

DAMPIER TO BUNBURY NATURAL GAS PIPELINE

**Asset Management System
Framework**

TEB-001-0023-01

REV 4

1 July 2010

This document is controlled within the DBP Document Control System. Printed and electronic copies of this document should be checked for currency against DBP Document Control System.

	Title	Name	Signature	Date
Author	Manager Asset Strategy	J Kong		1/7/2010
Reviewed	Manager Engineering & Operational Projects	H Kuhn		1/7/10
Approved	General Manager System Design & Operations	A T Rakai		1 Jul 2010.



DOCUMENT REVISION RECORD

REV No.	ISSUE DATE	DESCRIPTION	PREPARED	CHECKED	AUTHORISED
0.1	24/04/06	Initial draft	A ter Kuile	T Reynolds	A T Rakai
1.0	27/04/07	Issued for use	A ter Kuile	H Kuhn	A T Rakai
2.0	22/06/07	DBP comments ref memo dated 24 May 2007 included	H Kuhn	A T Rakai	A T Rakai
3.0	28/7/08	Reviewed for 2008/09 scope	H Kuhn	A T Rakai	A T Rakai
4.0	1/7/2010	Update to reflect current asset management strategy	J Kong	H Kuhn	A T Rakai

TABLE OF CONTENTS

1	INTRODUCTION	4
2	SCOPE	4
3	THE FRAMEWORK	5
4	THE KEY STRATEGIC DOCUMENTS	5
4.1	SAFETY CASE	5
4.2	OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN	6
4.3	ASSET OPERATING STRATEGY	7
4.4	ASSET MANAGEMENT PLAN	7
5	THE KEY TACTICAL DOCUMENTS	8
5.1	BUSINESS PLANS.....	8
5.2	ASSET OPERATING PLAN	9
5.3	PROJECT MANAGEMENT METHODOLOGY	9
5.4	ASSET MAINTENANCE PLAN	10
5.5	EMERGENCY MANAGEMENT PLAN	11

1 INTRODUCTION

The DBNGP comprises more than 3,080 km of high pressure gas transmission pipelines, including laterals, and associated compression plant, and valves, linking gas suppliers in the north west of Western Australia with markets principally in the South West.

It is one of the longest and largest capacity natural gas pipelines in Australia supplying natural gas to industrial, commercial and residential customers in Perth and major regional centres along the pipeline route.

The current full haul contracted capacity is 845 TJ/day.

DBNGP (WA) Nominees Pty Ltd is the owner of and holder of all Pipeline Licences for the DBNGP issued to it by the Department of Minerals & Petroleum.

DBNGP (WA) Nominees Pty Ltd has engaged DBNGP (WA) Transmission Pty Ltd to exercise all rights and perform all obligations associated with the DBNGP, as Operator, under the DBNGP Operating Agreement (“1998 Operating Agreement”).

An additional Operating Agreement was entered into in February 2009 (“2009 Operating Agreement”) between DBNGP (WA) Nominees Pty Ltd and DBNGP (WA) Transmission Pty Ltd, whereby DBNGP (WA) Nominees Pty Ltd agrees to provide the transferred staff to DBNGP (WA) Transmission so that DBNGP (WA) Transmission Pty Ltd can perform its obligations under the 1998 Operating Agreement.

DBP Transmission (DBP) is the trading name of the DBNGP group of companies, ultimately owned by DUET - Diversified Utilities and Energy Trusts (60%), Alcoa (20%) and PRIME (20%).

DBP as the owner and operator of the DBNGP, DBP is responsible for the management of the DBNGP, including development, operation and maintenance of the Asset, and management of financial arrangements, contractual relationships with shippers and regulatory issues.

DBP has outsourced Office Services, IT Services and Project Management Services to WestNet Energy Services under the terms and conditions of an Operating Service Agreement.

2 SCOPE

This Asset Management System Framework is the structure used to document the Asset Management Processes for the DBNGP in a manner that supports the achievement of DBP’s objectives.

It outlines the role of each of the key documents and how they relate to each other.

It is envisaged that the Asset Management System Framework will not require frequent revision, as changes would generally be reflected in the key documents themselves. However, this document should be reviewed and, if required, amended as part of the annual review cycle.

