

# GDL8 ASSET MANAGEMENT SYSTEM REVIEW AUDIT

## Audit Report For WestNet Energy

Revision 1: Re-issued To Client  
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Asset Management System Review Worksheet

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Details of Individual interviews

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Response to Previous Audit Recommendations

## **1 EXECUTIVE SUMMARY**

WA Gas Networks (WAGN) is required under Section 11Y of the Energy Coordination Act 1994, to provide the Economic Regulation Authority, an independent report on the effectiveness of the Asset Management System.

**This review covers WAGN's Gas** Distribution Licence GDL 8 for the period 1 February 2007 to 31 January 2009. The licence GDL 8 covers the Coastal, Great Southern and Goldfield areas of WA. GDL 8 commenced 1 July 2000 and expires 30 June 2021.

WA Gas Networks Pty Ltd was previously known as AlintaGas Networks Pty Ltd. Gas Distribution Licence GDL 8 was initially made up of GDL 1, GDL 2 and GDL 3.

WestNet Energy provides services to WA Gas Networks Pty Ltd (WAGN) to assist WAGN in the operation and maintenance of its gas distribution system

Specifically the grant of licence GDL 8 is:

- a) to construct a *distribution system* and to transport gas through the *distribution system*; or
- b) to transport gas through an existing *distribution system* and if required for that purpose to make alterations to the *distribution system*, and
- c) to operate and maintain the *distribution system*.

The WAGN asset management plan was reviewed using the approved OSD Audit Plan (OSD Document No: 63702-PLN-001 Rev G, dated 6 May 2009), based on **the Economic Regulation Authority's Audit Guidelines: Electricity, Gas and Water Licences**.

The details of the issues are discussed in section 5 of the report, but in summary, it was found that WestNet Energy require improvement in their asset management processes, post corporate restructuring. This process is currently **underway with a "Business Improvement Program"**.

In summary, the below 10 issues were identified and recommendations made for the current audit.

<b>Rec. No.</b>	<b>Recommendation</b>	<b>Topic</b>
1	WestNet Energy reviews "Decommissioning of Gas Pipes and Facilities" and upgrades the procedure to include reference to treatment of the decommissioned asset in SAP and GNIS, such that the asset register is updated.	Asset Disposal
2	It is recommended that WestNet Energy complete the introduction of day to day operational procedures and provide training in their implementation. In addition, it is recommended that WestNet review their monthly environmental performance targets to reflect the new work place practices.	Environmental Analysis
3	Pipeline marker signage located in difficult to reach areas, (i.e. fenced off fields), has not yet been upgraded in all instances, and may be overlooked. It is recommended that these jobs be identified in SAP, to ensure they are completed in a timely manner.	Asset Maintenance
4	Corrosion and poor security enclosures were located in the 3 meter regulator assemblies visited in Albany; (Details in site visit notes). It is recommended that the maintenance plan for these typical units be changed to include specific mention to security enclosure inspection and corrosion inspection & painting. In addition these sites shall be upgraded.	Asset Maintenance
5	"LiveLink" is the WestNet Energy document management system. It is recommended that the issue process be validated to ensure that documents are uploaded as final and approved, such that all documents are issued as final.	Risk Management
6	Job Safety Analysis in work procedures, be reviewed to ensure that they are adequate and	Risk

Rec. No.	Recommendation	Topic
	suitable for their intended purpose	Management
7	WestNet Energy develop a 5 year plan describing where emergency exercises are to be conducted. This should also contain details of where the previous exercises were held. The conducting of emergency exercises should be included in the maintenance plan for each year.	Contingency Planning
8	Procedures be developed for the planning, conduct and implementation of action items when emergency procedures are conducted.	Contingency Planning
9	Asset Management System document be updated as soon as possible, as it contains references to asset management implementation, which are now out of date.	Asset Management System
10	<b>KPI's be produced for UAFG in the Albany and Goldfields regions.</b> In addition it is recommended that a review process be instigated to investigate the UAFG levels, as they are high in comparison with other comparable gas distribution businesses	Asset Management System

WestNet Energy has made significant efforts to implement the required action items from the 2007 Audit. A large number of the action items identified in the 2009 audit stem directly from further improvements of the 2007 action items. The status of the previous audit recommendations has been included in the Appendix D.

In summary, the control environment for **WAGN's** distribution asset management system was reviewed for all 12 areas of review as required by the Guidelines and the average rating has increased to 4.4, from 4.0 in 2007.

## **1.1 COMPLIANCE STATEMENT**

This audit report was prepared by OSD Pipelines for WestNet Energy using "Economic Regulation Authority Western Australia – Audit Guidelines – Electricity, Gas and Water Licences – September 2006".

This audit report is an accurate presentation of OSD Pipelines findings and opinions.

Paul Beukelman - 

OSD Pipelines

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Date: 13 August 2009

## **2 INTRODUCTION**

### **2.1 BACKGROUND TO WAGN**

WA Gas Networks Pty Ltd (previously known as AlintaGas Networks Pty Ltd) is the owner of the majority of the reticulated gas infrastructure in Western Australia. The networks incorporate supply to Goldfields/Esperance, Great Southern and Perth Greater Metropolitan areas, including Mandurah. These combined networks constitute approximately 12,000km of gas mains and associated infrastructure and service over 600,000 customers.

WestNet Energy provides services to WA Gas Networks Pty Ltd (WAGN) to assist WAGN in the operation and maintenance of its gas distribution system known as the Mid West and South West Distribution System (**GDS**).

### **2.2 AUDIT CONTEXT**

Section 11Y of the Energy Coordination Act 1994 requires a licensee to provide to the Economic Regulatory Authority (ERA), a report, compiled by an acceptable independent expert, as to the effectiveness of the Asset Management System.

The meaning of effectiveness is as stated in AUS **806**, therein, "effectiveness means the achievement of the objectives or other intended effects of activities".

WestNet Energy has engaged OSD to conduct this asset management system review of WAGN's **Western Australian gas distribution licence** GDL 8.

WAGN's Distribution Licence GDL8 states that the Economic Regulation Authority has granted a distribution licence to WA Gas Networks Pty Ltd, which was initially in place of the licences GDL1, GDL2 and GDL3.

The Gas Distribution Licence GDL 8 covers Coastal, Great Southern and Goldfield areas of WA.

The review covered the period 1 February 2007 to 31 January 2009 inclusive. It was submitted to ERA by 30 June 2009 and revised following receipt of comments.

The audit followed the process outlined in Appendices 1, 2 and 3 of Audit Guidelines: Electricity, Gas and Water Licences, Economic Regulation Authority (the Authority), WA. Audit worksheets were specifically prepared for this audit. Completed audit worksheets are included in the Appendix A.

The review complies with the following guidelines and/or standards:

- Audit Guidelines: Electricity, Gas and Water Licences (the Guideline)
- Risk evaluation model set out in AS/NZS 4360:2004
- Auditing Standard AUS 402 – Risk Assessment and Internal Controls
- Auditing Standard AUS 502 – Audit Evidence
- Auditing Standard AUS 806 – Performance Auditing
- Auditing Standard AUS 808 – Planning Performance Audits
- Auditing Standard AUS 810 – Special Purpose Reports on the Effectiveness of Control Procedures.

## **2.3 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 ERA Audit Guidelines, the asset management system review/audit has focussed on the asset management system, including asset management plans, which set out the measures that are to be taken by the licensee for the proper operation and maintenance of 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. The ERA required all audits to utilise a risk based approach to planning and conducting the audit/review. In accordance with AS4360:2004, there should be more extensive audit testing of higher risk areas to provide sufficient assurance of compliance or effective control.

## **2.4 AUDIT OBJECTIVES**

The objectives of the audit were to:

- ❑ 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 effectiveness of the asset management system processes
- ❑ Detail action items or recommendations for improvement of the asset management system.

## **3 METHODOLOGY**

OSD has prepared this methodology on the Authority's Audit Guidelines: Electricity, Gas and Water Licences.

The Audit process will comprise of the following aspects:

- ❑ Approval of Audit Plan by the client
- ❑ Approval of Audit Plan by ERA
- ❑ OSD to conduct audit/field reviews, including a review of documentation and systems, a review of the actions taken in response to the recommendations from the previous review, a review of legislative documentation and interviews with relevant personnel from the WestNet Energy'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 ERA in the format specified by section 7 of the Audit Guidelines, and
- ❑ Implementation or actioning of Audit Report action items or non-compliances.

To streamline the audit, individual interview reports have been prepared, in addition audit worksheets, that were prepared during the audit plan, have been completed. Both documents have been summarised in this report.

### **3.1 AUDIT PERSONNEL**

The Audit was conducted by the following OSD personnel. Their relevant industry and auditing experience was included in the Audit Plan. Their approximate man-hours in completing the audit and preparing this report are included in brackets.

- Paul Beukelman – Senior Auditor **(240)**
- Marc Willis – Auditor **(120)**
- Mike Lyle – Project Director **(4)**

### **3.2 AUDIT/FIELD REVIEW**

OSD carried out a review in WestNet Energy's offices, during the period 18 May to 28 May 2009. It involved visiting the WestNet offices in Perth and Jandakot, and conducting fieldwork to inspect assets in Perth, Albany and Kalgoorlie-Boulder.

All relevant documentation was made available to our audit personnel. WestNet made all relevant asset management and operational staff available for interview as required.

The asset management system was reviewed using the Protocol outlined in the Audit Plan and worksheets, which are 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 gas distribution business.

The audit also included a review of the previous audit action plan to verify that actions have been completed; consider actions that were not yet complete and incorporate those outstanding actions into the current audit review action plan where required.

### 3.3 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 2007.

The 2009 audit priority was established by the following methodology as identified in Appendix 1 of the Guidelines. Specifically:

- ❑ The Inherent Risk was established using Table 8 and Table 9
- ❑ The Adequacy of Previous Controls was established by using the previous audit results and assigning 'Strong' to 5 (continuously improving), 'Moderate' to 4 (quantitatively controlled) and 'Weak' to 3 (well defined)
- ❑ The assessment of 2009 Audit Priority is determined by using Table 11, using Inherent Risks and Adequacy of Previous Controls.

Process No.	Key Process	Inherent Risk	Adequacy of Previous Controls (based on previous audit action items)	2009 Audit Priority
1	Asset planning	Medium	Moderate	4
2	Asset creation and acquisition	Medium	Moderate	4
3	Asset disposal	Low	Weak	5
4	Environmental analysis	Medium	Weak	3
5	Asset operations	High	Moderate	2
6	Asset maintenance	High	Weak	1
7	Asset management information system	Medium	Strong	4
8	Risk management	High	Moderate	2
9	Contingency	High	Weak	1

<b>Process No.</b>	<b>Key Process</b>	<b>Inherent Risk</b>	<b>Adequacy of Previous Controls (based on previous audit action items)</b>	<b>2009 Audit Priority</b>
	planning			
10	Financial planning	Low	Strong	5
11	Capital expenditure planning	Low	Strong	5
12	Review of AMS	Low	Moderate	5

### **3.4 INTERVIEWEES AND DOCUMENTS REVIEWED**

#### **3.4.1 Interviewees**

The positions which participated in the audit were:

- Asset Manager*
- Senior Asset Performance Engineer*
- Senior Regulatory Accountant*
- Manager Engineering Services*
- Projects Manager*
- Environmental Advisor*
- Construction Manager*
- Technical Compliance Analyst*
- Maintenance Manager*
- Technical Compliance Manager*
- Supervisor Albany*
- Supervisor Kalgoorlie*
- Distribution Manager*
- Commercial & Compliance Manager*

### **3.4.2 Documents Reviewed**

The documents reviewed in the audit were:

- Asset Management System
- Asset Replacement Strategy
- Asset Maintenance Plan
- RCM and Risk Analysis for Distribution Assets
- Asset Management Plan 2008-2012
- Asset Management Operating Plan
- Design Control and Project Management
- Emergency Response Management Plan
- Budget and Strategic Business Plan 2008-2013
- WAGN Expenditure Business Cases for Projects
- WestNet Energy, Emergency Response Reports
- Works procedures; Removing Water From A Gas Main, Coating Refurbishment And Repairs
- Review of Distribution System Performance
- High Pressure Development Plan
- WA Gas Networks Planning Strategy
- Safety Case
- Inspection Plan
- Emergency Response Exercise Action Tracking Register
- Connection Forecasting Analysis
- Removing Water From A Main Procedure
- Performance Audit, 2007.

## **4 PREVIOUS AUDIT**

The previous audit undertaken in 2007 produced an Implementation Plan detailing corrective actions in respect of the asset management system processes reviewed by the previous auditors.

The Implementation Plan and the corrective actions required and the status as of the 2009 review were assessed by OSD.

It was established that WestNet Energy has made a concerted effort to address the required corrective actions.

However, during our review of the corrective actions that have been undertaken, we identified further steps necessary to improve the effectiveness of the process in question. For example, we have identified the requirement to develop a five year plan for emergency exercises, these additional steps are listed as recommendations in this current report.

The tabulated 'Response to Previous Audit Recommendations' is contained in the Appendix D.

## 5 AUDIT FINDINGS

### 5.1 ASSET MANAGEMENT EFFECTIVENESS SUMMARY

An outline of the key findings against the ERA's twelve review areas, are presented below, further details are summarised.

The OSD ranking is shown in the chart below, (the 2007 audit value is included for comparison).

ASSET MANAGEMENT SYSTEM		Not performed	Performed informally	Planned and tracked	Well defined	Quantitatively controlled	Continuously improving	2007 Audit (Ave)
		2009 Audit Result						
Process	Effectiveness Rating	0	1	2	3	4	5	
Asset Planning							X	4
Asset Creation/Acquisition							X	4
Asset Disposal					X			3
Environmental Analysis						X		3
Asset Operations							X	4
Asset Maintenance						X		3



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ASSET MANAGEMENT SYSTEM			Not performed	Performed informally	Planned and tracked	Well defined	Quantitatively controlled	Continuously improving	2007 Audit (Ave)
			2009 Audit Result						
Process	Effectiveness Rating		0	1	2	3	4	5	
Asset Management Systems	Information							<b>X</b>	<b>5</b>
Risk Management							<b>X</b>		<b>4</b>
Contingency Planning							<b>X</b>		<b>3</b>
Financial Planning								<b>X</b>	<b>5</b>
Capital Expenditure Planning								<b>X</b>	<b>5</b>
Review of Asset Management System							<b>X</b>		<b>4</b>

2007 Ave:  $48/12=4.0$

2009 Ave:  $53/12=4.4$

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

<b>Compliance status</b>	<b>Rating</b>	<b>Description of compliance</b>
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)

## **5.2 DISCUSSION OF AUDIT RESULTS**

During the audit process, an audit worksheet was prepared to focus the review into specific areas of the 12 topics. As the audit proceeded, it was noted that the worksheets themselves, did not provide for sufficient room to capture all the current activities, within WestNet Energy. Accordingly an additional report on individual interviews was prepared. These documents are contained in this report in Appendix B.

Below is a summary discussion of the audit.

### **5.2.1 Asset Planning**

Effectiveness Rating: 5

Key Process: Asset planning strategies are focussed on meeting customer needs in the most effective and efficient manner (delivering the right service at the right price)

Summary: WestNet Energy has in place an asset planning process. The process has improved since the last audit, as a result of reduced demand on internal resources (due to reduced new gas connections), as well as due to a simplification of the internal WestNet structure.

Audit Trails and sources of Evidence:

- Large Project Business Cases
- Review of Distribution System Performance, Winter 2008
- WA Gas Networks Planning Strategy 2007
- HP Network Development Plan 2008-2012

Discussion: Up to 2007, there had been an asset owners (AGN), and two separate contracting parties providing; asset management services (ANS) and mains and services contractors (NPS).

Currently, WestNet Energy provides both the asset management services as well as the operation and maintenance services to WA Gas Networks Pty Ltd (WAGN). This has simplified the working relationship, but has resulted in a requirement to update procedures, a process which is ongoing. WestNet Energy has taken the **initiative at the same time to implement a "Business Improvement Process"** (BIP), to further assist in streamlining operations.

**Each year a "Review of Distribution System Performance" is conducted.** This is undertaken by comparing the pressures of gas in the network during peak winter periods and comparing them against system required pressures. Where system pressures are noted to be dropping due to increasing demand, reinforcement projects are nominated.

This review is undertaken using a network modelling package known as **"Stoner SynerGEE"**, which is an industry standard package. The modelling is undertaken **in conjunction with the 'Network Planning Strategy', and includes an annual 'organic growth' rate of 0.5% per annum.** This factor is introduced to model the increasing use of gas capacity for each user on the basis of additional appliances per connection. Since 2007 this rate has reduced to 0.5% from the earlier 1.5%. This was as a result of system performance indicating that 1.5% growth per annum was excessively optimistic when compared to system use.

**A 'High Pressure Development Plan' is prepared and updated which details capacities of major pressure reduction stations, anticipated growth forecasts, and timing of required upgrades.**

For large demand driven reinforcement projects and large asset replacement projects, project specific business cases are prepared. Three project business cases were reviewed during this audit. These business cases followed a predetermined format and had a strict financial evaluation and reviewed; Net Present Value, Present Value Rate, Internal Rate of Return, Return on Net Assets and Pay Back Period. The business cases were considered suitable for their intended purpose of justifying large projects.

Recommendation:

Nil.

