

OSD then prepared and issued a post-audit implementation plan for review by AGN.

AGN agreed with the OSD recommendations stated in this audit report and has agreed to complete the actions required in this post-audit implementation plan as stated in the following table.

Key Process	OSD Recommendations	AGN Action Completion Date
<b>Section 7</b> <b>Previous Audit</b>	<b>Recommendation GDL2-1:</b>  AGN must complete the outstanding non-completed actions from the MC <sup>2</sup> Pacific January 2005 audit by as part of the OSD AMS review, and notify ERA when the outstanding actions have been completed or what alternative actions have been taken by AGN to mitigate the deficiency.	<b>Action:</b> Complete the outstanding items from the previous audit or alternatively indicate what alternative actions have been undertaken by AGN to mitigate the deficiency and notify the Authority upon completion.  <b>Responsibility:</b> Gas Asset Manager West  <b>Due Date: September 2007</b>
<b>#2</b> <b>Asset Creation &amp; Acquisition</b>	<b>Recommendation GDL2-2:</b>  AGN needs to have in place: (a) trained staff that are aware of the legislative issues relating to gas distribution in WA, and (b) Documented procedures to ensure that any issues similar to this [REDACTED] development are properly processed and actioned.	<b>Action:</b> AGN to review connection offer processes in relation to requests from Developers for a gas connection. AGN to document procedures to ensure (privately owned) embedded gas networks are identified and appropriately processed.  <b>Responsibility:</b> Technical



Key Process	OSD Recommendations	AGN Action Completion Date
		Compliance Manager West <b>Due Date: September 2007</b>
<b>#2</b> <b>Asset Creation &amp; Acquisition</b>	<b>Recommendation GDL2-3:</b>  AGN should communicate with Energy Safety Division in situations where alternative design practices are proposed that do not comply with the requirements of AS 2885, and/or normal gas industry practice.	<b>Action:</b> AGN to communicate with Energy Safety Division in situations where alternative design practices are proposed that do not comply with the requirements of AS 2885, and/or normal gas industry practice.  <b>Responsibility:</b> Gas Asset Manager West  <b>Due Date: As required</b>
<b>#2</b> <b>Asset Creation &amp; Acquisition</b>	<b>Recommendation GDL2-4:</b>  AGN should resolve the issue of service riser pipes with Energy Safety Division to achieve a practical outcome that satisfies the code and is cost effective.	<b>Action:</b> Energy Safety Division has instructed AGN to facilitate the installation of the riser with a slot through the footing to allow the correct cover. AGN should resolve the issue of service riser pipes with Energy Safety Division to achieve a practical outcome that satisfies the code and is cost effective.  <b>Responsibility:</b> Technical Compliance Manager West  <b>Due Date: TBA</b>
<b>#5</b> <b>Asset Operations</b>	<b>Recommendation GDL 2-5:</b>  AGN should include a section in the notifiable incident report that states the actions taken by whom and when, and signed off by the relevant persons and their supervisor.	<b>Action:</b> AGN to review and update the notifiable incident report.  <b>Responsibility:</b> Technical Compliance Manager West  <b>Due Date: August 2007</b>

Key Process	OSD Recommendations	AGN Action Completion Date
<b>#6</b> <b>Asset Maintenance</b>	<p><b>Recommendation GDL 2-6:</b></p> <p>AGN shall ensure that corrosion on pipework is properly addressed during scheduled maintenance work on all network assets.</p>	<p><b>Action:</b> AGN to include recommended actions in scheduled maintenance activities.</p> <p><b>Responsibility:</b> Gas Asset Manager West</p> <p><b>Due Date: August 2007</b></p>
<b>#6</b> <b>Asset Maintenance</b>	<p><b>Recommendation GDL 2-7:</b></p> <p>AGN should ensure that warning signage (post-mounted or otherwise) is legible at all times – many signs have been damaged and also many have faded from ultra-violet exposure.</p>	<p><b>Action:</b> AGN to include recommended actions in scheduled maintenance activities.</p> <p><b>Responsibility:</b> Gas Asset Manager West</p> <p><b>Due Date: August 2007</b></p>
<b>#6</b> <b>Asset Maintenance</b>	<p><b>Recommendation GDL2-8:</b></p> <p>AGN should reassess the target KPI for mains breaks and consider specific additional education measures to reduce the number of mains breaks in the Coastal gas distribution networks.</p>	<p><b>Action:</b> AGN to review the KPIs annually. AGN to review its awareness program to give greater emphasis to prevention of damage to gas mains in its information bulletins to relevant third parties.</p> <p><b>Responsibility:</b> Technical Compliance Manager West</p> <p><b>Due Date: December 2007</b></p>
<b>#6</b> <b>Asset Maintenance</b>	<p><b>Recommendation GDL2-9:</b></p> <p>AGN should consider specific additional education measures (give greater emphasis to prevention of damage to gas services in its information bulletins) to reduce the number of breaks on service connections in the Coastal gas distribution networks.</p>	<p><b>Action:</b> AGN to consider a suitable method for providing advice to customers on the prevention of damage to gas services within their properties.</p> <p><b>Responsibility:</b> Technical Compliance Manager West</p> <p><b>Due Date: December 2007</b></p>

Key Process	OSD Recommendations	AGN Action Completion Date
<b>#6</b>  <b>Asset Maintenance</b>	<b>Recommendation GDL2-10:</b>  AGN should reassess the target KPI for publicly reported gas leaks or escapes to reflect current reporting trends.	<b>Action:</b> AGN to review the KPIs annually.  <b>Responsibility:</b> Technical Compliance Manager West  <b>Due Date: December 2007</b>
<b>#9</b>  <b>Contingency Planning</b>	<b>Recommendation GDL2-11:</b>  AGN should review the current testing program for emergency preparedness capability within each of the licensed supply areas, with a minimum requirement of at least one field exercise carried out annually. AGN should initiate discussions with Energy Safety Division to ascertain an acceptable frequency for emergency exercises in the Coastal supply area.	<b>Action:</b> AGN to review the current testing program for emergency preparedness capability.  <b>Responsibility:</b> Technical Compliance Manager West  <b>Due Date: December 2007</b>
<b>#9</b>  <b>Contingency Planning</b>	<b>Recommendation GDL2-12:</b>  AGN should consider whether more frequent tests are carried out particularly in highly populated areas where large evacuations may be required. AGN should initiate discussions with Energy Safety Division to ascertain an acceptable frequency for emergency exercises in the Coastal supply area.	<b>Action:</b> AGN to review the current testing program for emergency preparedness capability.  <b>Responsibility:</b> Technical Compliance Manager West  <b>Due Date: December 2007</b>
<b>#9</b>  <b>Contingency Planning</b>	<b>Recommendation GDL2-13:</b>  AGN should ensure that all actions arising from completed planned emergency exercises are followed through and completed to the agreed timelines.	<b>Action:</b> AGN shall ensure outcomes and recommendations from exercises are completed within the agreed timelines.  <b>Responsibility:</b> Gas Asset Manager West  <b>Due Date: On going</b>



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Key Process	OSD Recommendations	AGN Action Completion Date
<b>#9</b> <b>Contingency Planning</b>	<b>Recommendation GDL2-14:</b> AGN must develop a policy and operational procedures for handling situations where water enters the gas distribution networks that affects one or more customers supplied of that section of the network.	<b>Action:</b> AGN to develop a policy and operational procedures. <b>Responsibility:</b> Technical Compliance Manager West <b>Due Date: September 2007</b>



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