3 The Framework

The Figure 1 below shows interrelationships between the key documents.

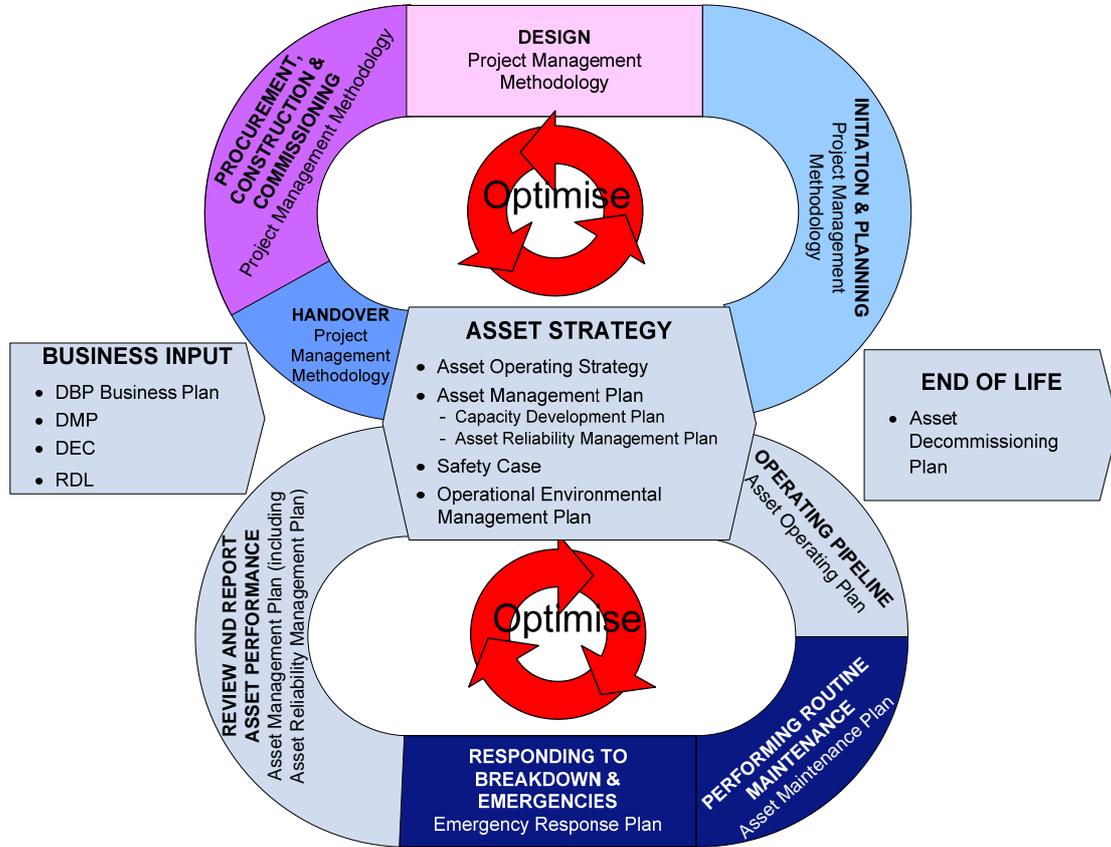


Figure 1 – Asset Strategy Key Documents

4 The Key Strategic Documents

4.1 Safety Case

The DBNGP is licensed under the *Petroleum Pipelines Act 1969*, which is administered by Department of Mines and Petroleum (DMP). The Act and supporting *Petroleum Pipelines (Management of Safety of Pipeline Operations) Regulations 2010* require development of a Safety Case (a ‘case for safety’), to demonstrate that:

- All foreseeable hazards associated with the operation of the DBNGP have been systematically and continually identified;
- The hazards have been eliminated, where practicable;
- A process has been implemented to assess the risks resulting from the remaining hazards; and
- Appropriate control measures have been implemented, which include physical safeguards as well procedural controls, to manage the risks to as low as reasonably practicable (ALARP).