## **5.2.2 Asset Creation and Acquisition**

Effectiveness Rating: 5

Key Process: Asset creation / acquisition means the provision or improvement of an asset where the outlay can be expected to provide benefits beyond the year of outlay.

Audit Trails and sources of Evidence:

- Gas Distribution Vehicle Manual, March 2009, GDW-RF-067
- Energy Co-ordination Exemption Order 2009
- AGN Design Guideline, Design Control and Project Management, GDW PR 0040

Summary: WestNet Energy are improving the way they do business. This is demonstrated in improvements from BIP, introduction of Third Party Damage Prevention Strategies and upgrade to older areas of the network.

Discussion: During the audit it was noted that WestNet Energy has been utilising outside contractors actively for installation of new assets, freeing up internal resources to focus on system improvements.

These improvements include a structured internal upgrading process called, **"Business Improvement Process" (BIP)**. The focus of BIP is to ensure changes to the regulatory and legislative environment are captured. This includes reviewing and upgrading internal procedures, which may have fallen out of date due to corporate structure changes, with associated restructuring.

For actual use in the field, the standard procedures are printed in hard copy and **kept in "Gas Distribution Vehicle Manuals"**. A sample vehicle manual was reviewed and found to contain a Table of Contents dated March 2009, with a required review date of March 2010, hence being up to date.

WestNet Energy already implements damage prevention actions. This includes **"Dial Before You Dig"** and **presentations to councils and other entities involved in construction of utilities**. To further reduce damage to services in properties, WestNet Energy have a **"Third Party Damage Prevention Strategies"**. These are aimed at preventing damage to gas pipes and services, by external parties.

One strategy involves laying copper tracer wire above the service pipe. A map of the service pipe is placed in the meter box. The number of leaks on broken services reduced from 1598 in 2006/07 to 1486 in 2007/08.

WestNet Energy are in the process of having their draft safety case approved for implementation. As part of this safety case approval process, WestNet Energy engaged OSD Pipelines to undertake a review of the WestNet Energy internal procedures and documents, to ensure they comply with the legislation and standards. This review was conducted in March 2009, and concluded WestNet Energy was meeting the requirements of Gas Standards Regulations 2000.

WestNet Energy undertake engineering design in accordance with Design Guidelines. These design guidelines were reviewed during the audit and are considered suitable for their intended purpose. These Design Guidelines are in accordance with Australian standards.

OSD interviewed the Project Manager and Manager of Engineering Services during the conduct of the audit. These staff members were found to be competent in their undertaking of engineering design activities.

Recommendation:

Nil

### **5.2.3 Asset Disposal**

Effectiveness Rating: 3

Key Process: Effective asset disposal frameworks incorporate consideration of alternatives for the disposal of surplus, obsolete, under-performing or unserviceable assets. Alternatives are evaluated in cost-benefit terms.

Audit Trails and sources of Evidence:

- WestNet Energy Graphical Information System (GNIS)
- Decommissioning of Gas Pipes and Facilities (dated 8/2006)

Summary: WestNet Energy has in place a decommissioning procedure, to enable gas pipes to be purged of gas and then decommissioned. The document covers the technical requirements of gas pipe decommissioning and abandonment.

Discussion: WestNet advised that asset disposal by sale of the assets to another organisation (i.e. for the use as a conduit especially in built up areas) was a unusual occurrence, having last taken place 10 years ago. No formal procedure exists on how to undertake asset sales. Being an unusual event it is not considered justified to prepare a procedure, as it can be covered on a case by case basis.

Westnet Energy is actively upgrading the Fremantle gas distribution network, by replacement with new gas pipes. An internal WestNet procedure was located that deals with how to physically undertake the gas pipe decommissioning, however it contains no discussion on how to treat the decommissioning with regards to asset management processes and the asset register.

Recommendation:

1. It is recommended that WestNet Energy **reviews "Decommissioning of Gas Pipes and Facilities" and upgrades the procedure to include reference to treatment of the decommissioned asset in SAP and GNIS, such that the asset register is updated.**

## **5.2.4 Environmental Analysis**

Effectiveness Rating: 4

Key Process: Environmental analysis examines the asset system environment and assesses all external factors affecting the asset system.

Audit Trails and sources of Evidence:

- Monthly Environmental Performance Index
- Environmental Management System ISO 14001 Accreditation
- WestNet Energy Connection Process Handbook
- Ernst & Young, Alinta Gas Networks, Performance Audit, 3 May 2007
- Economic Consulting Services, Alinta Network Services, Connections Forecast Analysis, 13 March 2006

Summary: There are a number of functions within WestNet Energy that undertake environmental scanning to identify changes in the regulatory and legislative environment which may impact on operations. WestNet utilises external consultants for forecasting demand for services. The WAGN website

provides detailed information on access to services to facilitate use of its infrastructure.

From an environmental perspective, WestNet Energy has environmental accreditation to ISO 14001. As such WestNet has in place high level environmental management policy documents.

WestNet have a process of monitoring environmental performance. This is measured against yearly targets of conformance. The monthly performance index is to be revised, as new environmental management plans are introduced.

Discussion: There are functions within the organizations that are responsible for keeping abreast of changes in external influences; economic regulation, technical compliance, legislative changes and assessing the impact of these changes on business operations, practices and procedures.

Independent research is undertaken by an external consultant of the likely growth in customer connections and quantum of mains which may be required to support growth in the distribution networks. This research drives the forecasting process for the estimation of the number of kilometres of new pipeline to be installed and the number of customers to be connected. Research is currently being undertaken for marketing gas as a preferred source of energy. There is market development function which is charged with liaising with government departments and key industry stakeholders to promote the expansion of the distribution systems.

The Regulatory Compliance Committee reviews the implementation of changes and oversees audits required under the Distribution Licence and the Retail Market Rules and reports on breaches. Monthly Operational Reporting also reviews **performance against KPI's.**

One of the key areas of focus has been compliance with environmental legislation.

The current environmental accreditation was reviewed. WestNet Energy Services is **accredited to ISO14001 for "contract services to the electrical, gas and water industries", (Registration Number 4354, dated 14 May 2009).** The accreditation is based on high level documents within the WestNet system, including; Health Safety Environmental Plan WA 2006, Health, Safety & Environmental Policy and HSE&Q Management System Manual. As these documents would have been reviewed during the ISO 14001 accreditation process, they were not reviewed during this asset management audit.

WestNet have actively been rolling out new environmental operational procedures including, '**Containment and Spill Management**' and '**Excavation and Backfilling Procedures**'. WestNet have still to roll out the '**Weed Management Plan**'.

Recommendation:

2. It is recommended that WestNet Energy continue to introduce day to day environmental operational procedures and provide training in their implementation. In addition, it is recommended that WestNet update their monthly environmental performance targets to reflect the new work place practices.

### **5.2.5 Asset Operations**

Effectiveness Rating: 5

Key Process: Operations functions relate to the day-to-day running of assets and directly affect service levels and costs.

Audit Trails and sources of Evidence:

- SAP System (code 40B)
- GNIS System (Asset View)

Summary: WestNet Energy have in place a well managed operations function. During the audit it was noted that the BIP process is upgrading the WestNet systems, which will improve internal documentation which is substantially out of date, due to corporate changes

Discussion: Jandakot is the central works depot for WestNet Energy. It contains the call centre, control room, stores and office location for senior field staff.

The SAP system is used to generate jobs and forward these jobs to the corresponding required works crews. The job remains open in SAP, until job completion forms are signed off and forwarded back for closing the loop in SAP.

The stores area in Jandakot was reviewed. All new materials that have been purchased, are delivered to the Jandakot store. The storeman controls stock by checking incoming goods against WestNet purchase requirements, prior to accepting delivery. Of interest in the store were the pallets of new pipeline marker signs. These marker signs had been noted in the 2007 audit to require replacement and this replacement program was now advised to be essentially complete.

The Jandakot depot is also the location of the WestNet Energy internal training school. A training program for 2009 was reviewed. It showed that the training school conducts 36 courses, focussing on the requirements of its field staff. Typical courses include; First Aid, Traffic Control, Main Laying, Service Laying, Gas Installations, Broken Gas Services and Onsite Emergency Response. A copy of the current staff training register was viewed. It indicated that staff training was being maintained. In addition new training courses were being implemented.

Once training has been undertaken, field staff are able to follow documented works procedures, that are contained in their Vehicle Manuals, for day to day operations.

Recommendation:

Nil

## **5.2.6 Asset Maintenance**

Effectiveness Rating: 4

Key Process: Maintenance functions relate to the upkeep of assets and directly affect services levels and costs.

Audit Trails and sources of Evidence:

- AGN Distribution Network Asset Maintenance Plan 2009, GDW-PL-0170, issued 24/3/09
- WestNet Energy, Coating Refurbishment and Repairs, GDW-TN-0090, Rev 1

Summary: WestNet Energy are using the **"Reliability Centred Maintenance Analysis" (RCM), as a feed back on their maintenance plan, to ensure faults** identified in SAP are taken into account for the year to year upgrade of the plan.

Discussion: Asset maintenance responsibility and accountability is clearly assigned in WestNet Energy.

Asset Maintenance requirements are defined in WAGN Asset Maintenance Plan 2009. This document is updated every year, to reflect Reliability Centered Maintenance (RCM) analysis. This document results in maintenance jobs being generated in SAP. When jobs are generated, the job sheets define responsibility for their completion. Maintenance completion is controlled by Job Completion **Notices. SAP is then used to measure maintenance KPI's.**

On the whole, maintenance workload was down from previous years, as a reflection of milder weather and an economic slow down. This was viewed

positively, as it enabled WestNet to devote attention to other areas, such as replacing damaged pipeline markers.

WestNet Energy has adopted a program to identify and rectify corrosion on above ground pipe work and to upgrade signage that had become degraded. These were as a result of findings from the 2007 audit.

It was however noted that some of the marker signs, in difficult to reach areas, had yet to be upgraded. The auditors have a concern that these items may be overlooked. In addition, during a site visit to Albany, it was noted that a sample of meter regulator assemblies needed upgrading from a security enclosure and corrosion on pipe work perspective.

WestNet Energy **advised that the larger industrial meter sets are termed "AL30" and classified as master meters under 'Gas Standards (Gas Supply and System Safety) Regulations 2000**. As such they are required to be replaced every 10 years. WestNet Energy proposes to instigate 5 yearly survey on these types of meters to ensure integrity.

Recommendation:

3. Pipeline marker signage located in difficult to reach areas, (i.e. fenced off fields), has not yet been upgraded, and may be overlooked. It is recommended that these jobs be identified in SAP, to ensure they are completed in a timely manner.
4. Further surface corrosion and overgrown security enclosures were located in the 3 meter regulator assemblies visited in Albany. It is recommended that the maintenance plan for these typical assemblies are changed to include specific mention to security enclosure inspection and corrosion inspection & painting, and that these assemblies be upgraded.

## **5.2.7 Asset Management Information Systems**

Effectiveness Rating: 5

Key Process: An asset management information system is a combination of processes, data and software that support the asset management functions.

Audit Trails and sources of Evidence:

- WNG IT Services - Access Control Policy V1.0, 28.01.09

Summary: WestNet Energy has a controlled, functional Asset Management Information System (AMIS). Two primary systems are in operation, i.e. SAP and GNIS. These systems control and track various tasks and operations to ensure overall asset integrity is maintained.

Discussion: Job data for typical projects was tracked in SAP and performance data reviewed. These systems were seen to be controlled and operated efficiently by appropriate WestNet staff and allowed reporting of all obligatory **KPI's for the Audit period.**

The performance data provided for ERA by WestNet Energy in 2008 was reviewed and found complete and accurate, as defined in the Gas Compliance Reporting Manual and Handbook, for 'Loss of Containment' category.

It is noted non-obligatory KPI's, requested by ERA with an intention of 'best endeavours' were not supplied in the reporting period, e.g. Planned Interruption figures. It is noted WestNet are actively investigating required SAP modifications which will allow compliance to all licensing reporting requirements.

All IT services Policies and Procedures are in a read-only Controlled Documents area, i.e. 'Livelink'. IT Services contracts (including licensing, support, service and maintenance) are also managed within in Livelink to ensure currency. SAP system access requires several approvers, this process is governed by the overarching Access Control Policy.

Recommendation:

Nil

## **5.2.8 Risk Management**

Effectiveness Rating: 4

Key Process: Risk management involves the identification of risks and their management within an acceptable level of risk.

Audit Trails and sources of Evidence:

- WAGN Risk Management Policy (WNE-PO-0002, Rev A)
- WAGN Corporate Risk Management Guidelines (WNE-G-003, Rev A)

Summary: It is evident that WestNet Energy are upgrading their risk management techniques, however the standard of documentation associated with this upgrade needs improvement. It is positive that WestNet Energy is involving Energy Safety in their risk management upgrade

Discussion: Sample documents were viewed and found to be of high standard, indicating that WestNet Energy has undertaken a process to upgrade their risk management documentation, however, a review of the process, did reveal that when electronic version of the 'Policy' and 'Guidelines' documents were

downloaded from "LiveLink", the document management system, that the issue dates was missing and there was uncertainty if the documents were "approved for issue".

In addition, the sample Job Safety Analysis reviewed, (in the Risk Assessment document, 'WNE Risk Analysis Directional Drilling'), did not contain sufficient information on the hazard or the specific work functions that are the sources of risk.

WestNet Energy has **undertaken HAZOP's on major installations**. A report was viewed of a Hazard and Operability Study (HAZOP), undertaken by Worley Parsons in November 2008, (document number 00701-00-SR-REP-003) for a class 600 pressure reduction station. This document appeared to be of high standard. **WestNet Energy advised they invite Energy Safety to attend HAZOP's.**

WestNet Energy has improved their reporting requirements with Energy Safety. An **"Inspection Plan Quarterly Report" covering the period January 2009 to March 2009**, was viewed. WestNet advised they now conducted monthly meetings with Energy Safety, to view and discuss risk management and safety issues.

Recommendation:

5. **It is recommended that the "LiveLink" document management issue process be validated to ensure that documents are issued as final.**
6. It is recommended that Job Safety Analysis task reviews, be reviewed to ensure that they are adequate and suitable for their intended purpose.

## **5.2.9 Contingency Planning**

Effectiveness Rating: 4

Key Process: Contingency plans document the steps to deal with the unexpected failure of an asset.

Audit Trails and sources of Evidence:

- WAGN Emergency Response Management Plan, GDW-PL-0160, (Rev 1 dated 12/2007, currently being reviewed)
- Reports on 3 emergency exercises; "Gold" conducted in Goldfields February 2008, "Malaga" conducted in Perth December 2008 and "Ataturk" conducted in Albany March 2008.**

Summary: WestNet Energy have committed to increase the frequency of the emergency exercises and from the reports that were issued following the exercises, see the value of undertaking the emergency exercises and taking on

board improvements from the lessons learnt. It is also positive to note that WestNet have actively invited the participation of regulatory bodies.

Discussion: During the 2007 audit, considerable discussion was made on the frequency of emergency response exercises conducted by WestNet Energy. It was viewed positively that 3 exercises have now been conducted in the past 18 months.

There is a requirement that WestNet Energy conduct an exercise once per year per licence area. It is noted that the 3 licence areas (Coastal, Goldfields and Great Southern) have now been combined into a single licence GDL8. Given only the one licence Emergency Exercises will be based on the higher risk areas of the network and not on the old licence areas, although if an old licence area has not been included in an emergency incident for some time, then it will be considered if the risk is there.

Whilst reviewing the reports of the exercises undertaken in 2008, it was noted that there was no procedure to cover how to undertake a planned emergency exercise, and to ensure that action items turned up by the exercise were followed up on.

Recommendation:

7. It is recommended that WestNet Energy develop a 5 year plan describing where emergency exercises are to be conducted. This should also contain details of where the previous exercises were held.
8. It is recommended that a procedure be developed for the planning, conduct and implementation of action items of emergency response exercises.

## **5.2.10 Financial Planning & Capital Expenditure Planning**

Effectiveness Rating: 5

Key Process: The financial planning component of the asset management plan brings together the financial elements of the service delivery to ensure its financial viability over the long term.

Audit Trails and sources of Evidence:

- Alinta Network Holdings (ANH), Asset Management Plan 2008-2012, Rev A dated 18/3/08
- Alinta Network Holdings, Budget and Strategic Plan 2007-2011
- Alinta Network Holdings, Budget and Strategic Plan 2008-2013

Summary: As the elements of financial planning and capital expenditure planning are similar, they will be treated together in this section.

WestNet Energy has a robust financial planning system. It is based on deriving costs from the Asset Management Plan and inputting proposed costs into a 25 year financial model. The results from the financial model are then used to produce a Budget and Strategy Plan.

Discussion: 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. 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 usually be based on firm estimates.

It was noted that there was a \$500,000 discrepancy between the year 2010 requirements of the Asset Management Plan, and that allocated in the Budget and Strategic Plan, in the 2008 plan. This error was subsequently picked up by WestNet and corrected in the 2009 plan.

Recommendation:

Nil

## **5.2.11 Review of Asset Management System**

Effectiveness Rating: 4

Key Process: The asset management system is regularly reviewed and updated.

Audit Trails and sources of Evidence:

- Monthly KPI's**
- Alinta GDS Safety Case (Revision 4.0 - Draft)
- Asset Management System (AAM-S-09001, Revision B, dated 19/1/07)
- Asset Management Plan (2008-2012)

Summary: WestNet Energy has a comprehensive Asset Management System. There is comprehensive integration of defined physical asset requirements with detailed and audited financial documents to deliver required outcomes.

Discussion: The WestNet Energy asset management system is described in the Alinta Asset Management System document. This document, due to corporate changes and changes in roles, is now out of date, from the perspective of the organisational structure, but the overall operating principles remain valid.

This document should be reviewed, and modified, to include input from the Safety Case, which is expected to be implemented in the near future.

The Asset Management System places a requirement on monitoring performance **by the use of "Key Performance Indicators", (KPI's)**. This involves measuring 35 performance indicators in the topics of; Pipelines, Regulator Sets, Meter Sets, Isolation Valves, Domestic / Commercial Meters, Design and Planning, Commissioning, Operations Major Events, Operations System Performance, Decommissioning, Auditing and Customer Service Standards.

**The latest KPI's (for quarter January to March 2009) were reviewed. It was noted that the basis for the KPI's was being reviewed in light of operational changes.** The areas of review were; Meter Populations Statistical Sampling, (as this was no longer being performed), High Pressure Pipeline Commissioning, (due to the infrequent nature of the event) and Progress of Internal Audits, (due to the quantity of internal audits required, not being nominated).

**Two of the KPI's were outside of their expected ranges; 'Unaccounted For Gas' and 'Customer Minutes off Supply'.**

It was noted that WestNet Energy has a high level of unaccounted for gas (UAFG). **The value reported in the corporate KPI's is based on the coastal network, and is currently at 2.8%, with a desired KPI of 2.5%.** The UAFG for Goldfields is currently 8.2% and Albany 20%. It is noted that **there are no KPI's** for the UAFG for Goldfields and Albany.

WestNet Energy advised that the trend in UAFG appeared to increase around the same time as the Varanus Island incident last year, when industrial users were requested to reduce consumption.

With regards to the natural gas networks, WAGN has now instigated a project to address the rising trends and the plan will also be extended for the Kalgoorlie network.

WestNet Energy advised a project is underway to validate the measurement of UAFG and to identify acceptable benchmarks. A specialist has been engaged to assist in investigating the reasons for UAFG.

WAGN is actively managing the UAFG issue in Albany with its maintenance plans.

Recommendation:

9. It is recommended that the Asset Management System document be updated as soon as possible, as it is a core document to the WestNet asset management process.

10. It is recommended that KPI's be produced for UAFG in the Albany and Goldfields regions. In addition it is recommended that the review process be used to investigate the 3 UAFG levels.

## 5.3 POST AUDIT IMPLEMENTATION PLAN

### 5.3.1 Post Audit Activities

OSD issued Revision A of the audit report, to WestNet Energy on 22 June 2009.

WestNet Energy has reviewed the recommendations and agreed to complete the actions required in this post – audit implementation plan, as stated in the following table.

Rec. Number	Recommendation	WestNet Action
1	WestNet Energy reviews "Decommissioning of Gas Pipes and Facilities" and upgrades the procedure to include reference to treatment of the decommissioned asset in SAP and GNIS, such that the asset register is updated.	<p>Action:</p> <p>WestNet Energy are currently reviewing GDW WI 0460 Decommissioning of Gas Pipes and Facilities and GDW WI 0180 Installation and Removal of Meter Sets through the Business Improvement Project. As recommended reference will be made to the treatment of the decommissioned assets in SAP and GNIS</p> <p>Responsibility: Training and Competency Assurance Manager and Engineering Services Manger</p> <p>Due Date: 30 December 2009</p>
2	It is recommended that WestNet Energy complete the introduction of day to day environmental operational	<p>Action:</p> <p>The majority of the Procedures are in place and</p>

<b>Rec. Number</b>	<b>Recommendation</b>	<b>WestNet Action</b>
	<p>procedures and provide training in their implementation. In addition, it is recommended that WestNet review their monthly environmental performance targets to reflect the new work place practices.</p>	<p>being rolled out within the business. The Environmental Performance Index and The Management Performance Indicators are currently being reviewed. These will incorporate targets to track any non conformances with environmental procedures.</p> <p>Responsibility: Senior Environmental Advisor</p> <p>Due Date: 30 October 2009</p>
3	<p>Pipeline marker signage located in difficult to reach areas, (i.e. fenced off fields), has not yet been upgraded in all instances, and may be overlooked. It is recommended that these jobs be identified in SAP, to ensure they are completed in a timely manner.</p>	<p>Action:</p> <p>A project is underway to replace ALL HP pipeline marker signage with the most visible markers in the first instance. This project is now being completed by replacing the hard to reach signage and also replacement of broken marker posts.</p> <p>With the other signs (medium-pressure) these are currently being assessed as to their requirement on the Network and upgraded or removed as required. This process is expected to be completed by December 2009.</p> <p>Going forward all Field employees will be instructed to complete a field report GDW RF 0014 for any markers that</p>

<b>Rec. Number</b>	<b>Recommendation</b>	<b>WestNet Action</b>
		<p>are in poor condition or damaged this will in turn generate a job in SAP and allow us to track these and confirm they are completed in a timely manner.</p> <p>Responsibility: Network Maintenance Manager</p> <p>Due Date: 30 December 2009</p>
4	<p>Corrosion and poor security enclosures were located in the 3 meter regulator assemblies visited in Albany; (Details in site visit notes). It is recommended that the maintenance plan for these typical units be changed to include specific mention to security enclosure inspection and corrosion inspection &amp; painting. In addition these sites are upgraded.</p>	<p>Action:</p> <p>New corrosion condition criteria will be drafted to establish the required remedial action and will be identified in future Maintenance Plans.</p> <p>AL30 meters are replaced every 10 years. AL30 meters will be subjected to a 5 yearly survey to determine the condition of these facilities and those identified with corrosion will be scheduled for maintenance as per the proposed criteria.</p> <p>Identified corrosion identified at the meter sites has been assessed and is not severe. Corrosion will be removed and meter sets repainted.</p> <p>Enclosures will be cleared of vegetation and blue metal installed to the base of the</p>

Rec. Number	Recommendation	WestNet Action
		<p>compounds.</p> <p>Responsibility: Network Maintenance Manager</p> <p>Due Date: 30 September 2009</p>
5	<p><b>"LiveLink"</b> is the WestNet Energy document management system. It is recommended that the issue process be validated to ensure that documents are uploaded as final and approved, such that all documents are issued as final.</p>	<p>Action:</p> <p>Further communicate procedures (WNE PR 0060 - Documentation Control and WNE PR 0060 WI 01 - LiveLink Document Review Process) for reviewing documents and ensure that LiveLink tasking is used to conduct and monitor the document review process.</p> <p>Responsibility: Document Controller</p> <p>Due Date: 30 March 2010</p>
6	<p>Job Safety Analysis in work procedures reviews, be reviewed to ensure that they are adequate and suitable for their intended purpose</p>	<p>Action:</p> <p>Development of Safe Work Method Statements (SWMS) by the Business Improvement Project. To date, these SMWS are currently in development phase, and require a risk assessment to be conducted on all steps within the activity. The Business Improvement Project is currently running with a number of items to fulfil the requirements; including conducting risk assessments for the required high risk construction activities.</p>

Rec. Number	Recommendation	WestNet Action
		<p>Site Risk Assessment process (JRA) has been developed with relevant business areas - for the formulation of an appropriate job risk assessment for field personnel. The Site Risk Assessment process is linked to the SWMS process, and requires all field personnel to adopt the JRA when conducting site assessments. As this process is dependent on the implementation of the SWMS, it cannot be rolled out until the SWMS are ready. Thus, it is anticipated that the SWMS and JRA process will be ready for implementation by December 2009.</p> <p>Responsibility: HSEQ and Risk Manager</p> <p>Due Date: 30 December 2009</p>
7	<p>WestNet Energy develops a 5 year plan of where emergency exercises are to be conducted. This should also contain details of where the previous exercises were held. The conducting of emergency exercises should be included in the maintenance plan for each year.</p>	<p>Action:</p> <p>Develop a 5 year plan for Emergency Exercises</p> <p>Responsibility: Technical Compliance Analyst</p> <p>Due Date: 30 December 2009</p>
8	<p>Procedures are developed for</p>	<p>Action:</p>

<b>Rec. Number</b>	<b>Recommendation</b>	<b>WestNet Action</b>
	<p>the planning, conduct and implementation of action items of emergency procedures conducted.</p>	<p>Currently action items arising from Emergency Response Exercises are tracked via excel spreadsheet. Tracking the actions arising from emergency exercises via an automated Integrated Management System will be investigated when the new system is introduced.</p> <p>The new system has been implemented for HSE reporting. Further investigation in to the system and possible upgrade to incorporate reporting / tracking of audit action items will be undertaken.</p> <p>Responsibility: Technical Compliance Analyst</p> <p>Due Date: 30 December 2009</p>
9	<p>Asset Management System document be updated as soon as possible, as it contains references to asset management implementation, which are now out of date.</p>	<p>Action:</p> <p>The Asset Management System is one of the critical documents which form the basis of the Safety Case along with the Asset Management Plan, Asset Replacement Strategy, Asset Maintenance Plan, and Asset Management Operating Plan. These documents are all currently under review as part of the</p>

Rec. Number	Recommendation	WestNet Action
		<p>Safety Case.</p> <p>Responsibility: Asset Services Manager</p> <p>Due Date: 15 December 2009</p>
10	<p><b>KPI's</b> be produced for UAFG in the Albany and Goldfields regions. In addition it is recommended that a review process be instigated to investigate the UAFG levels, as they are high in comparison with other comparable gas distribution businesses</p>	<p>Action:</p> <p>WNE has already initiated a project to investigate the reasons for the increases in UAFG over previous years and to develop and implement strategies to reduce UAFG.</p> <p>WNE will review the UAFG data for both Albany and Goldfields and appropriate <b>KPI's will be determined.</b> These KPIs will be set taking into consideration where applicable, any UAFG limit specified by the Regulator.</p> <p>Responsibility: Manger Market Services</p> <p>Due Date: 30 December 2009</p>

## 6 CONCLUSION

On the basis of the evidence gathered, and the interviews undertaken with WestNet Energy staff, the Asset Management Processes are assessed as effective.



**WESTNET ENERGY  
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REVIEW AUDIT REPORT**

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The control environment for **WAGN's distribution asset management system** was reviewed for all 12 areas of review as required by the Guidelines and the average rating has increased to 4.4, from 4.0 in 2007.

WestNet Energy has made significant efforts to implement the required action items from the 2007 Audit. A large number of the action items identified in the 2009 audit stem directly from further improvements of the 2007 action items.

WestNet Energy has undergone recent organisational restructure and it is **positive to note that they are currently improving their processes, via a "Business Improvement Process" (BIP).**

A total of 10 findings were identified during this audit. These are detailed in the report, and have been discussed with WestNet Energy, and a post audit implementation plan prepared for their resolution.

This report has been prepared by OSD Pipelines and is to the best of their knowledge an accurate representation of the findings and opinions gathered during the conduct of the audit.

Throughout the audit WestNet Energy staff co-operated fully and positively with the auditors.



**WESTNET ENERGY  
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**APPENDIX A**

**ASSET MANAGEMENT SYSTEM REVIEW WORKSHEET**

## **Asset Management Systems Review Worksheet**

Notes:

1. One combined Worksheet for the 3 areas (Goldfield, Great Southern and Coastal) has been prepared.
2. 2007 Audit Findings have been added to Worksheet to assist the audit taking place.
3. Audit priority was:
  - Priority 1: Topics 6 (Asset Maintenance), 9 (Contingency Planning)
  - Priority 2: Topics 5 (Asset Operations), 8 (Risk Management)
  - Priority 3: Topic 4 (Environmental Analysis)
  - Priority 4: Topics 1 (Asset Planning), 2 (Asset Creation and Acquisition), 7 (Asset Management Information Systems)
  - Priority 5: Topics 3 (Asset Disposal), 10 (Financial Planning), 11 (Capital Expenditure Planning), 12 (Review of AMS).



**WESTNET ENERGY  
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REVIEW AUDIT PLAN**

	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
<b>1.0</b>	<p><b>ASSET PLANNING</b></p> <p>Audit Priority: <b>4</b></p> <p>Interviewee: <b>Gas Asset Manager/Senior Asset Performance Engineer</b></p> <p>Interview/Site Visit Time /Place: <b>WAGN – Perth Office, 18/5/09</b></p> <p>Effectiveness Rating: <b>5</b></p>			
<b>1.1</b>		<b>Demonstration of 2007 Audit Findings Resolution</b>		See Appendix D
<b>1.2</b>		<b>Changes in strategy implementation since 2007 audit</b>	During the audit period the operations of National Power Services (WA) Pty Ltd (NPS) were merged with the operations of Alinta Network Services Pty Ltd (ANS). The asset management structure	<p>Two working changes were noted to have occurred:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Reinforcements to the low pressure system are now being undertaken using PE trunk mains, as opposed to previously</li> </ul>



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	Audit Topic	Issues	Operating Authority Comment	OSD Comment/Further Action (IN BOLD)
			<p>under WestNet Energy has now been simplified. The Asset Planning process, has not changed. It is undertaken on 5 year rolling forecast with annual review.</p>	<p>exclusively using steel. This has resulted in lower project costs</p> <ul style="list-style-type: none"> <li>❑ In peak load calculations the <b>factor for "Organic Growth"</b>, (customers getting more appliances and hence using more gas) was reduced from 1.5% to 0.5%, to correlate more accurately with field measurements</li> </ul>
<p><b>1.3</b></p>		<p><b>Current key documents (date and revision, to ensure they are up to date and not in previous company names )</b></p>	<ul style="list-style-type: none"> <li>❑ WestNet Energy, WA Gas Networks Planning Strategy, ANS-S-04002, Rev 2, Dec 2007</li> <li>❑ WestNet Energy, WA Gas Networks, Review of Distribution System Performance Winter 2008, GDW RP / 0130, 29/06/09</li> <li>❑ WestNet Energy, AGN High Pressure Development Plan, 2008-2012, GDW-PL-0110, Rev A, 12/09/2007</li> <li>❑ Alinta Asset Management, Asset Management System, AAM-S-</li> </ul>	



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			09001, Rev B, 19/1/07	
<b>1.4</b>		<b>Demonstration of process implementation.</b> <b>Specific areas for review:</b>		
1.4.1		Are Annual Network Performance Reviews (KPI's) undertaken? Are the results within guidelines? Are service levels defined?	<input type="checkbox"/> KPI's are reviewed monthly <input type="checkbox"/> January to March 2009 tabled <input type="checkbox"/> Design and Planning, have 2 KPI's; No of "Low Pressure Alarm" instances, and No of "Operating Outside Expected Range" instances <input type="checkbox"/> 2 KPI's were noted to be "Fail"; Unaccounted for Gas (UAFG), and Customer Minutes off Supply <input type="checkbox"/> UAFG for the coastal (Perth) region is 2.8%. The KPI is 2.5%. The UAFG for Albany is 20% and Kalgoorlie is 8%. This is further discussed in topic 12. <input type="checkbox"/> Supply interruptions were	WAGN undertakes a review of KPI's. As further discussed in topic 12, the recorded <b>UAFG is considered high</b>



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			considered to be high due to high numbers of dig ups of gas mains by contractors	
1.4.2		Are Business Cases created for Asset Planning? Sample these documents. Review if they are adequate for life cycle costs and cover operations and maintenance?	<input type="checkbox"/> Business cases are not prepared for gas supply to new estates. These are undertaken if trenching is undertaken by the developers, by way of common trenching <input type="checkbox"/> Business cases are undertaken for supply reinforcements.	The Business Case reviewed indicated that they are suitable for project implementation. They do not cover operations and maintenance; however O&M for short supply mains are minimal.
1.4.3		Is the asset register up to date? Sample register and review if job completion notices are inputted correctly when compared to SAP.	<p><b>'Start-Up Sheets' ensure Asset Management System (GNIS) is cross referenced in SAP for any additions/modifications/removal.</b></p> <p>Each asset has a functional code referenced from GNIS to SAP; aside from LP pipe, which is monitored as required. <b>WAGN's financial statements</b> are audited by an external auditor</p>	<b>Evidence of 'Start-Up' sheets provided in all locations. Evidence of 'Job Completion Notices' tracked &amp; returned to Jandakot of input into SAP. A delay of up to 10 days occurs from field activity completion and inputting data into SAP.</b>



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REVIEW AUDIT PLAN**

	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
<b>2.0</b>	<p><b>ASSET CREATION AND ACQUISITION</b></p> <p>Audit Priority: 4</p> <p>Interviewee: <b>Project Manager, Manager Engineering Services</b></p> <p>Interview/Site Visit Time/Place: <b>Jandakot, 20 May 2009, 8am.</b></p> <p>Effectiveness Rating: <b>5</b></p>			
<b>2.1</b>		<b>Demonstration of 2007 Audit Findings Resolution</b>		See Appendix D
<b>2.2</b>		<b>Changes in strategy implementation since 2007 audit</b>	On 31 March 2009 an amendment to the Energy Coordination Act 1994, entitled "Energy Coordination Order 2009" was gazette. This order provides an exemption from the need to hold a gas distribution license for developers	<p>Exemption order and procedure sighted</p> <p>Inclusion of copper tracer wire and <b>map in meter box is part of WNE' Third</b></p>