The Safety Case (TEB-003-0004-01) that has been produced for the DBNGP consists of the following three main sections:

- The Facility Description provides an overview of the pipeline, including general description, structural details, primary functions, hazardous materials and inventory, safety features and systems, interaction with third parties, environmental conditions and a drawing set.
- The Safety Management System summarises the framework for the management of safety and health related risks (including asset integrity and OHS) associated with the facilities. It provides a mechanism for review and continuous improvement of operational performance.
- The Formal Safety Assessment is represented by the risk assessments undertaken on the DBNGP, which were completed to AS2885.1 and company standards. The FSA details the results of assessments and demonstration that risk reduction measures are capable of reducing the risks to ALARP.

4.2 Operational Environmental Management Plan

Consistent with the requirements of the DBNGP Pipeline Licences (PL40, 41, 47 and 69) the Operational Environmental Management Plan (TEB-001-0020-05)) has been prepared to meet the requirements of Commonwealth, Western Australian, and Local Government legislation and policy.

The purpose of the Operational Environmental Management Plan (OEMP) is to systematically and continually identify and assess environmental aspects arising from the operation of the DBNGP and manage these so as to eliminate or minimise the impacts to environment to a level that is ALARP over the life of the DBNGP through:

- Informing DBP employees and contractors of their environmental obligations.
- Crystallising the site-specific environmental control procedures for managing environmental impacts.
- Providing rational and practical environmental guidelines for pipeline operation activities to ensure environmental impacts associated with the pipeline operations are appropriately managed.

The OEMP is supported by:

- The DBNGP Master Obligations Register (TEB-001-0044-01) which details the regulatory and legislative obligations (including licences) and other requirements (e.g. industry standards, community commitments) applicable to the operations of the pipeline; and
- The DBNGP Environmental Aspects Register 05/06 which outlines the key activities undertaken on the DBNGP and details potential environmental incidents, potential environmental impacts and control measure

These documents are dynamic and are updated on a regular basis, in consultation with the relevant regulatory authorities, to take into account changes in organisational structure and responsibility, environmental management and standard operating procedures, new technologies and legislation.

4.3 Asset Operating Strategy

As a prudent owner and operator of the DBNGP, DBP has the responsibility of ensuring that the DBNGP assets are developed, operated and maintained in an effective and efficient manner, which is also consistent with DBP's strategic objectives in relation to the short, medium and long-term plans that drive the relationships between asset life/performance, economic returns, operating costs, safety and reliability.

The Asset Operating Strategy provides the critical framework within which the more detailed Asset Management Plan is developed and updated annually. The Asset Management Plan then forms the basis for the Asset Operating, Asset Development Plan and Maintenance Plans that drive the annual work programs and ensure that DBP's asset specific short, medium and long-term strategic objectives are met.

4.4 Asset Management Plan

The main purposes of the Asset Management Plan are to:

- Set out the asset management programs to operate, maintain and develop the DBNGP, and by doing so;
- Demonstrate that the DBNGP assets are developed, managed and maintained in a safe and effective manner that is consistent with DBP's strategic objectives.

The Asset Management Plan inputs are DBP's strategic objectives, as documented in the Asset Operating Strategy (TEB-001-0022-01), as well as the DBNGP Safety Case (TEB-003-0004-01) and the Operational Environmental Management Plan (TEB-001-0020-05). The latter reflect our legal obligations in operating the DBNGP.

The Asset Management Plan is supported by:

- Capacity Development Plan, which encompasses the longer term DBNGP development and utilisation of the DBNGP assets. Therefore, the purposes of the plan are to:
 - Review the capacity development assumptions and criteria to reflect latest changes in both operating environment and strategies;
 - Review and take into consideration the current asset performance;
 - Update the long term plan appropriate for the asset; and
 - Provide a road map for optimum and effective capacity growth.
- Asset Reliability Management Plan, the objective of which is to ensure that the design, operation and maintenance practices employed on the DBNGP are strategically and economically aligned with DBP's business objectives. As such, the main purposes of the Asset Reliability Plan are to:
 - Identify the philosophies, systems and processes used in the optimisation of cost versus asset reliability and availability (including Reliability Centred Maintenance and secondary reliability business processes).
 - Demonstrate that the DBNGP assets are maintained in a safe, efficient and effective manner that is consistent with DBP's strategic objectives.

The Asset Reliability Plan provides input into the Asset Maintenance Plan.

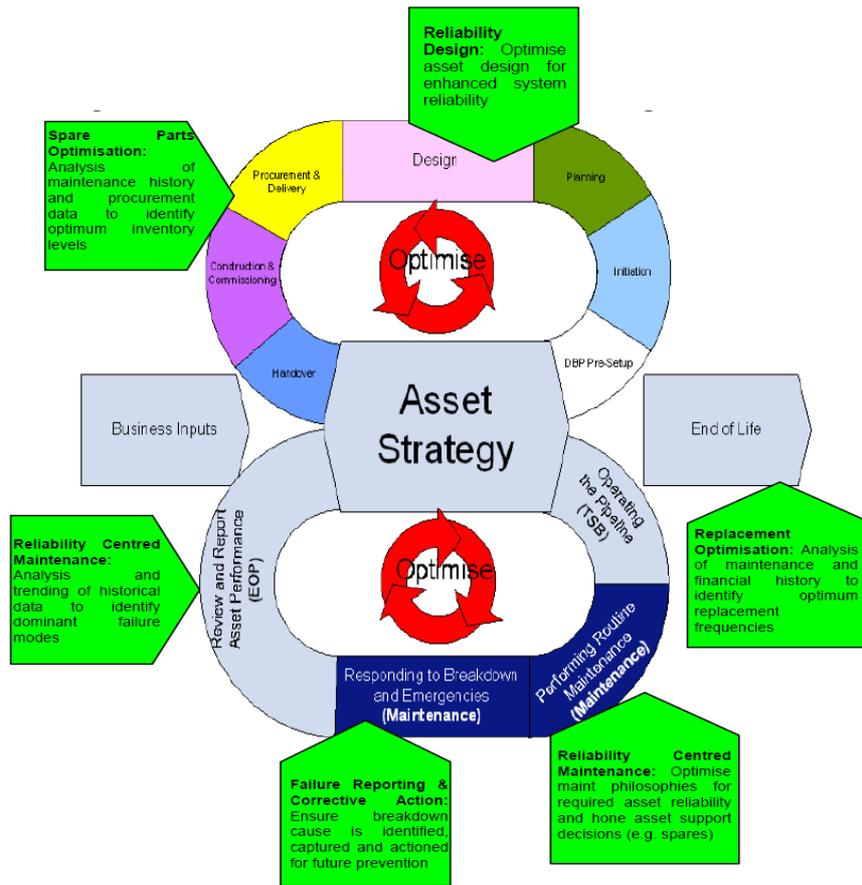


Figure 2 – Asset Reliability Management

The Asset Management Plan is also an input to the Asset Operating Plan (TEB-001-0027-01) and DBP's specific Divisional Business Plans that details the annual programs and their implementation down to the business unit level of the organisation.

Strategies as set out in the Asset Management Plan are updated based on risk management processes and feedback processes for evaluating the performance of the asset from the safety, efficiency and reliability aspects as well as environmental management performance. These improvements and changes to management of the DBNGP are then reflected in the Asset Operating Strategy, the Safety Case and the Operational Environmental Management Plan.

5 The Key Tactical Documents

5.1 Business Plans

The business plans are prepared to document leadership and commitments to capture the delivery requirements of the strategies.

It describes the organisation structure, roles and responsibilities and the key process leadership, the planning processes, the monitoring and evaluation and risk management actions that provides the road map for the implementation of obligations and activities of the Safety Case, the Asset Operating Strategy and the Asset Management Plan.

The business plans also defines the business goals and targets to be achieved in balance with the requirements of the asset.

These plans are evaluated and reviewed annually in line with the key strategic documents.

5.2 Asset Operating Plan

The Asset Operating Plan provides guidance and structure for the operation of the DBNGP by Transportation Services Control Centre (TSCC) in a manner that supports the achievement of the DBP objectives as outlined in the Asset Operating Strategy and the Asset Management Plan.

The plan details the specific operational measures required and recognises the Asset Operating Strategy and the Asset Management Plan, in driving operational efficiencies and optimisation.

It is recognised that the asset management process is a dynamic one, and as such, it will be periodically reviewed and updated to meet DBP’s requirements, as stated in this plan, in light of prevailing changes and developments.