**WESTNET ENERGY  
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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			<p>constructing a gas distribution system. This order was developed with input from WNE to deal with circumstances such as Yanchep. WNE has developed a procedure to implement where appropriate.</p> <p>Inclusion of copper tracer wire with service and Meter box map of service.</p>	Party Damage Prevention Strategy
<b>2.3</b>		<b>Current key documents (date and revision)</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> AGN GDS Safety Case, GDW-PL-0130, Rev 4.0 (Draft)</li> <li><input type="checkbox"/> Gas Distribution Vehicle Manual, March 2009, GDW-RF-067, (Work Instructions)</li> <li><input type="checkbox"/> AlintaGas Networks Inspection Plan, ANS-S-10301-Rev 2, 31/10/07</li> <li><input type="checkbox"/> AGN Design Guideline, Design Control and Project Management, GDW PR 0040</li> </ul>	Note Vehicle Manual is under review as part of BIP. Updates controlled and implemented through transmittals to supervisors and sites
<b>2.4</b>		<b>Demonstration of process implementation.</b>		



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
		<b>Specific areas for review:</b>		
2.4.1		Materials inspection and audits of suppliers	Material purchased against material specifications. Stock controlled through SAP at Jandakot. Material Inspection undertaken main store before material accepted.	NOTE: All Site Stores centrally controlled at Jandakot
2.4.2		Work site inspections and audits, commissioning plans?	a) Audits of contractors undertaken regularly. b) Field Inspection undertaken to a schedule, which includes: Safety/ Construction/ PE Gas Mains/ Environment c) Audits internal & external conducted by all levels of WAGN personnel	Gas Fitter Audits: <input type="checkbox"/> 5% New installations <input type="checkbox"/> 7.5% Modifications <input type="checkbox"/> 100% Industrial
2.4.3		Sample internal and contract asset creation, review performance	<b>Controlled through 'Start-Up' sheets and</b>	No further comment



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Audit Topic	Issues	Operating Authority Comment	OSD Comment/Further Action (IN BOLD)
	measurement procedures and audits. Review if costs are as predicted	<p>Job Completion Notices from the fitter.</p> <p>Costs are controlled though the annually tendered and approved schedule of rates for the new construction.</p> <p>Costs are controlled though the Budget/Expenditure/Capex approvals and monthly management accounting reports comparing actual expenditure to budget</p>	
2.4.4	Evidence of compliance with Gas Standards (Gas Supply and System Safety) Regulations 2000	WestNet Energy are in the process of having their draft safety case approved for implementation. As part of this safety case approval process, WestNet Energy engaged OSD Pipelines to undertake a review of the WestNet internal procedures and documents, to ensure they comply with the legislation and standards. This review was conducted in March 2009, and	No further action



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			concluded WestNet Energy was compliant with Gas Standards Regulations 2000	
2.4.5		Competency of engineering design staff and processes	WestNet undertake engineering design in accordance with Design Guidelines. These design guidelines are suitable for their intended purpose and are in accordance with Australian standards	OSD interviewed project manager and manager of engineering services during the conduct of the audit. These staff members were found to be competent in their undertaking of engineering design activities.
<b>3.0</b>	<b>ASSET DISPOSAL</b> Audit Priority: 5 Interviewee: <b>Distribution Projects Manager</b> Interview/Site Visit Time /Place: <b>Jandakot, 20 May 2009, 8am</b>			



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
	Effectiveness Rating: <b>3</b>			
<b>3.1</b>		<b>Demonstration of 2007 Audit Findings Resolution</b>		No Action required
<b>3.2</b>		<b>Changes in strategy implementation since 2007 audit</b>	None	No Action required
<b>3.3</b>		<b>Current key documents (date and revision)</b>	Decommissioning of Gas Pipes and Facilities, dated 8/2006, located in Vehicle Manual	No comment
<b>3.4</b>		<b>Demonstration of process implementation.</b> <b>Specific areas for review:</b>		
3.4.1		Procedures for asset decommissioning disposal (CP, Dial Before You Dig, GNIS, asset register	Decommissioned assets typically made safe and left in ground. Their decommissioned status is reflected in	<b>It was noted that procedure does not include reference to ensure gas pipes decommissioned are noted as such on GNIS. It is</b>



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
		etc)	<p>GIS.</p> <p>WestNet Energy are currently reviewing GDW WI 0460 "Decommissioning of Gas Pipes and Facilities" and GDW WI 0180 "Installation and Removal of Meter Sets", through the Business Improvement Project (BIP). As recommended reference will be made to the treatment of the decommissioned assets in SAP and GNIS.</p> <p>NOTE: High Pressure decommissioning would be a special project, controlled differently due to major permits required for non-routine work</p>	<b>recommended procedure be revised to include this.</b>
3.4.2		Procedures for asset sale/transfer to other authority. Examine a sample of disposals and confirm that procedures were followed.	Considered a special project given rare occurrence. This is noted as being shown on GNIS as 'Sold to Others'.	No further comment



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
<b>4.0</b>	<b>ENVIRONMENTAL ANALYSIS</b>  Audit Priority: 3  Interviewee: <b>Senior Environmental Officer</b>  Interview/Site Visit Time /Place: <b>Perth, 28 May 2009</b>  Effectiveness Rating: <b>4</b>			
<b>4.1</b>		<b>Demonstration of 2007 Audit Findings Resolution</b>		No Action Required
<b>4.2</b>		<b>Changes in strategy implementation since 2007 audit</b>	As part of the BIP all guidelines/plans and procedures are being reviewed.  WestNet Energy has environmental compliance to ISO14001.  GNIS to be updated to allow	Opportunities and Threats are controlled though the Incident Management System (IMS)



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			incorporation of environmental requirements to allow annual reporting	
<b>4.3</b>		<b>Current key documents (date and revision)</b>	WI – Vehicle Manual Clearance Management Plan Environmental Management System ISO 14001 Accreditation WestNet Energy Connection Process Handbook Ernst & Young, Alinta Gas Networks, Performance Audit, 30 May 2007 Economic Consulting Services, Alinta Network Services, Connections Forecast Analysis, 13 March 2006	Monthly environmental system performance is submitted to board. <b>Being a high environmental KPI's, the value is questioned.</b>
<b>4.4</b>		<b>Demonstration of process implementation.</b>  <b>Specific areas for review:</b>		



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
4.4.1		Is compliance with statutory and regulatory requirements (especially annual compliance reports) maintained & measured?	<p>There are functions within the organizations that responsible for keeping abreast of changes in external influences; economic regulation, technical compliance, legislative changes and assess the impact these changes on business operations, practices and procedures.</p> <p>Independent research is undertaken by an external consultant of the likely growth in customer connections and quantum of mains which may be required to support growth in the distribution networks. This research drives the forecasting process for the estimation of the number of kilometres of new pipeline to be installed and the number of customers to be connected. Research is currently being undertaken for marketing gas as a preferred source</p>	<p><b>WestNet should complete the introduction of day to day operational procedures and provide training in their implementation. Then WestNet should review their environmental performance targets to reflect the new practices.</b></p>



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			<p>of energy. There is market development function which is charged with liaising with government departments and key industry stakeholders to promote the expansion of the distribution systems.</p> <p>The Regulatory Compliance Committee reviews implementation of changes and oversees audits required under the Distribution Licence and the Retail Market Rules and reports on breaches. Monthly Operational Reporting also <b>reviews performance against KPI's.</b></p> <p>One of the key areas of focus has been compliance with environmental legislation</p>	
4.4.2		Investigations into breaches and corrective actions taken?	WNE provides to ESD a daily operational report, outlining activities impacting on the network. Any notifiable incidents are	Once day to day operational procedures are developed, training for their implementation will be



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			<p>investigated with findings forwarded to ESD for review.</p> <p>Aspects and Impacts register is maintained. This drills down to Training register (Jandakot)</p>	<p>established. Then an accurate assessment of impacts register can be maintained.</p>
<b>5.0</b>	<p><b>ASSET OPERATIONS</b></p> <p>Audit Priority: 2</p> <p>Interviewee: <b>Construction Manager</b></p> <p>Interview/Site Visit Time /Place: <b>Jandakot, 20May 2009, 1:30PM</b></p> <p>Effectiveness Rating: <b>5</b></p>			
<b>5.1</b>		<b>Demonstration of 2007 Audit Findings Resolution</b>		See Appendix D
<b>5.2</b>		<b>Changes in strategy</b>	NOTE: Restructure within WestNet	Two drivers for new projects; Project



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
		<b>implementation since 2007 audit</b>	Energy has simplified reporting structure	Driven, E.g. New Major Mains/ Major Industrial feeds.  Retail Driven, E.g. Developer/ Domestic/ Commercial Mains
<b>5.3</b>		<b>Current key documents (date and revision)</b>	SAP System (code 40B)  GNIS System (Asset View)  AlintaGas Networks Inspection Plan, ANS-S-10301-Rev 2, 31/10/2007	
<b>5.4</b>		<b>Demonstration of process implementation.</b>  <b>Specific areas for review:</b>		
5.4.1		Is the Asset Register maintained and updated regularly?	The asset register is maintained through the SAP system. It is updated with each new asset created.  Note: Low pressure pipes are not recorded in SAP, but are able to be	No Action required



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			recorded (and measured) in GNIS.	
5.4.2		Are there sufficient operating staff resources and contractors?	Yes. General acknowledgement is that operations were lean in recent years. Many activities are now outsourced. Now that economy has slowed and there has been a reduction in WestNet Energy connections workload, there is a focus on " <b>Business Improvement Program</b> " (BIP).	No Action required
5.4.3		Training programs for staff and contractors; currency and records	There is an emphasis on training in WestNet. There is a structured training schedule and recordkeeping system to keep track of current training levels.	No Action required
5.4.4		Emergency Response Plans	Emergency response plans are in place.	No Action required
5.4.5		Emergency/Incident Reports It is understood that a fatality has	A fatality has occurred. Due process was followed. Energy Safety was	No Action required



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
		occurred. Was this investigated?	involved in the review. It was found the death was by natural causes.  WAGN procedures were reviewed at the request of Energy Safety.	
5.4.6		Review the Network Inspection Plan that has been prepared in conjunction with ESD and comment.	The current Inspection Plan (Rev 2) focuses on inspections of consumer installation, performance of gas fitters and investigation of incidents. Due to changes in legislation a Rev 3 is being prepared for release.  Performance Reports against the Network Inspection Plan are issued to ESD on a quarterly basis. ESD are also provided with a detailed annual report. In addition there is an annual audit of the process covering delisting of gas fitters, Inspectors Audits, Notices of Completion.	No action required



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
5.4.7		In Albany is there an awareness of O&M policies and are they available on site? Observe a sample of operational procedures to ensure compliance	As per interview sheets a field visit was made to Albany. Albany follows WestNet Energy O&M procedures.  NOTE: Operation is essentially controlled by Jandakot Control Centre	No action required
5.4.8		In Kalgoorlie is there an awareness of O&M policies and are they available on site? Observe a sample of operational procedures to ensure compliance	As per interview sheets a field visit was made to Kalgoorlie. Kalgoorlie follows WestNet Energy O&M procedures.  NOTE: Operation is essentially controlled by Jandakot Control Centre Yes.	No action required.
<b>6.0</b>	<b>ASSET MAINTENANCE</b>  Audit Priority: 1  Interviewee: <b>Maintenance Manager</b>  Interview/Site Visit Time /Place: <b>Jandakot,</b>			



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
	<b>20May 2009, 11am.</b> Effectiveness Rating: <b>3</b>			
<b>6.1</b>		<b>Demonstration of 2007 Audit Findings Resolution</b>		See Appendix D
<b>6.2</b>		<b>Changes in strategy implementation since 2007 audit</b>	The Maintenance Plan is updated every year, to reflect Reliability Centered Maintenance (RCM) analysis.	No further action.
<b>6.3</b>		<b>Current key documents (date and revision)</b>	AGN Distribution Network Asset Maintenance Plan 2009, GDW-PL-0170, issued 24/3/09  Monthly reports to Energy Safety	No further action
<b>6.4</b>		<b>Demonstration of process implementation.</b> <b>Specific areas for review</b>		
6.4.1		Maintenance Plan FY 2007/08 –	Maintenance Plan requirements result in	No further action



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
		preventative, corrective, emergency	maintenance jobs being generated in SAP.	
6.4.2		Maintenance schedules – current and work completed	Controlled through SAP/ Job Completion Notices. Measured as KPI's	No further comment
6.4.3		Are failures analysed and appropriate adjustments made to operational/maintenance plans?	Continuous improvement to increase/decrease maintenance/inspections based on failure/risk analysis.  E.g. Smell at Meter. SAP identified failure in joints. Design improvement for assembly, i.e. now one piece arrangement.	No further comment
6.4.4		Is responsibility and accountability for asset maintenance clearly assigned?	Asset Maintenance requirements are defined in WAGN Asset Maintenance Plan 2009. This document is updated every year, to reflect Reliability Centered Maintenance (RCM) analysis. This document results in maintenance jobs	No further comment



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			being generated in SAP. Maintenance is controlled through SAP/ Job Completion Notices. SAP is then used to measure maintenance <b>KPI's</b>	
<b>7.0</b>	<b>ASSET MANAGEMENT INFORMATION SYSTEMS (MIS)</b>  Audit Priority: 4  Interviewee: <b>Gas Asset Manager/Senior Asset Performance Engineer</b>  Interview/Site Visit Time/Place: <b>Perth, 18 May, 1PM</b>  Effectiveness Rating: <b>5</b>			
<b>7.1</b>		<b>Demonstration of 2007 Audit</b>		Nothing Outstanding

	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
		<b>Findings Resolution</b>		
<b>7.2</b>		<b>Changes in strategy implementation since 2007 audit</b>	Due to restructuring, IT is now operated from Perth, whilst in 2007, there was still significant reliance of Alinta in Melbourne.	No Changes in core strategy, i.e. GNIS/ SAP controls are the Asset Management System.  NOTE: IT support now 'In-House'.
<b>7.3</b>		<b>Current key documents (date and revision)</b>	No Formal Documents utilised. Support is through SME's, i.e. Subject Matter Experts.	
<b>7.4</b>		<b>Demonstration of process implementation.</b>  <b>Specific areas for review:</b>		
7.4.1		Are IT systems in place and license documents current?	Eg: SYNERGY software utilized. Strict control in place. 3 Dongle based licenses	License/ version control through the Contracts Management Module of <b>WestNet's</b> document management system, i.e. 'LiveLink'



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
7.4.2		Are IT service failures frequent and corrective actions taken efficiently?	Priority system/ Measurement reports submitted. <b>NOTE: 'In-House' support</b> deemed more efficient then out-sourcing	IT Service failures are logged in our ITSM, Infra, which records the description of the problem, the severity, impact, and time. It also logs what solution was implemented and which systems/services were impacted.
7.4.3		Are security processes in place; breaches and remedial actions recorded; monitoring actions recorded?	Strict control on access. Thorough monitoring of files Commercial/Technical separation	Audit Sited: WNG IT Services - Access Control Policy v1.0; released 28.01.09, reviewed annually. Back-up processes are in place. Specific system logs are stored.
7.4.4		Was the performance report provided to ERA (end June 2008) complete and accurate as defined in the Gas Compliance Reporting Manual and Handbook	There has been a change in the <b>definitions of "Loss of containment"</b> . Prior to 2008 performance indicators <b>were specifically reported on "gas main breaks" and "service pipe breaks"</b> . In 2008, the definition has changed "gas leaks", resulting in a broader range of	The auditors reviewed the 2008 figures <b>as reported to ERA for "Loss of containment"</b> . <b>These were found be complete and accurate.</b>



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			matching results. Supplying a <b>breakdown of "Loss of containment"</b> , by pressure level, is not possible currently in SAP, however there is intent to change SAP to accommodate this reporting.	
<b>8.0</b>	<b>RISK MANAGEMENT</b> Audit Priority: 2 Interviewee: <b>Technical Compliance Manager</b> Interview/Site Visit Time /Place: <b>Perth, 19 May 2009, 9am</b> Effectiveness Rating: <b>4</b>			
<b>8.1</b>		<b>Demonstration of 2007 Audit Findings Resolution</b>		Nothing Outstanding



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
8.2		<b>Changes in strategy implementation since 2007 audit</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Development of a Safety Case, i.e. Safety and Operation Plan to form the 'core' of the Asset Management Plan.</li> <li><input type="checkbox"/> Four Integrated Aspects of AMP               <ul style="list-style-type: none"> <li>Corporate Policy/Guidelines</li> <li>Technical Compliance</li> <li>Safe Work Statements</li> </ul> </li> <li><b>JSA/JHA's to be replaced by JRA's which include risk assessment on a job by job basis.</b></li> <li>Training modules to be developed for implementing Risk Assessment</li> </ul>	<p>All documents have been prepared to conform to requirements as per AS2885 and AS4645.</p> <p><b>Spot review of 'Risk Assessment- Directional Drilling' revealed that JRA structures are being implemented, however documents are lacking description of specific work duties. Current documents are undergoing 'BIP' review. This should be completed before the next Audit</b></p>
8.3		<b>Current key documents (date and revision)</b>	<ol style="list-style-type: none"> <li>1. WNE-PO-0002 - WAGN Corporate Risk Management Policy, Rev A</li> <li>2. WNE-G-003 Rev A – WAGN Corporate Risk Management</li> </ol>	<b>It was noted that the WAGN documents had no 'Review Dates', nor signatures available. There is some uncertainty if these documents when viewed in</b>