As a minimum this plan will be reviewed, and updated if necessary, annually to reflect any changes and demand on the pipeline.

5.3 Project Management Methodology

The Project Management Methodology (PMM) provides the Project Management Office with a process to ensure that projects are executed consistently in a manner that represents industry best practice. PMM provides direction and assistance on the key areas of Project Management that need to be applied consistently to project initiation, planning, delivery and finalisation phases.

PMM introduces key concepts including requirements for project governance and provides guidance as to other more detailed Procedures that define how particular aspects of the Methodology are executed in practice.

PMM is based on the principles outlined in the Project Management Institute’s Project Management Body of Knowledge (PMI and PMBOK respectively) and a DBP project Lifecycle, as illustrated by Figure 3.

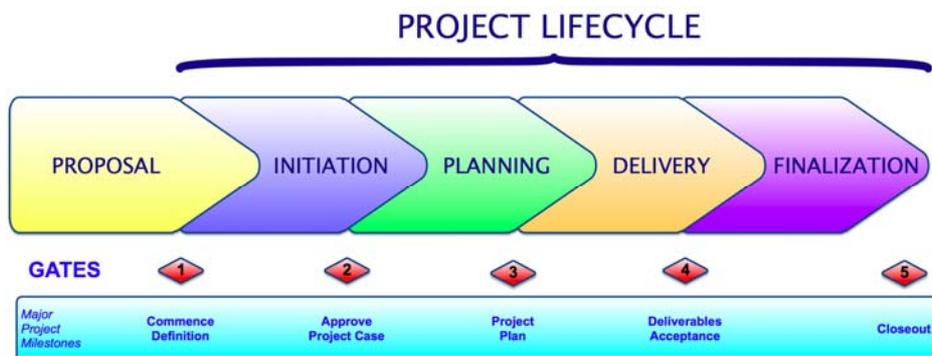


Figure 3 – Project Lifecycle

Various strategy and tactical documents forming part of the Asset Strategy function provide input into the different phases of the project lifecycle to ensure that any additional assets are designed, constructed and commissioned in accordance with the requirements of Asset Strategy documents. This enables the additional assets to be operated safely, efficiently, reliably and in an environmentally acceptable manner.

Correlation between the different phases of project lifecycle and Asset Strategy map is illustrated below:

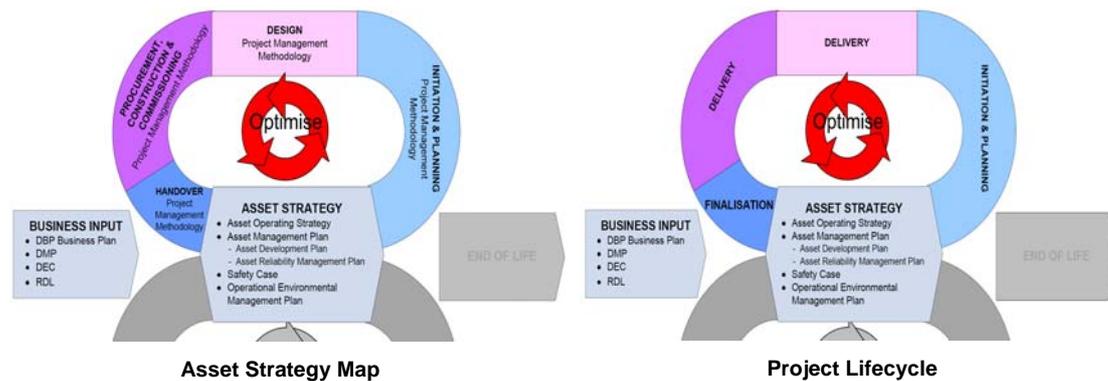


Figure 4 – Correlation Between Asset Strategy Map and Project Lifecycle

5.4 Asset Maintenance Plan

The maintenance philosophy adopted for the DBNGP assets is to provide timely, quality and cost effective maintenance service to operating plants ensuring that the assets are maintained to support the required level of asset integrity, reliability, availability, output capacity and quality, as well as to ensure compliance with Pipeline Licences and other regulatory obligations. Maintenance related activities are continuously being improved using the following maintenance strategies:

- PDM – Predictive Maintenance (scheduled on condition task) is based on condition and performance monitoring, in accordance with the Asset Reliability Management Plan.
- PM – Preventive Maintenance (scheduled restoration or discard task) is performed at a set frequency dictated by the Asset Management Plan to ensure that an asset continues operating correctly and to therefore avoid any unscheduled breakdown and downtime.
- CM – Corrective Maintenance (no scheduled maintenance) are required to bring an asset back to working order after an item has failed or worn out.

Based on these strategies and legislative requirements, individual items requiring maintenance (maintainable items) are created and maintenance activities on those maintainable items are scheduled in the computerised maintenance management system (MAXIMO).

The Asset Maintenance Plan outlines the following key strategic objectives to meet the requirements of the Asset Management Plan (including Asset Reliability Management Plan) and statutory obligations:

- Lead the Maintenance Division to ensure we are nimble, proactive, and innovative.
- Control work practices to deliver compliance and quality.

- Empower our people to achieve superior capabilities through effective succession planning.
- Enhance our work management systems to reflect the business needs.
- Achieve Maintenance Excellence through dedicated review and improvement.

The strategy is diagrammatically represented in



Figure 5 – Maintenance Strategic Map

5.5 Emergency Management Plan

DBP Emergency Response Plan (TEB-003-0021-01) is in place to manage incidents and emergencies so as to limit the consequences of such events. The Emergency Management Framework adopted for the DBNGP is founded on the concepts and principles of emergency management which have been adapted for the Gas Industry from those developed by Emergency Management Australia.

The Emergency Response Plan forms the ‘All Hazards Plan’ and addresses the notification, escalation and mobilisation of Incident Management and Emergency Management Teams, organisation of resources and the actions for managing incidents and emergencies.

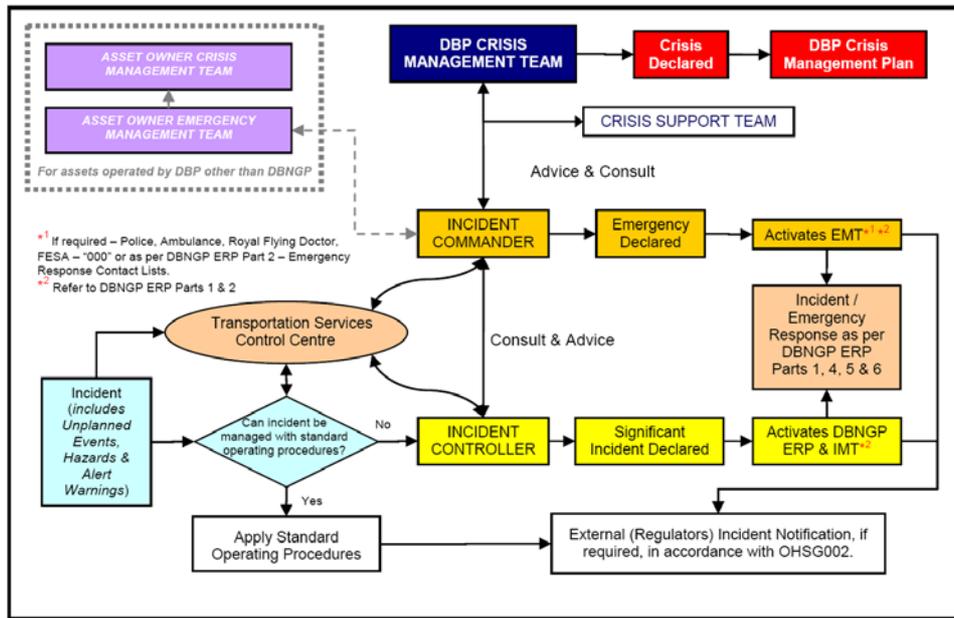


Figure 6 – ERP Escalation and Notification

These emergency response processes (including storage of strategic emergency response equipment) have been designed to effectively respond to all foreseeable incidents and emergencies, as identified in various safety studies forming part of the DBNGP Safety Case, other risk assessments and from operational experience.

DBP undertakes routine exercises that are desk top as well as full mobilisation noting that there are continual real life emergency events that are managed by DBP.