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			Guidelines, Rev A 3. RCM (Reliability/ Control/ Maintenance) 4. AS4645 5. AS2885	<b>'LiveLink' are draft or issued for use.</b>  It is recommended that these documents be reviewed, i.e. and then that traceability of referenced documents in LiveLink be confirmed.
<b>8.4</b>		<b>Demonstration of process implementation.</b>  <b>Specific areas for review:</b>		
8.4.1		Review Risk Management processes undertaken with WestNet Energy, including; Risk assessment studies, HAZOP, design reviews	1. Risk Assessment Study – Directional Drilling; 2. HAZOP 3. Design Reviews	<b>1. Spot review of Risk Assessment-WNE RA Directional Drilling' revealed that JRA structures are being implemented, however documents are lacking description of the hazard or the specific work duties that are the sources of risk. Current</b>



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
				<p><b>documents are undergoing 'BIP' review. This should be completed before the next Audit</b></p> <p>2. A HAZOP review undertaken by Worley Parsons in Nov 2008, was tabled and reviewed. It contained required information.</p> <p>3. Internal Design Reviews are conducted on major projects</p>
8.4.2		MAOP reviews	Class 150, once every 5 years. This requirement is incorporated into the Maintenance Plan. RCM analysis trends traced through SAP. Medium pressure <b>review is conducted under 'Condition Assessment' Review.</b>	No further comment
8.4.3		Evidence of communications with Regulatory Authorities (Energy)	WestNet Energy has put effort into improving communication with Energy	No further comment



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			Safety. This is confirmed by: <ol style="list-style-type: none"> <li>1. Invitation/Acceptance to Energy Safety for attendance at HAZOP's</li> <li>2. Informal Email correspondence viewed, relating to specific technical issues</li> <li>3. Formal correspondence detailing performance against Inspection Plan</li> </ol>	
<b>9.0</b>	<b>CONTINGENCY PLANNING</b>  Audit Priority: 1  Interviewee: <b>Technical Compliance Analyst</b>  Interview/Site Visit Time /Place: <b>Perth, 28 May 2009, 1PM</b>			



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	Effectiveness Rating: <b>4</b>			
<b>9.1</b>		<b>Demonstration of 2007 Audit Findings Resolution</b>		See Appendix D
<b>9.2</b>		<b>Changes in strategy implementation since 2007 audit</b>	Westnet Energy have undertaken 3 recent exercises; In Kalgoorlie in 2008, in northern Perth in 2008 and Albany in 2008.	No further comment
<b>9.3</b>		<b>Current key documents (date and revision)</b>	a) AlintaGas Networks, Safety Case, GDW-PL-0130, Rev 3.0 b) AGN Emergency Response Management Plan, GDW-PL-0160, Rev 1, 12/12/07	a) Safety Case , in draft, still to be approved b) Document to be reviewed within BIP and improved to reflect the WA business structure
<b>9.4</b>		<b>Demonstration of process implementation.</b>  <b>Specific areas for review:</b>		



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
9.4.1		Does current documentation specify intervals of emergency simulations?	Refer 9.1.2	Refer 9.1.2
9.4.2		Has the interval between emergency simulations been maintained?	Refer 9.1.2	Refer 9.1.2
9.4.3		Evidence of communications with Energy Safety	<input type="checkbox"/> Invitation/ attendance at Emergency drills	<input type="checkbox"/> <b>OSD recommends a procedure be developed on undertaking emergency response exercises.</b>  <input type="checkbox"/> <b>OSD recommends improved traceability of report documents i.e. sent to whom, actions by when and when completed by.</b>
<b>10.0</b>	<b>FINANCIAL PLANNING</b>  Audit Priority: 5  Interviewee: <b>Senior Regulatory Accountant</b>  Interview/Site Visit Time			



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
	/Place: <b>Perth, 28 May 2009</b>  Effectiveness Rating: <b>5</b>			
<b>10.1</b>		<b>Demonstration of 2007 Audit Findings Resolution</b>		No Action Required
<b>10.2</b>	MODEL; Income – Outgoings  Income; Justified Tariff + Forecast Growth  Outgoing; Operational + Capex	<b>Changes in strategy implementation since 2007 audit</b>	None. Yearly expenditure justified from 5 year plan developed from internal 25 year model. 25 year model reviewed by Ernst & Young in Jan 07. Mechanical check only, not a validation of structure and input parameters.	No Action required.  NOTE: Strategy document requires <b>WestNet Energy’s Banker approval.</b> This ensures no breach in debt governance.
<b>10.3</b>		<b>Current key documents (date and revision)</b>	Alinta Networks Holdings, Asset Management Plan 2008-2012, Rev A, 18/3/08  Alinta Network Holdings, Budget and	



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			Strategy Plan 2007-2011, Draft  Alinta Network Holdings, Budget and Strategy Plan 2008-2012	
<b>10.4</b>		<b>Demonstration of process implementation.</b>  <b>Specific areas for review:</b>		
10.4.1		Capital Expenditure Plans FY2007/08	Budget and Strategy Plan 2007-2011, (Draft). It was noted there was a discrepancy in the 2010 figures between the Budget and Asset Management Plan to the value of \$500k.	OSD notes change in reporting year due to Ownership changes. Previously January - December, now require July-June.
10.4.2		Operating expenditure plans FY 2007/08	Contained in the Budget and Strategy Plan (Draft)	No further comment
10.4.3		Do the plans reflect asset management requirements?	The Budget and Strategy Plan is the financial interpretation of the Asset Management Plan.	Strategic Plan was reviewed and it was noted that for 2007-11, the cash flow statement was positive, indicating



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
				there was no internal pressures to cutting back deferrable expenditure.
<b>11.0</b>	<b>CAPITAL EXPENDITURE PLANNING</b>  Audit Priority: 5  Interviewee: <b>Senior Regulatory Accountant</b>  Interview/Site Visit Time /Place: <b>Perth, 28 May 2009</b>  Effectiveness Rating: <b>5</b>			Note: Financial Planning and Capital Expenditure Planning were covered in the same interview, as areas overlap.
<b>11.1</b>		<b>Demonstration of 2007 Audit Findings Resolution</b>		Nil outstanding
<b>11.2</b>		<b>Changes in strategy implementation since 2007 audit</b>		As noted in topic 10



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
<b>11.3</b>		<b>Current key documents (date and revision)</b>		As noted in topic 10
<b>11.4</b>		<b>Demonstration of process implementation.</b> <b>Specific areas for review:</b>		
11.4.1		Is the capital expenditure forecast over 5 years and updated yearly?	Yes	Refer 10.4.1
11.4.2		Is the capital expenditure plan consistent with the asset life and condition as per the asset management plan?	Yes	WestNet use an iterative model prioritizing Assets to be replaced/ modified/ constructed.
11.4.3		Is there a process to identify when funding allocation for maturing assets is required? (Does the financial plan link into the asset management plan for maturing	Yes	OSD note Cash Flows control programs based on integrity. E.g. the completion of the Fremantle upgrade delayed as funds become available. Mandurah loop delay may bring forward



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
		assets)		Fremantle upgrade completion.
<b>12.0</b>	<b>REVIEW OF ASSET MANAGEMENT SYSTEM</b>  Audit Priority: 5  Interviewee: <b>Senior Asset Performance Engineer</b>  Interview/Site Visit Time /Place: <b>Perth, 19 May 2009.</b>  Effectiveness Rating: <b>4</b>			
<b>12.1</b>		<b>Demonstration of 2007 Audit Findings Resolution</b>		No Outstanding Issues
<b>12.2</b>		<b>Changes in strategy implementation since 2007 audit</b>	The changes in strategy are two fold; <input type="checkbox"/> Push to introduce Safety Case	No further comments



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			<input type="checkbox"/> Internal review and improvement using a, BIP Business Improvement Plan, which involves a current review of procedures and processes	
<b>12.3</b>		<b>Current key documents (date and revision)</b>	Monthly KPI's Alinta GDS Safety Case (Revision 4.0 – Draft) Asset Management System (AAM-S-09001, Rev B, 19/1/07) Asset Management Plan (2008-2012)	
<b>12.4</b>		<b>Demonstration of process implementation.</b> <b>Specific areas for review:</b>	Monthly KPI's indicate that Unaccounted For Gas for Coastal area is above 2.5% KPI at 2.8%. Goldfields is 8.2% and Albany LPG network is 20%.	<b>It is recommended that WestNet review the current KPI's, with a view to determining strategies to reduce them.</b>
12.4.1		Are the documents referenced in the asset management system current?	The Alinta Asset Management System dated 2007 needs updating, along with	<b>Alinta Asset Management System document out of date. Due to re-</b>



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			documents it references	<b>structuring, positions, reporting structure and reference documents need revising.</b>
12.4.2		Does the document review and approval process include review/comment by major contractors (critical and relevant documents)?	Asset Management System/Asset Management Plan – no contractor document preparation involvement  Implementation Level – i.e Job Safety Analysis – contractors have an active involvement	No further comment
12.4.3		What is the status of the safety case? Where is it anticipated to be approved?	The Technical Compliance group is responsible for the WAGN GDS Safety Case – its revision, approval and implementation.  Technical Compliance has been meeting regularly with ESD to finalise the Safety Case Implementation Plan, which will then be submitted to ESD with the Safety Case. The current proposed date for submission is 14 <sup>th</sup> August 2009. It is anticipated that ESD will approve the	Uncertainty as to where the Safety Case will reside in the Asset Management System. The Safety Case will require a restructure of the Management System.



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	<b>Audit Topic</b>	<b>Issues</b>	<b>Operating Authority Comment</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
			<p>Safety Case and Implementation Plan within 1 month of submission.</p> <p>The Asset Management System will sit within the Safety Case. It is one of the Critical Reference Documents and assists in the management of hazards and to monitor the safe performance of the Gas Distribution System.</p>	
12.4.4		How and when does the AMS & AMP get reviewed and updated?	<p>AMP - Reviewed annually</p> <p>AMS - Reviewed bi-annually</p>	No further comment



## **APPENDIX B**

### **DETAILS OF INDIVIDUAL INTERVIEWS**

## Details of Individual Interviews

<b>Assessment of:</b>	Asset Planning	<b>Attendees:</b>  M. Willis, P. Beukelman (OSD)
<b>Topic No.</b>	1	Senior Asset Performance Engineer, Asset Manager (WestNet Energy)

**Audit Trails and sources of evidence:**

Large Project Business Cases  
  
Review of Distribution System Performance, Winter 2008  
  
WA Gas Networks Planning Strategy 2007  
  
HP Network Development Plan 2008-2012

**Evaluations and Conclusions:**

**Note: KPI's relating to Asset Planning as discussed in Interview 12.**

Up to 2007, there had been as asset owner (AGN), and two separate contracting parties providing; asset management services (ANS) and mains and services contractor (NPS).

Currently, WestNet Energy provides both the asset management services as well as the operation and maintenance services to WA Gas Networks Pty Ltd (WAGN). This has simplified the working relationship, but has resulted in a requirement to update procedures, a process which is ongoing. WestNet Energy had taken the initiative at the **same time to implement a "Business Improvement Process" (BIP), to further assist in streamlining operations.**

Currently typically \$30 million of the \$51 million capital expenditure budget relates to customer initiated projects. Specifically this relates to connection of 20,000 customers and 300 main extension developments per year. The forecast growth of new connections is undertaken in conjunction with the Western Australian Department of Planning and Infrastructure.

**Each year a "Review of Distribution System Performance" is conducted. This is undertaken by comparing the pressures of gas in the network during peak winter periods and comparing them against system required pressures. Where system**

pressures are noted to be dropping due to increasing demand, reinforcement projects are nominated.

This review is undertaken using network a modelling package known as “**Stoner SynerGEE**”, which is an industry standard package. The modelling is undertaken in conjunction with the ‘**Network Planning Strategy**’, and includes an annual ‘**organic growth**’ rate of 0.5% per annum. This factor is introduced to model the increasing use of gas capacity for each user on the basis of additional appliances per connection. Since 2007 this rate has been 0.5% from the earlier 1.5%. This was as a result of system performance indicating that 1.5% growth per annum - excessively optimistic when compared to system use.

A ‘**High Pressure Development Plan**’ is prepared and updated which details capacities of major pressure reduction stations, anticipated growth forecasts, and timing of required upgrades.

For large demand driven reinforcement projects and large asset replacement projects, project specific business cases are prepared. Three project specific business cases were reviewed during this audit; Ridgewood Main Extension, Weaponess Road reinforcement and Fremantle Cast Iron asset replacement program. These business cases followed a predetermined format, had a strict financial evaluation and reviewed; Net Present Value, Present Value Rate, Internal Rate of Return, Return on Net Assets and Pay Back Period. The business cases were considered suitable for their intended purpose of justifying large projects.

In summary, WestNet Energy has in place robust Asset Planning procedures, well suited to its requirements.

<b>Assessment of:</b>	Asset Creation & Acquisition	<b>Attendees:</b> M. Willis, P. Beukelman (OSD).
<b>Topic No.</b>	2	Project Manager, Manager Engineering Services (WestNet Energy).
<b>Audit Trails and sources of evidence:</b>		
Gas Distribution Vehicle Manual, March 2009, GDW-RF-067		
<b>Evaluations and Conclusions:</b>		
<p>An interview was held with WestNet to discuss methodology for new gas asset installation. During the interview a copy of the 31 March 2009, Government Gazette, WA was tabled. This Gazette discusses the 'Energy Co-ordination Exemption Order 2009'.</p> <p>Under this new order, for pipe laying in new estates, the Western Australian Government are permitting developers to engage WestNet Energy approved contractors, to lay pipes, typically with the pipes being common trenched with the other utilities. WestNet Energy are then able to undertake audits of the construction contractors, during the construction process, to ensure satisfactory performance. This outsourcing / common trenching methodology is now industry widespread and is considered an effective way of installing utilities.</p> <p>In addition to new estate work, WestNet Energy are currently undertaking a major upgrade of the 100 year old Fremantle cast iron system. This upgrade is expected to be completed in the next 3 years. Once this upgrade is complete WestNet Energy propose to focus on upgrading the older sections of the Albany gas distribution system.</p> <p>Approximately 15km of the older sections of the Albany system are galvanised iron and result in gas leaks. The gas leaks were identified as being predominantly those which are in portions of the system which lie in low lying areas and inundated with water, resulting in severe corrosion. During the last leakage survey, a total of 650 leaks were identified. Where a very high reading of LPG was recorded, the leaks were repaired as a priority, however there remains a backlog of repairs. It is recommended that attention be given to upgrading the Albany system, as the risks of LPG, being heavier than air are considered greater than natural gas.</p> <p><b>WestNet Energy have actively upgraded their processes, with a "Business Improvement</b></p>		



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Process" (BIP) being implemented to review their procedures. The result is that standard procedures are reviewed and upgraded to reflect current best practices. These procedures are installed in a document management data base known as "Live Link".

For actual use in the field, standard procedures are printed in hard copy and kept in "Gas Distribution Vehicle Manuals". A sample vehicle manual was reviewed and found to contain Table of Contents dated March 2009, with a required review date of March 2010, hence being upto date.

One of the process improvements implemented is the use of copper tracer wire installed with gas services. This was done as a result of a large number of gas services being damaged every year. The location of gas services is not recorded in GNIS. It has however, in the past 10 years been recorded in gas meter boxes. However, there are numerous instances of home owners, and landscape gardeners digging up domestic services. With the implementation of an information campaign to house holders (and the charging for repairs if they are damaged), and the ability of trades man to locate gas services with pipe locators, it is expected that gas escapes from gas services will reduce.

In summary, with the improvements from BIP, introduction of Third Party Damage Prevention Strategies (copper wire installed with services) and upgrade to older areas of the network, WestNet Energy are improving the integrity of the distribution system.



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<b>Assessment of:</b>	Asset Disposal	<b>Attendees:</b> M. Willis, P. Beukelman (OSD). Project Manager, Manager Engineering Services (WestNet Energy).
<b>Topic No.</b>	3	
<b>Audit Trails and sources of evidence:</b>		
WestNet Energy Geographical Information System (GNIS)  Decommissioning of Gas Pipes and Facilities (dated 8/2006)		
<b>Evaluations and Conclusions:</b>		
<p>WestNet Energy has in place a decommissioning procedure, to enable gas pipes to be purged of gas and then decommissioned. This document was tabled and reviewed. The document covers the technical requirements of gas pipe decommissioning and abandonment.</p> <p>It was noted however, that this procedure, did not make reference to the requirement of recording asset decommissioning by the drawing office and entering into the GNIS system. The GNIS system is the only accurate source of information as to the existence and location of gas pipes. Gas pipes are not recorded in the SAP Asset Register; hence their decommissioning does not need to be accounted in SAP.</p> <p>The GNIS system was reviewed and it was noted that a colour coding system for decommissioned pipes does exist. The Fremantle area of Perth was reviewed on GNIS, and it was noted that decommissioned pipes were colour coded in that area as being decommissioned. Hence the processing of updating GNIS does appear to be occurring as a matter of course, it is however not covered by procedures.</p> <p>WestNet Energy advised that asset disposal by sale of the assets to another organisation (i.e. for the use as a conduit especially in built up areas) was a unusual occurrence, having last taken place 10 years ago. No formal procedure exists on how to undertake asset sales. Being an unusual event it is not considered justified to prepare a procedure, as it can be covered on a case by case basis. Where the asset ownership of gas pipes has changed in previous projects, it is noted on the GNIS system, by colour coding the assets.</p> <p>It is recommended that the current Business Improvement Program (BIP) pick up the requirement to revise the Decommissioning procedure to specifically include reference to ensuring decommissioned assets be recorded and inputted into GNIS.</p>		

<b>Assessment of:</b>	Environmental Analysis	<b>Attendees:</b> M. Willis, P. Beukelman (OSD).
<b>Topic No.</b>	4	Senior Environmental Officer (WestNet Energy)
<b>Audit Trails and sources of evidence:</b>		
<p>Monthly Environmental Performance Index</p> <p>Environmental Management System ISO 14001 Accreditation</p> <p>WestNet Energy Connection Process Handbook</p> <p>Ernst &amp; Young, Alinta Gas Networks, Performance Audit, 30 May 2007</p> <p>Economic Consulting Services, Alinta Network Services, Connection Forecast Analysis, 13 March 2006</p>		
<b>Evaluations and Conclusions:</b>		
<p>From an external opportunities and threats perspective, WestNet Energy has in place functions which maximise its ability to undertake its core activities.</p> <p>To facilitate opportunities to expand its network, WestNet Energy facilitate connection to the network, by <b>way of having a "Connection Process Handbook", which is available</b> to consumers by having it linked to its web site. This document lists steps involved in obtaining gas connections and selecting a retailer.</p> <p>To minimise threats to the business, WestNet Energy uses external consultants to undertake economic forecasts which enable the company to predict demand and ensure the network is able to meets demands. In addition WestNet Energy undertake environmental scanning to identify changes in the regulatory and legislative environment which impact its operations. An example of this is the amendment to the Energy Coordination Act 1994. This amendment provides an exemption from the need to hold a gas distribution licence for developers constructing a gas distribution system.</p> <p>WestNet Energy actively monitors its performance standards, using both internal resources and external. External Performance Audits are undertaken, to ensure specific conditions of distribution licences are complied with. The operational areas</p>		

covered by the audit include;

- Continuous operation of the gas network
- Maintenance of gas quality
- Consumer installations of new gas connections
- Obligation to connect, Licensing of gas fitters
- Use of approved appliances
- Service standards
- Future development of the licensed distribution system
- Maintenance of financial and technical resources to support activities, and
- Insurance.

In summary, there are a number of functions within WestNet Energy that undertake environmental scanning to identify changes in the regulatory and legislative environment which may impact on operations. WestNet Energy utilises external consultants for forecasting demand for services. The WAGN website provides detailed information on access to services to facilitate use of its infrastructure.

The level of environmental awareness of WestNet Energy was reviewed in conjunction with the environmental advisor. In recent months the environmental focus at WestNet Energy has changed with the in sourcing of WestNet Energy staff into DBP (Dampier to Bunbury Pipeline).

The current accreditation was reviewed post this split and a copy of the **WestNet Energy Services accredited to ISO14001 for "contract services to the electrical, gas and water industries"**, (Registration Number 4354, dated 14 May 2009), was supplied to the auditors and viewed. The accreditation is based on high level documents within the WestNet system, including; Health Safety Environmental Plan WA 2006, Health, Safety & Environmental Policy and HSE&Q Management System Manual. As these documents would have been reviewed during the ISO 14001 accreditation process, they were not reviewed during this asset management audit.

It was advised that WestNet Energy currently are upgrading their environmental documents, such as those required for day to day operations. WestNet Energy are currently preparing the Weed Management Procedures.

WestNet Energy have a process of monitoring environmental performance. This is measured against yearly targets of conformance. As the monthly performance is measured against high level targets, the environmental performance should be reviewed in line with the introduction of new procedures.



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It is recommended that once the environmental procedures are introduced and training given to their implementation, that the monthly performance targets are updated to reflect work place practices.



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<b>Assessment of:</b>	Asset Operations	<b>Attendees:</b>  M. Willis, P. Beukelman (OSD).
<b>Topic No.</b>	5	Construction Manager, Distribution Manager WestNet Energy.
<b>Audit Trails and sources of evidence:</b>		
SAP System (code 40B)		
GNIS System (Asset View)		
<b>Evaluations and Conclusions:</b>		
<p>Jandakot is the central works depot for WestNet Energy. Jandakot is approximately 10km south of Perth. It contains the call centre, control room, stores and office location for senior field staff.</p> <p>In the past WestNet Energy appeared to be struggling to keep up with the workload, due to the volume of new connections and the corresponding new services, mains extensions, and system reinforcements. In the past 12months, there has been a 20% drop off in new connections, giving WestNet Energy the opportunity to focus on training and Business Improvement Processes (BIP).</p> <p>The construction manager walked the auditors through the process of how operations are undertaken. The SAP system is used to generate jobs and forward these jobs to the corresponding required works crews. The job remains open in SAP until job completion forms are signed off and forwarded back for closing the loop in SAP.</p> <p>The stores area in Jandakot was reviewed. All new materials that have been purchased, are delivered to the Jandakot store. The storeman controls stock by checking incoming goods against WestNet Energy purchase requirements, prior to accepting delivery. Of interest in the store were the pallets of new pipeline marker signs. These marker signs had been noted in the 2007 audit to require replacement and this replacement program was now advised to be essentially complete.</p> <p>The Jandakot depot is also the location of the WestNet Energy internal training school. A training program for 2009 was reviewed. It showed that the training school conducts 36 courses, focussing on the requirements of its field staff. Typical courses include; First Aid, Traffic Control, Main Laying, Service Laying, Gas Installations, Broken Gas</p>		

Services and Onsite Emergency Response. A copy of the current staff training register was viewed. It indicated that staff training was being maintained whilst new training courses were being implemented.

Once training has been undertaken, field staff are able to follow documented works procedures, that are contained in their Vehicle Manuals, for day to day operations.

Unfortunately there was recently a fatality that occurred while a field officer was carrying out a gas service disconnection. A discussion was held with WestNet Energy, in relation to this matter, relative to its impact on possible changes / improvements to asset operations. The incident was investigated by Worksafe, Energy Safety, WestNet Energy and the Coroner. As of May 2009, the Coroner had yet to hand down their final report, however the interim report indicated that the worker had a pre existing medical condition. WestNet Energy have a system in place to review incidents and this had been applied.

After Energy Safety had undertaken an investigation, they had placed an order on WestNet Energy to review the risk assessment of undertaking disconnection of gas services. WestNet Energy has complied with this order and re issued the procedure with the required change. Energy Safety has indicated they are satisfied with the changes to the procedure. WestNet Energy continues to have monthly meetings with Energy Safety to promote safety in the WestNet Energy work place.

In summary, the asset operations methodology in WestNet Energy appears to be comprehensive and well suited to the operational requirements.

<b>Assessment of:</b>	Asset Maintenance	<b>Attendees:</b> M. Willis, P. Beukelman (OSD).
<b>Topic No.</b>	6	Maintenance Manager (WestNet Energy)
<b>Audit Trails and sources of evidence:</b>		
AGN Distribution Network Asset Maintenance Plan 2009, GDW-PL-0170, issued 24/3/09 WestNet Energy, Coating Refurbishment and Repairs, GDW-TN-0090, Rev 1		
<b>Evaluations and Conclusions:</b>		
<p>WestNet Energy undertakes their routine maintenance in accordance with jobs generated through SAP. SAP in turn is loaded with routine maintenance jobs, which are specified in the Maintenance Plan. This plan is updated yearly to reflect <b>performance against KPI's, fault performance, statutory</b> requirements and risk assessments. The fault performance is reviewed under a Reliability Centred Maintenance Analysis (RCM) system, whereby faults are downloaded from SAP annually to review the plan.</p> <p>The 2009 plan was reviewed and noted to have the following changes from the 2008 plan:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Domestic meters will be replaced after 25 years, as opposed to on the basis of sampling</li> <li><input type="checkbox"/> More stringent fault selection criteria for excavation on steel pipelines with cathodic protection ratings of less than fair</li> <li><input type="checkbox"/> Revised maintenance frequencies for regulator sets</li> <li><input type="checkbox"/> Gas mains contained on bridge crossings, will have their inspections aligned with the bridge inspection schedule of Mains Road Department</li> </ul> <p>The revision to the 2009 Maintenance Plan is viewed positively as it shows that WestNet Energy are taking into account operational data and feeding it back into future planned maintenance activities.</p> <p>In general it was noted that 2009 maintenance activity was down from 2008. This was due to the following factors:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Gas leaks were down due to recent dry seasons. There was therefore less</li> </ul>		

ground swellings and loads on older sections of the network

- ❑ Gas disconnections requests due to building demolitions were down 50%, due to the economic downturn
- ❑ Gas fitter audits were down, as a reflection of less new houses being constructed and less gas fitter audits required as a consequence
- ❑ Gas faults due to water in mains were down, again due to recent dry weather

This reduction in maintenance work permitted focus on other areas of the network, as discussed below.

During the 2007 audit, attention was paid to deterioration to commercial / industrial meter regulator assemblies with corrosion.

In December 2008, WestNet Energy implemented a system of grading corrosion, to permit assessment of the required **method of repairs**. **Grade 1 is defined as "slight rust spots", and could be touched up with wire brush and Galmet paint by hand. Grade 2 is defined as "paint has broken down and pipe work is rusting", and requires mechanical cleaning before paint repair – to 0.4mm paint system. Grade 3 is defined as "paint has broken down badly and pipe work has metal loss". This requires assessment of metal loss before mechanical cleaning and paint repair – to 0.4mm paint system.** The painting and metal cleaning details are further defined in the WestNet Energy standard procedure, **"Coating Refurbishment and Repairs"**.

WestNet Energy has instigated a program to review and upgrade meter regulator assemblies for corrosion. This program was evident as a SAP report was presented relating to an assembly at the St John Of God Hospital in Perth.

This program has yet to be fully implemented, as evidenced in the field trip to Albany, discussed in a later interview.

<b>Assessment of:</b>	Asset Management Information Systems	<b>Attendees:</b> M. Willis, P. Beukelman (OSD).
<b>Topic No.</b>	7	Senior Asset Performance Engineer, Asset Manager (WestNet Energy)
<b>Audit Trails and sources of evidence:</b>		
WestNet Infrastructure Group, WNG IT Services, Access Control Policy, Revision 1.0, Dated 20/01/09		
<b>Evaluations and Conclusions:</b>		
<p>WestNet Energy has advanced Asset Management Information Systems. These comprise of:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> SAP</li> <li><input type="checkbox"/> GNIS</li> <li><input type="checkbox"/> TMS (Task Management System)</li> </ul> <p>Each of these systems has an internal Subject Matter Expert (SME), who monitors the performance of the data base and arranges for system upgrades and enhancements.</p> <p>The currency of the relevant licences was sought to be confirmed with WestNet Energy. Post interview correspondence with the Commercial &amp; Compliance Manager is detailed below.</p> <p>WestNet Energy uses these data bases for all their asset management functions, and relies on their accuracy.</p> <p><b>A spot check was undertaken on WestNet's Performance Reporting figures, as supplied to the Economic Regulation Authority (ERA), Western Australia annually. The WestNet Energy input the indicator, "Loss of Containment" and "Network Performance (Loss of supply events)", was reviewed.</b></p> <p><u>Loss Of Containment</u></p> <p>The ERA, Gas Compliance Reporting Manual, September 2007, (page 46) required gas distributors to report total number of leak repairs, by mains, service connection and meters, for the three pressure ranges; HP, MP and LP.</p>		

The auditors requested WestNet Energy to demonstrate how gas leaks figures were produced. WestNet Energy showed that all gas leaks are recorded by SAP. SAP is then used to produce a report, which can separate out leaks to mains, service connections and meters.

This report is then exported into EXCEL, where it non leaks such as "supply interruption due to poor pressure" are filtered out. The 2008 value for leaks on mains 217 this can be manually filtered into HP, MP and LP.

A similar process is adopted for the determination of service connection leaks. However, due to the magnitude of the number in 2008, of 4056, a manual process of splitting these leaks into HP, MP and LP proved cumbersome and was not undertaken. It understood that WestNet Energy is reviewing the possibility of making changes to the SAP system, to permit inputting of leaks by system pressure. The SAP system also permitted WestNet Energy to provide the number of leak repairs to gas meters.

**Prior to 2008, 'Loss of containment' performance indicator for mains and services was specifically reported on the "gas main breaks" and "service pipe breaks". This change of definition resulted in the number of leak repairs for service pipes increasing from 1,598 in 2007 to 4,056 in 2008. It should be noted that service pipes contain joints that are potential leak paths. Hence by broadening the definition of leaks from broken pipes to leaking pipes, an increase in escape numbers can be expected.**

In summary, the performance data provided for ERA by WestNet Energy in 2008 was reviewed and found complete and accurate, as defined in the Gas Compliance Reporting Manual and Handbook, for 'Loss of containment'.

#### Post Interview Correspondence

The following questions were addressed by the IT Commercial and Compliance Manager satisfying the request for further detail on internal controls of the AMIS.

Q) Are all MIS documentation is available and suitable for users and IT operators?

A) "All IT services Policies and Procedures are in a read-only Controlled Documents area within our Livelink document Management system. All policy documents must go through sign off from senior managers before being placed in the area. Procedures and work instructions also sit in this area and sign off for those is delegated the appropriate member of IT staff. A copy of signed of policies is published on the Intranet for the rest of the staff.

IT Services contracts (including licensing, support, service and maintenance) are also managed within in Livelink and separated logically by legal entity (e.g. WNG, WNR etc). We use the Contracts Management Module of our document management system to



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file all licensing and agreements. Although it may look like a simple filing system, it has the ability to create contract renewal reminders, we are not using that automated functionality yet.

IT Service failures are logged in our ITSM, Infra, which records the description of the problem, the severity, impact, and time. It also logs what solution was implemented and which systems/services were impacted”.

Q) Are security controls (logical and physical) adequate and in place?

A) “That is an extremely broad question. The simple answer is yes. All data centres have physical security in place in the form of swipe cards, and one data centre employs biometric hand scanning on top of that. Logical security is extremely complex but at a high level, systems access is granted through the use of the user access provisioning process. A user applies for access to a system (or variation of access) and it must be approved by the appointed “approver” before being actioned. This is done via the Infra system that records all requests and approvals. Every system has an approver and in some cases there are several approvers for systems that are complex (such as SAP). Approvers are generally member’s of the business. The processes for accessing systems are governed by the over arching Access Control Policy”.



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<b>Assessment of:</b>	Risk Management	<b>Attendees:</b> M. Willis, P. Beukelman (OSD).
<b>Topic No.</b>	8	Technical Compliance Manager, WestNet Energy

**Audit Trails and sources of evidence:**

WAGN Risk Management Policy (WNE-PO-0002, Rev A)

WAGN Corporate Risk Management Guidelines (WNE-G-003, Rev A)

**Evaluations and Conclusions:**

The high level risk management documents were identified as the "Policy" and "Guideline". These documents are accessible via the WestNet Energy's document management system "Live Link".

These documents were viewed and found to be of high standard, indicating that WestNet Energy has undertaken a process to upgrade their risk management documentation, however it was noted that the documents were Rev A and did not carry a date, further more they appeared not to be final and "as approved for issue". This is a matter for document control to investigate and resolve.

Progress has been made to upgrade safety reviews of day to day operations. The traditional 'Job Safety Analysis' (JSA) procedure is being replaced with 'Job Risk Analysis' (JRA) procedures. In conjunction with this upgrade of procedures, a training program is being implemented to ensure the procedure gets correctly implemented.

To investigate if the JRA change is being implemented in practice, a 'Risk Assessment – Directional Drilling' procedure dated January 2009 was reviewed. This was a working template to undertake risk assessment for specific job types. It was found to be of spreadsheet structure, and reasonably complete, but it was lacking in the description of the specific work duties.

WestNet Energy has been undertaking HAZOP's on major installations. A report was viewed of a HAZOP undertaken by Worley Parsons in November 2008, (document number 00701-00-SR-REP-003) for a class 600 pressure reduction station. This document appeared to be of high standard. WestNet Energy advised they invite Energy Safety to attend HAZOP's. WestNet Energy advised that in the future they

would like to undertake these HAZOP reviews in house.

WestNet Energy has made progress in improving their reporting requirements with Energy Safety. An **"Inspection Plan Quarterly Report"** covering the period January 2009 to March 2009, was viewed. This report discussed the sample testing of 7.5% of Listed Gas Fitters, for additions or alterations to Class G Installations. This inspection **regime is in accordance with the 'Alinta Gas Network Inspection Plan', ANS-S-10301 (Rev 2)**. The report had been forwarded to the Director of Gas, Department of Commerce. WestNet advised they now conducted monthly meetings with Energy Safety, to view and discuss risk management and safety issues.

In summary, it is evident that WestNet Energy are upgrading their risk management techniques, however the standard of documentation associated with this upgrade needs improvement. It is positive that WestNet Energy is involving Energy Safety in their risk management upgrade.

<b>Assessment of:</b>	Contingency Planning	<b>Attendees</b> M. Willis, P. Beukelman (OSD)
<b>Topic No.</b>	9	Technical Compliance Analyst (WestNet Energy)
<b>Audit Trails and sources of evidence:</b>		
<p>WAGN Emergency Response Management Plan, GDW-PL-0160, (Rev 1 dated 12/2007, currently being reviewed)</p> <p>Reports on 3 emergency exercises:</p> <ul style="list-style-type: none"> <li>-“Gold” conducted February 2008</li> <li>-“Malaga” conducted December 2008</li> <li>-“Ataturk” conducted March 2008.</li> </ul>		
<b>Evaluations and Conclusions:</b>		
<p>During the 2007 Asset Management audit, focus was made on the requirement to undertake an emergency exercise on each of the 3 licensed distribution areas every 12 months, and WestNet Energy’s <b>inability to demonstrate</b> in 2007, that this had taken place, in the period 2005-2007.</p> <p>The Economic Regulation Authority (ERA) now has consolidated all 3 distribution licenses (formally known as GDL1, GDL2 and GDL3) into GDL8.</p> <p>WestNet Energy produced reports demonstrating they had performed 3 emergency exercises since the 2007 audit.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Exercise “Gold” was undertaken on the Kalgoorlie network in late 2007, and involved the simulated dig up and interruption to supply of the single feed gas supply into Kalgoorlie. A representative from DOCEP was in attendance for the exercise.</b></li> <li><input type="checkbox"/> <b>Exercise “Malaga” was undertaken on a northern suburb of Perth in December 2008. Representatives from DOCEP were invited to attend but did not attend.</b></li> <li><input type="checkbox"/> <b>Exercise “Ataturk” was undertaken on the Albany LPG depot in March 2008. This facility falls under the “major hazard” facilities, and as such members of FESA attended.</b></li> </ul>		

It is evident from the above that WestNet have committed to increase the frequency of the emergency exercises and from the reports that were issued following the exercises, see the value of undertaking the emergency exercises and taking on board improvements from the lessons learnt. It is also positive to note that WestNet have actively invited the participation of regulatory bodies.

It is recommended that during the current review of the Emergency Response Management Plan, that the following items get considered and incorporated;

- ❑ The Emergency Response Management Plan be updated to contain a reference to undertaking exercises, who to invite to attend the exercise, the requirement to issue a report upon their conclusion, with a requirement to follow up on action items
- ❑ Linking the undertaking of the emergency exercise to the maintenance plan to ensure they are planned for and take place every year
- ❑ Maintaining a list of past exercises and a forward looking 5 year exercise plan to ensure the exercises cover the variety of assets that WestNet Energy have under management.

<b>Assessment of:</b>	Financial Planning & Capital Expenditure Planning	<b>Attendees:</b> M. Willis, P. Beukelman.  Senior Regulatory Accountant, WestNet Energy
<b>Topic No.</b>	10 & 11	
<b>Audit Trails and sources of evidence:</b>		
<p>Alinta Network Holdings (ANH), Asset Management Plan 2008-2012, Rev A dated 18/3/08</p> <p>Alinta Network Holdings, Budget and Strategic Plan 2007-2011, Draft</p>		
<b>Evaluations and Conclusions:</b>		
<p>WestNet Energy undertakes the financial planning via a robust sequence. They undertake the following three steps;</p> <ol style="list-style-type: none"> <li>1. An Asset Management Plan (AMP) is produced on a yearly basis, with a 5 year look ahead. The AMP contains a financial summary, which predicts CAPEX for the next 5 years. The CAPEX is broken down into 6 types; Asset Replacement, Customer Initiated, Demand, Performance, Carry Forward and Third Party.</li> <li>2. The financial group input the predicted CAPEX figures and OPEX figures into a 25 year model.</li> <li>3. A Budget and Strategic Plan is then produced annually, with a 5 year look ahead.</li> </ol> <p>The WestNet Energy financial group 25 year forward looking model was noted to have been reviewed by Ernest &amp; Young in January 2007. This review was done as an internal request and validated the models workings. It was noted that it excluded a validation of the input parameters.</p> <p>The CAPEX budget was reviewed in the AMP and it showed that an allocation had been made for the deemed asset management requirements and then allocated anticipated funds against the projects. The breakdown and representation of the amounts appeared reasonable.</p> <p>The Operating Cost (OPEX) contained in the Strategic Plan was reviewed and found to be broken down into; Operating Services Agreement (OSA-which is the largest</p>		



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component and is the outsourced operating labour component), Licence fees (including regulatory), Unaccounted For Gas (UAFG)-which is budgeted to be 2.5%, Insurance Charges, NMIS (Network Management Information System) and "Other". It was noted that a sizable financial allocation was made to pay for UAFG. This is viewed positively as it provides a financial incentive for the reduction of UAFG. Overall, the breakdown of Operating Expenditure amounts appeared reasonable.

A high level review of how the forecast CAPEX and OPEX was carried forward into the budget. The review conducted of CAPEX and OPEX budget allocation was limited to high level review of the process, to ensure a planning process takes place. It is assumed that a more detailed review would be made during the access arrangement review period.

The 2007 – 2011 Cash Flow Statement contained in the Appendix of the Strategic Plan. It was reviewed and noted to be cash positive in each of the 5 years forecast. This indicates there were no internal financial pressures to cutting back on deferrable expenditure.

<b>Assessment of:</b>	Review of Asset Management System	<b>Attendees:</b> M. Willis, P. Beukelman (OSD)
<b>Topic No.</b>	12	Asset Performance Engineer, Asset Manager (WestNet Energy)

**Audit Trails and sources of evidence:**

**Monthly KPI's**

Alinta GDS Safety Case (Revision 4.0 - Draft)

Asset Management System (AAM-S-09001, Revision B, dated 19/1/07)

Asset Management Plan (2008-2012)

**Evaluations and Conclusions:**

The WestNet Energy asset management system is described in the Alinta Asset Management System document. This document is now out of date, from the perspective of the organisational structure, but the overall operating principles remain valid.

Since 2001 WestNet Energy have been in the process of implementing a safety case. This document is currently in revision 4.0 format and at time of undertaking this audit **(May 2009) is understood to be with Western Australia's 'Energy Safety' for final comments and approval.**

Once the Safety Case is approved by Energy Safety, it is WestNet Energy's **intention to** place a large amount of emphasis in the Safety Case to assist in the asset management process. The Safety Case document was reviewed and found to be technically comprehensive and a useful document for managing the gas distribution network. The introduction of a safety case is therefore viewed positive as it will facilitate the asset management process.

The Asset Management System places a requirement on monitoring performance by **the use of "Key Performance Indicators", (KPI's). This involves measuring 35** performance indicators in the topics of; Pipelines, Regulator Sets, Meter Sets, Isolation Valves, Domestic / Commercial Meters, Design and Planning, Commissioning, Operations Major Events, Operations System Performance, Decommissioning, Auditing

and Customer Service Standards.

**The latest KPI's (for quarter January to March 2009) were reviewed. It was noted that the basis for the KPI's was being reviewed** in light of operational changes. The areas of review were; Meter Populations Statistical Sampling, (as this was no longer being performed), High Pressure Pipeline Commissioning, (due to the infrequent nature of the event) and Progress of Internal Audits, (due to the quantity of internal audits required, not being nominated).

**Two of the KPI's were outside of their expected ranges; 'Unaccounted For Gas' and 'Customer Minutes off Supply'.**

Unaccounted For Gas (UAFG) has a KPI upper level of 2.5%, with a current level is 2.8%. This KPI was investigated further. WestNet Energy have in fact 3 networks; Goldfields, Albany (which is a LPG network) and coastal. The reported 2.8% relates to the largest network (coastal). This UAFG was defined as being 6 months delayed. This is required as domestic meters are read every quarter, hence there is a built in delay between the actual systems losses and when they are calculated. The figure for July 2008 was 2.3% and it has been slowly trending upwards to the current value of 2.8%.

WestNet Energy advised that the trend in UAFG appeared to increase around the same time as the Varanus Island incident fire last year, when industrial users were requested to reduce consumption. WestNet Energy advise there is current work being undertaken by an external consultant to investigate why the figure is trending upwards.

The current UAFG for Goldfields is 8.2% and the UAFG for Albany is 20%. It is noted that the throughput of the Goldfields and Albany networks are of the order of 0.2PJ/annum versus coastal throughput of 31PJ/annum.

It is worth noting that WestNet Energy is under financial pressure to reduce the coastal UAFG, but this does not apply to the Goldfields and Albany networks.

**It is recommended that reported KPI's include the UAFG for Albany and Goldfields, and that a review be made to determine why these figures are high.**

Post the audit, WestNet Energy advised that a project was underway to validate the measurement of UAFG and to identify acceptable benchmarks. A specialist has been engaged to assist in investigation of the reasons for the UAFG figures.

The project has identified the following areas of review:

**Systemic Contributions**

- Receipts calculations
- Delivery calculations

- UAFG calculations and assumptions
- Heating Value allocations
- Billing fixed factor calculations and assumptions

**Distribution System Contributions**

- Receipt metering stations design and proportion of receipts
- Receipt metering certification and calibration
- Receipt metering maintenance and inspection
- Major Customer Delivery Metering
  - Numbers and proportion of deliveries
  - Design & selection
  - Maintenance, Inspection and periodic recertification
  - Pressure & Temperature measurements
- Tariff Customer Delivery Metering
  - Numbers and proportion of deliveries
  - Meter types and age
  - Design and equipment
  - Regulator settings
  - Rate of meter set leak reports
- Length, diameters and materials of distribution pipes
- Operating Pressures of LP and MP system
- Reported leakage incidence on the LP and MP system

**The deliverables of the project clearly identify causes of the increases and establishing corrective actions.**

<b>Assessment of:</b>	Kalgoorlie	<b>Attendees:</b>
<b>Topic No.</b>	Field Inspection	Supervisor (WestNet Energy) Marc Willis; Auditor (OSD)
<b>Audit Trails and sources of evidence:</b>		
<p>Gas Distribution Vehicle Manual, March 2009, GDW-RF-067</p> <p>Job Start-Up Sheets</p> <p>Turn-Around Sheets</p> <p>Safety Case</p>		
<b>Evaluations and Conclusions:</b>		
<p>The intent of the Kalgoorlie Site visit is to ensure the Operational and Maintenance Policies developed by WestNet Energy are being implemented across the business. To accomplish this procedures and documents nominated across the 12 audited protocols were reviewed. In addition the audit included a physical inspection of the main gate station for the Kalgoorlie Network.</p> <ol style="list-style-type: none"> <li>1. Asset Planning Asset Planning is controlled off-site (Jandakot through Asset Management System (AMS)), i.e. through SAP/GNIS</li> </ol> <p><b>Information and jobs are controlled through 'Start-Up Sheets' and 'Turn-Around Sheets'</b></p> <ol style="list-style-type: none"> <li>2. Asset Creation &amp; Acquisition Defined by Jandakot</li> </ol> <p>Kalgoorlie jobs primarily relate to Mains Laying/ Service Connections in new housing developments. Kalgoorlie is still in a growth mode.</p> <ol style="list-style-type: none"> <li>3. Asset Disposal Any gas main replacement or upgrade</li> </ol> <p>Any gas main modification. A typical job was followed by way of its document trail (Eg. 7 Kingsmill St Job # 300745788)</p>		

Any meter replacement

4. Environmental Analysis

**Environmental Analysis is undertaken as per Jandakot 'Start-Up Sheets'**

5. Asset Operations

- There are 3 staff at Kalgoorlie.
- Gas fitter functions are contracted out. There is a tender every 3 years. The tender process is controlled by Head Office. Gas fitters are audited.
- There is automatic pressure alarms fitted in the Kalgoorlie network. These are monitored by the Jandakot control room.
- There is a set of **KPI's** against which operational performance is measured, however there are none specific to Kalgoorlie.
- The UAFG for Kalgoorlie is understood to be greater than the corporate value of 2.5%. (KPI is discussed further in Interview 12, Review of Asset Management System).
- Gas quality surveys/ Odorant surveys are conducted monthly
- Leakage surveys (conducted every 5 years)

6. Asset Maintenance

Defined by Maintenance Plan/ Controlled through SAP at Perth.

Job Sheets issued by Jandakot (including inspection)

7. Asset Management Information System

Limited access in Kalgoorlie

No access to SAP/GNIS. Data entry performed at Jandakot

8. Risk Management

Procedure is controlled by Perth.

9. Contingency Planning

Frequency of emergency exercises controlled by Perth

Emergency Response Exercise **'Gold' completed, which was highly successful.**

Refer to interview 9 Contingency Planning for further detail.

10. Financial Planning

Process controlled by Perth

CAPEX requests are submitted to Perth for review and approval.

NOTE: Kalgoorlie is a relatively new system and requires minimal capital expenditure in the form of new equipment.

11. Capital Expenditure Planning  
Controlled by Perth through AMS

12. Review of AMS  
Controlled by Perth

NOTE:

A Low Pressure event occurred in May in Kalgoorlie during the Audit. Jandakot control room recorded a pressure reading of 160kPa through the SCADA monitoring system at Kalgoorlie. This was above the Low Pressure alarm level setting; however pressure drops of this nature are investigated. A maintenance fitter was dispatched from Perth to investigate the problem. Pressure readings at the city gate facility were checked manually and appeared to be as normal, indicating a possible fault with the SCADA system. When SCADA batteries were replaced the network returned to reading within tolerance. There is only one city gate feeding into the network.

In summary, Kalgoorlie is a relatively small and new network, which relies heavily on support from Perth head office for its operations. Kalgoorlie appears to have implanted the WestNet Energy Operations and Maintenance procedures.

As the network grows and loads on the city gate increase, it is recommended that staff in Kalgoorlie are given greater responsibility to operate the network, as Kalgoorlie is a 7 hour drive from Perth.

<b>Assessment of:</b>	Albany	<b>Attendees</b>
<b>Topic No.</b>	Field Inspection	Field Supervisor WestNet Energy P. Beukelman, M. Willis (OSD)
<b>Audit Trails and sources of evidence:</b>		
<p>Gas Distribution Vehicle Manual, March 2009, GDW-RF-067</p> <p>Job Start-Up Sheets</p> <p>Turn-Around Sheets</p> <p>Safety Case</p>		
<b>Evaluations and Conclusions:</b>		
<p>The intent of the Albany Site visit is to ensure the Operational and Maintenance Policies developed by WestNet Energy are being implemented across the business. To accomplish this procedures and documents nominated across the 12 audited protocols have been reviewed. In addition the audit included physical inspections of various meter sets and the main storage facility.</p> <p>NOTE:</p> <p>The Albany network utilises LPG at approximately 8kPa. The system was switched from manufactured gas 10 years ago.</p> <p>The Albany network comprised of a variety of pipe, primarily PVC, however 15km of the original galvanised iron pipe remains. Recently a section of 1.5km PE has been incorporated into the network, due to the limited commercial availability of PVC. This PE is fitted with a PE valve, as no squeeze off equipment exists in Albany.</p> <p>1. Asset Planning</p> <p>Asset Planning is controlled off-site through AMS, i.e. through SAP/GNIS</p> <p><b>Information controlled through 'Start-Up Sheets' and 'Turn-Around Sheets'</b></p> <p>2. Asset Creation &amp; Acquisition</p>		

Defined by Jandakot

Albany jobs primarily relate to Mains Laying/ Service Connections in new developments

Mains replacement program recently undertaken in the CBD of Albany. Further mains replacements in Albany is still required

3. Asset Disposal

Any gas main replacement-none identified

Any gas main modification-none identified

4. Environmental Analysis

**Controlled as per Jandakot 'Start-Up Sheets'**

5. Asset Operations

- 3 Staff located in Albany
- Albany has gas detectors, air movers (to flush away LPG escapes and a service truck)
- A site visit was made to view new service laying taking place. It was noted that this function was essentially contracted out. Correct safety procedures were noted on site and fire retardant overalls were noted for workers working in the trench
- Gas fitter functions are contracted out. It is re-tendered every 3 years. The tender process is controlled by Head Office
- Automatic alarms are fitted in the Albany network. These are monitored at Jandakot
- There is a set of **KPI's** against which operational performance is measured against, however, there are none specific to Albany
- Gas quality surveys/ Odorant surveys monthly
- Emphasis is placed on leak detection survey work. This is time consuming as LPG is heavier than air and hence gas leaks must be located by bore holes. This involves bore holes at 2m intervals. If high reading are detected, they are repaired immediately

6. Asset Maintenance

- Defined by Maintenance Plan/ Controlled through SAP at Perth.
- Job Sheets issued by Jandakot (including inspection)
- Signage replacement program viewed and essentially complete in Albany with the

exception of signs located in areas that are not accessible

Inspection of 3 various meter sets revealed areas of concern

1. Meter Set 1

- The outlet valve used for emergency isolation, was missing a handle
- The meter regulator assembly was not any enclosure. It was open to vandalism. The meter regulator assembly was in a poor location as it **was located within 2m of the Laundry's High Voltage** brick substation.
- No sign was located as to which valve to be operate in case of an emergency

2. Meter Set 2

- The meter regulator assembly required painting, as corrosion was detected on exposed steel piping, especially on threaded joints.
- The meter regulator was in a locked wire mesh enclosure. The enclosure had dry overgrown grass growing over assembly, resulting in a possible fire hazard. It is recommended that the base of the enclosure be sealed, to prevent weed / grass growth

3. Meter Set 3

- The meter regulator assembly was in a wire mesh enclosure that had walls, but no roof, thereby making it prone to vandalism
- Corrosion was evident, painting was required

Inspection was made of the Albany LPG vaporising facility. It was noted that the facility had been subject to recent internal audits. A high level audit showed that the facility was in good overall state of maintenance and no defects were apparent

7. Asset Management Information System

No access to SAP/GNIS. Data entry performed at Jandakot

8. Risk Management

Procedure controlled by Perth.

9. Contingency Planning

An emergency response exercise had been completed at the LPG facility in 2008. It is recommend Albany network be considered for network emergency response.

Refer to interview 9 Contingency Planning for further detail.



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10. Financial Planning

CAPEX request submitted to Perth for review and approval.

11. Capital Expenditure Planning

Controlled by Perth through AMS

12. Review of AMS

Controlled by Perth

In summary, Albany appears to be implementing the WestNet Energy operations and maintenance procedures.

However, the condition of the 3 meter regulator assemblies viewed and the known high UAFG indicate that increasing focus needs to be made of upgrading the Albany network.

## **APPENDIX C**

### **AUDIT PHOTOS**

**Kalgoorlie**

1. Main Gate Station
2. Meter Box
3. Signage Replacement

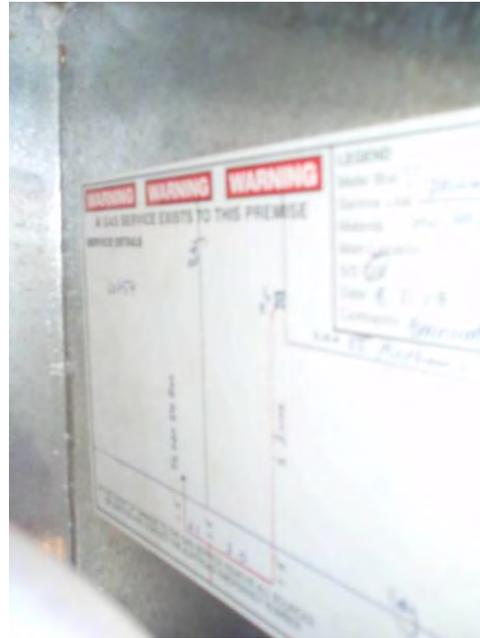
**Albany**

1. Operations Inspection
2. LPG Storage Facility
3. Meter Set 1
4. Meter Set 2
5. Meter Set 3

□ **Kalgoorlie**



1. Main Gate Station Kalgoorlie



2. Meter Box – Pipe Route Sticker shown as per Third Party Prevention Strategy



3. Signage Replacement Program – 95% complete

□ **Albany**



1. Operational Inspection



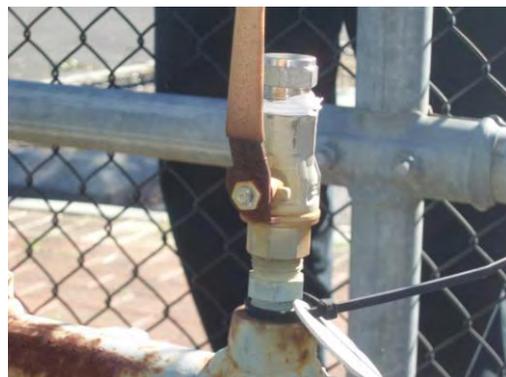
2. LPG Storage Facility



3. Meter Set 1



4. Meter Set 2



5. Meter Set 3



## **APPENDIX D**

### **RESPONSE TO PREVIOUS AUDIT RECOMMENDATIONS**



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Key Process	OSD 2007 Recommendation	WNE 2007 Actions	WNE Comments	OSD Comment/Further Action (IN BOLD)
#2 Asset Creation & Acquisition	GDL1-1: WNE should consult with, and seek the approval of, the Authority to satisfy the requirements of clause 8 for a variation to the installation of the standard residential delivery facility	WNE to consult with, and seek the approval of, the Authority should it decide to proceed with its proposal to install a gas meter <b>at the customer's</b> property boundary.	Conceptual approval has been received from ESD by WNE to connect at the boundary of properties. Obligation to connect up to 20m of service pipe still stands	Action item from 2007 audit complete.  WNE holds meetings with ESD at which operational issues are discussed.
#6 Asset Maintenance	GDL1-2: WAGN 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 exposure.	A plan to replaced damaged and illegible signs will be implemented.  The Gas Asset Manager West will assign responsibility of individual AMS element to the relevant Manager as they have the authority to decide and take action	Signage replacement program is nearing completion. The focus has been on <b>high-pressure markers with medium pressure now being replaced</b> . Field employees have been instructed to complete a field report GDW RF 0014 for any markers that are in poor condition or damaged this will in turn generate a job in SAP and allow us to track these and confirm they are completed in a timely manner.	<b>Signage replacement program is nearing completion</b>  <b>It is recommended that outstanding Signage be added to SAP, to ensure they are completed in a timely manner.</b>
#9 Contingency Planning	GDL1-3: WNE should initiate discussions with Energy Safety	An emergency exercise in Kalgoorlie will be scheduled as part of	An emergency exercise was carried out in Kalgoorlie in February 2008. This	Action item from 2007 audit complete.

<b>Key Process</b>	<b>OSD 2007 Recommendation</b>	<b>WNE 2007 Actions</b>	<b>WNE Comments</b>	<b>OSD Comment/Further Action (IN BOLD)</b>
	Division to ascertain an acceptable frequency for emergency exercise in Kalgoorlie-Boulder. It is recommended that one emergency exercise be completed by the end of 2007.	the emergency exercise register.  The Gas Asset Manager West will assign responsibility to the relevant Manager as they have the authority to decide and take action.	exercised involved the participation of WNE, WA Police, FESA, TransAlta, and the local Shire. The exercise identified some small areas for process improvement and was deemed to be a success overall. It was delayed from 2007 due to emergency services mobilization issues.	
#1 Asset Planning	GDL2-1: WNE must complete the outstanding non completed action items from MC2 Pacific January 2005 audit 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 WNE to mitigate the deficiency	Action: Complete the outstanding items from the previous audit or alternatively indicate what alternative actions have been undertaken by WNE to mitigate the deficiency and notify the Authority upon completion	GDL2-1 – related to ANS having sub-contract arrangement with NPS prior to 2007. Asset Management structure has now changed and simplified.	Action item from 2007 audit complete.
#2 Asset Creation &	GDL2-2: WNE needs to have	Action: WNE to review connection offer processes in	On 31 March 2009 an amendment to the Energy Coordination	Action item from 2007 audit



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Key Process	OSD 2007 Recommendation	WNE 2007 Actions	WNE Comments	OSD Comment/Further Action (IN BOLD)
Acquisition	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 Yanchep development are properly processed and actioned.	relation to requests from Developers for a gas connection. WNE to document procedures to ensure if privately developed embedded gas networks are to be incorporated into the WNE network that the request is appropriately processed.	Act 1994, entitled Energy Coordination Exemption Order 2009 was gazetted. This order provides an exemption from the need to hold a gas distribution licence for developers constructing a gas distribution system. This order was developed with input from WNE to deal with circumstances such as Yanchep. WNE has developed a procedure to implement where appropriate.  a) In house support now exists, to cover legislative issues  b) Legislative has been introduced to allow developers with approved contractors to construct infrastructure.	complete.
#2 Asset Creation & Acquisition	GDL2-3: WNE should communicate with Energy Safety Division in situations where alternative design	WNE to communicate with Energy Safety Division in situations where alternative design practices are proposed that do	Relates to a specific non-complying construction. This construction issue has been resolved with ESD. WNE and Energy Safety now have	Action item from 2007 audit complete.



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Key Process	OSD 2007 Recommendation	WNE 2007 Actions	WNE Comments	OSD Comment/Further Action (IN BOLD)
	practices are proposed that do not comply with the requirements of AS 2885, and/or normal gas industry practice.	not comply with the requirements of AS 2885, and/or normal gas industry practice.	monthly meetings to discuss technical issues. These can be followed up with written correspondence as required.	
#2 Asset Creation & Acquisition	GDL2-4: WNE 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.	Action: Energy Safety Division has instructed WNE to facilitate the installation of the riser with a slot through the footing to allow the correct cover. WNE 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.	This problem arose when installing service risers over concrete footings, minimum cover could not be maintained. An article was sent by WestNet Energy to Master Builders Association, in an effort to solve the problem.	The installation procedure has been incorporated into work instruction GDW WI 0100.  Action item from 2007 audit complete.
#5 Asset Operations	GDL2-5: WNE 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	WNE to review and update the notifiable incident report.	Procedure GDW PR 0190 outlines the reporting and tracking of Notifiable Incidents. These are tracked for completion using a register which is monitored by Technical Compliance.	Procedure and copy of notifiable incident report sighted.  Action item from 2007 audit complete.



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Key Process	OSD 2007 Recommendation	WNE 2007 Actions	WNE Comments	OSD Comment/Further Action (IN BOLD)
	supervisor.			
#6 Asset Maintenance	GDL2-6: WNE shall ensure that corrosion on pipework is properly addressed during scheduled maintenance work on all network assets.	WNE to include recommended actions in scheduled maintenance activities.	GDL2-6 – Corrosion advised to be rectified. Field reports now created in SAP to include corrosion at meter sets.  The level of corrosion identified at the meter sites in Albany in 2009 was considered low risk as it required minor touch-ups such as re-painting, as a remedial action. The meters are scheduled to be painted after the winter period as current weather conditions are unsuitable to carry out external painting. The type of meters involved are known as AL30 metres. In accordance with Gas Standards (Gas Supply and System Safety) Regulations 2000, large capacity main meters (such as AL30 metres) are replaced after 10 years in service. It is proposed to conduct 5 yearly surveys on	Action item from 2007 audit complete.  <b>However, from the 2009 audit further corrosion was identified at Albany on AL30 meter regulator assemblies. It is recommended that inspection &amp; painting of AL30 meter sets is included in Maintenance Plan. WNE have advised a new database is to be established to capture this maintenance work.</b>



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Key Process	OSD 2007 Recommendation	WNE 2007 Actions	WNE Comments	OSD Comment/Further Action (IN BOLD)
			these types of meters.	
#6 Asset Maintenance	GDL2-7: WNE 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 exposure.	WNE to include recommended actions in scheduled maintenance activities.	Signage replacement program is nearing completion. The focus has been on <b>high-pressure markers with medium pressure now being replaced</b> . Field employees have been instructed to complete a field report GDW RF 0014 for any markers that are in poor condition or damaged this will in turn generate a job in SAP and allow us to track these and confirm they are completed in a timely manner.	Signage replacement program as recommended in 2007 audit is nearing completion.  <b>It is recommended that outstanding signage be added to SAP, to ensure they are completed in a timely manner.</b>
#6 Asset Maintenance	GDL2-8: WNE 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.	WNE to review the KPIs annually. WNE to review its awareness program to give greater emphasis to prevention of damage to gas mains in its information bulletins to relevant third parties.	WNE has strategies in place to minimise mains breaks.  <input type="checkbox"/> Onecall system information <input type="checkbox"/> Provide presentations to third parties specifically targeted to regular offenders of broken mains.  Broken mains KPI target, previously 3, has been adjusted	WNE will continue to review the KPI target. It is noted there is a current downward trend.  Action item from 2007 audit complete.



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			downwards to a target of 1.7	
#6 Asset Maintenance	GDL2-9: WNE 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.	WNE to consider a suitable method for providing advice to customers on the prevention of damage to gas services within their properties.	WNE have been proactive in reducing breaks in services by: <ul style="list-style-type: none"> <li><input type="checkbox"/> Tracer Wire</li> <li><input type="checkbox"/> Meter Box Stickers</li> <li><input type="checkbox"/> Dial before you Dig</li> <li><input type="checkbox"/> Education of Third Parties</li> <li><input type="checkbox"/> Safety Improvement Scheme</li> </ul> This is reflected by a reduction in Leaks on Broken Services.	The performance monitoring data and method of collection has been reviewed.  Action item from 2007 audit complete.
#6 Asset Maintenance	GDL2-10: WNE should reassess the target KPI for publicly reported gas leaks or escapes to reflect current reporting trends.	WNE to review the KPIs annually.	WNE reviews KPIs annually as part of the reporting review process so that they reflect current reporting trends.  WNE have been reviewing gas leaks. SAP identifies components. This has enabled WNE to introduce one piece risers, to reduce potential leak sources.	WNE to continue to monitor.  Action item from 2007 audit complete.



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#9 Contingency Planning	GDL2-11: WNE 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. WNE should initiate discussions with Energy Safety Division to ascertain an acceptable frequency for emergency exercises in the Coastal supply area.	WNE to review the current testing program for emergency preparedness capability.	WNE has reviewed its emergency preparedness capability. It has been determined that emergency exercises will be conducted annually in accordance with the requirements of the WNE safety case	Action item from 2007 audit complete.
#9 Contingency Planning	GDL2-12: WNE should consider whether more frequent tests are carried out particularly in highly populated areas where large evacuations may be	Action: WNE to review the current testing program for emergency preparedness capability.	WNE has reviewed its emergency preparedness capability. It has been determined that emergency exercises will be conducted annually.	Action item from 2007 audit complete. <b>OSD suggest that location and frequency of emergency tests be incorporation into a 5 year</b>



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	required. WNE should initiate discussions with Energy Safety Division to ascertain an acceptable frequency for emergency exercises in the Coastal supply area.			<b>Emergency test schedule.</b>
#9 Contingency Planning	GDL2-13: WNE should ensure that all actions arising from completed planned emergency exercises are followed through and completed to the agreed timelines.	Action: WNE shall ensure outcomes and recommendations from exercises are completed within the agreed timelines.	The action plan from emergency exercises is monitored on an ongoing basis by Technical Compliance. The inclusion of action items in the 'Corrective Action Request (CAR)/Improvement Request (IR) Register ensures that recommendations are actioned within agreed timeframes.	Action item from 2007 audit complete.  <b>It is noted that there was no process in place to ensure that action items identified during exercises are signed off on, as being complete. This is being reviewed and will be implemented by Technical Compliance.</b>
#9 Contingency Planning	GDL2-14: WNE must develop a policy and operational	Action: WNE to develop a policy and operational procedures to deal	A procedure has been developed for this activity; "WNE Removing Water From	Action item from 2007 audit complete.  Document is now



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	procedures for handling situations where water enters the gas distribution networks that affects one or more customers supplied of that section of the network.	with affected customers for water in the main incidents.	A Gas Main, GDW WI 0500". <b>This document</b> is due for review July 2009.	due for review
#2 Asset Creation	GDL3-1: WNE should continue to monitor the condition of the existing galvanised iron and steel mains in the Albany gas distribution network and closely examine the leakage survey results with a view to replacing the pipes should the results become unacceptable with recognised industry performance/safety standards	Action: WNE will continue to closely monitor leakage survey results and plan for the replacement of the galvanised pipes should the need arise	An increased leak detection and repair program has been implemented in Albany. <b>WNE is actively managing the gas leaks in Albany with its maintenance plans.</b>	Action item from 2007 audit complete.
#5 Asset Operations	GDL 3-2: WNE should arrange for an independent follow-up audit of the LPG Storage Facility in	WNE will identify and confirm follow-up work to be carried out	Audit was conducted in 2008. NOTE Emergency Desk Top Exercise was also undertaken at Facility	Action item from 2007 audit complete.



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	Albany. This was previously recommended in the 2005 MHF audit report and is required by the approved Safety Case for the facility		in 2008	
#6 Asset Maintenance	GDL 3-3: WNE shall ensure that corrosion on pipework is properly addressed during scheduled maintenance work on all network assets	Implement a process for capturing pipework corrosion during maintenance activity and a plan to address the item	WNE has amended the process such that corrosion on pipe work identified during planned maintenance is recorded on a field report by the Distribution Officer. This information is maintained by the Facilities Supervisor. Further improvement to this process is to log this work in the maintenance system as future planned maintenance. This will enable these jobs to be monitored and reported on and allow them to be visible to the rest of the business. All new field reports are now being processed in this way.	Action item from 2007 audit complete.  <b>However, during the 2009 audit further corrosion identified at Albany on AL30 meter regulator assemblies. It is recommended that inspection &amp; painting of AL30 meter sets is included in Maintenance Plan. WNE have advised a new database is to be established to capture this maintenance work.</b>
#6 Asset	GDL 3-4: WNE should ensure	A plan to replace damaged and	Signage replacement program is nearing	Signage replacement



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Key Process	OSD 2007 Recommendation	WNE 2007 Actions	WNE Comments	OSD Comment/Further Action (IN BOLD)
Maintenance	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	illegible signs will be implemented. The Gas Asset Manager West will assign responsibility of individual AMS elements to the relevant Managers as they have the authority to decide and take action	completion. The focus has been on <b>high-pressure markers with medium pressure now being replaced</b> . Field employees have been instructed to complete a field report GDW RF 0014 for any markers that are in poor condition or damaged this will in turn generate a job in SAP and allow us to track these and confirm they are completed in a timely manner.	program as recommended in 2007 audit is nearing completion.  <b>It is recommended that outstanding Signage be added to SAP, to ensure they are completed in a timely manner.</b>
#9 Contingency Planning	GDL 3-5: WNE should initiate discussions with Energy Safety Division to ascertain an acceptable frequency for emergency exercises in Albany	An emergency exercise in Albany will be scheduled as part of the emergency exercise register.	WNE has reviewed its emergency preparedness capability. It has been determined that emergency exercises will be conducted annually.	Action item from 2007 audit complete.  OSD recommends an emergency exercise is conducted on a gas main in the Albany Network for an upcoming emergency exercise, as opposed the LPG vaporization plant. This can be scheduled in the 5 year emergency plan as discussed above.