Attachment 9.7

Cost Estimation Methodology 2026-30

January 2025

PUBLIC

Dampier Bunbury Pipeline

Contents

1. Overview

This report provides an overview of the approach and process for estimating the cost of the projects and programs of work required during AA6. The cost estimation process commences with the specification of the work required and then the cost of that work is estimated using an approach that differs depending on the type of work.

The cost estimation process is different for the three different types of work:

1. Ongoing activities are ongoing, volume driven activities where the costs are estimated by identifying the volume of work to be undertaken and applying an historical average unit rate (usually a three-year historical average) that reflects the cost of the volume driven program divided by the volume delivered. Where the program is delivered externally, the unit rates are also matched to similar locations. Examples of these programs include the GEA overhaul and turbine exchange programs;
2. Periodic programs of work are those that may not be required in every regulatory period, or have not been required previously but are expected in the future. These programs have been estimated based on the historical cost of the same or similar program of work. These programs include replacing assets at the end of their useful life; or
3. 'One off' activities expected to be required in the AA6 period which have not been required in the past and are not expected to be required in the immediate future due to its longer designed life (for example, replacement of the Northern communications system). The cost of these activities would usually be determined through a competitive tender process. However, where this is yet to occur, they are estimated in two ways:
    a. Specialists and consultants are engaged to accurately define the scope with AGIG subject matter experts to deliver the existing services, but technology has changed
    b. The scopes are dissected into components and where the work is sufficiently comparable to other work – the most recent historical average unit rate or actual cost and matched to similar locations where the program is delivered externally;
    c. Estimates are developed based on internal estimates from different engineering disciplines or from external engineering specialists as well as accessing construction contractors that are on the AGIG list of preferred vendors.

The unit rates may be based on a consolidation of different unit rates reflecting several different specialist areas and could comprise of resources available internally within DBP or external contractors or consultants. The cost of materials are identified and estimated separately.

There are a number of specialist engineering disciplines considered when estimating the cost of unique or one off work where no comparable unit rate, or project or program or actual cost is available. For each specialist discipline a different unit rate is applied based on the work activity.

Table 1.1 Below presents the specialist engineering disciplines and work activities.

Table 1.1: Engineering disciplines and work activities used to apply unit rates

Specialist engineering disciplines	Work activities
• Telecommunications • Cathodic Protection (CP) • Electrical, Control and Instrumentation (ECI) • Mechanical, Structural and Civil • Metering (gas measurement) • Rotating Equipment (Rotating) • Operational Technology (OT) • Corporate • IT • Communications • Operations • Health & Safety • Vehicles (Transport and Plant) • Tools (special tools and equipment)	• Asset installation • Asset removal/decommissioning • Asset repair/maintenance • Asset replacement/overhaul • Asset testing • Inspections

1.1. Efficient cost estimates

The costs applied in the AA6 expenditure forecast comprise of internal labor, external (contract/consultant) labor, services and materials. The weighting for each component reflects the actual average over time unless otherwise specified.

The forecast of labor costs reflects the weighted average cost incurred for the same program of work over the past three years except when there is a more recent commercial agreement with an external provider which identifies unit rates and costs that will continue to apply to future work.

A three-year historical average is adopted because it is more likely to reflect variations over time as a result of changes in work practices, costs, productivity and efficiency as well as any changes in commercial arrangements such as indexation or refreshed tender processes.

For example, there may be variances in individual unit costs within a unitised program of work due to geographical location or other operational anomalies, however, unless there is better information about future events or changes that may affect the cost of undertaking the work, a historical average unit rate represent the best estimate available at the time.

All contracts are managed and monitored as per the AGIG Procurement Policy and Purchasing Procedure (previously the DBP Purchasing Policy), which focuses exclusively on the efficient, cost effective and ethical procurement of goods and/or services from suppliers in order to ensure DBP maximises savings whilst mitigating the risks associated with the provision of goods and services to achieve excellence in both operational and financial performance.

The procurement of materials and labor that are captured in historical costs are considered to be efficient because they are subject to procurement policy and purchasing procedure to ensure the best commercial outcome. The process requires either a competitive tender process for material value contracts or the consideration of written quotes where the items are lower value and the cost of tendering is disproportionate relative to the expected savings from the process as outlined in

Table 1.2.

Table 1.2: Minimum purchasing requirements

	< $1K	< $20K	$20K - $100K	$100K - $250K	$250K – $500K	$500K+
Via existing Supply Agreements in place	1 written quote (min.) required from available Supply Agreements conducted by the business then validated by C&P			3 written quotes (min.) required from available Supply Agreements conducted by the business then validated by C&P		Tender process min. 4 bidders conducted by C&P
NO existing Supply Agreements in place	Credit card (if-available) for non-inventory items or Purchase Order	1 written Quote (min.) conducted by the business then validated by C&P	3 written quotes (min.) conducted by the business then validated by C&P	3 written quotes (min.) conducted by the business then validated by C&P	3 written quotes (min.) conducted by C&P	

Approval of a sole source justification is required where the purchase is greater than $20,000 in value and there is recommendation to go to a single vendor, including where that is an original equipment manufacturer. The sole source justification must set out the grounds on which this is sought and may include the previous experience of the vendor, the location of the vendor or other factors that are expected to result in cost savings compared to other vendors, evidence that no other appropriate vendors are available or where it is an extension of other work underway where that vendor was selected as the result of a competitive tender process. Vendor safety performance (both occupational and process) are also important considerations in the assessment of vendors to undertake work on the DBNGP. Sole sourcing is also applicable to equipment and services providers like Solar and Nuovo Pignone on gas turbines and compressors because they are the sole providers of services for their machines. In the case of Solar where we have a large fleet, AGIG has entered into a 5-year renewable services agreement for the provision of specialise support, upgrades of control systems as well as 30,000 hours overhaul of gas turbines.

New contracts and arrangements are assessed against historical actual rates and costs to ensure that they are reasonable. Where there are variances between the AA5 actuals and AA6 estimates, these will be explained for each of the individual projects/programs within the relevant discipline and category.

Using comparable recent actual costs, or developing an estimate based on the specification of work broken down by specialist expertise or external estimates (where recent actual costs are not available) is a reasonable basis for estimating costs and represents the best forecast or estimate possible in the circumstances consistent with Rule 74 of the National Gas Rules (NGR).

Some unit rates can be affected by foreign currency fluctuations. Where this is the case, the most recent actual unit purchase price in AUD equivalent is considered the unit rate component for the AA6 period, rather than the average actual over AA5.

1.1.1. Basis of costs

All values in this report are expressed in thousands of dollars real unescalated as at December 2024 unless otherwise stated.

1.2. Investment governance

Our business planning doesn't stop with each AA period. We continually update our capex plans to respond to changing business needs.

In the annual planning process, proposed capex projects are risk ranked and then submitted to our Project and Procurement Review Committee (PPRC) where funding requirements, resource availability and optimised delivery of the plan are considered. Risk ranking is refreshed to ensure projects identified as required in the medium term are accelerated or deferred where prudent, and to allow us to respond to significant unplanned events.

The approved capex projects are provided with our annual budget plan each year for Board approval. Once approved, projects are managed and monitored in line with our Project Management Methodology (PMM).

We categorise our capex as either:

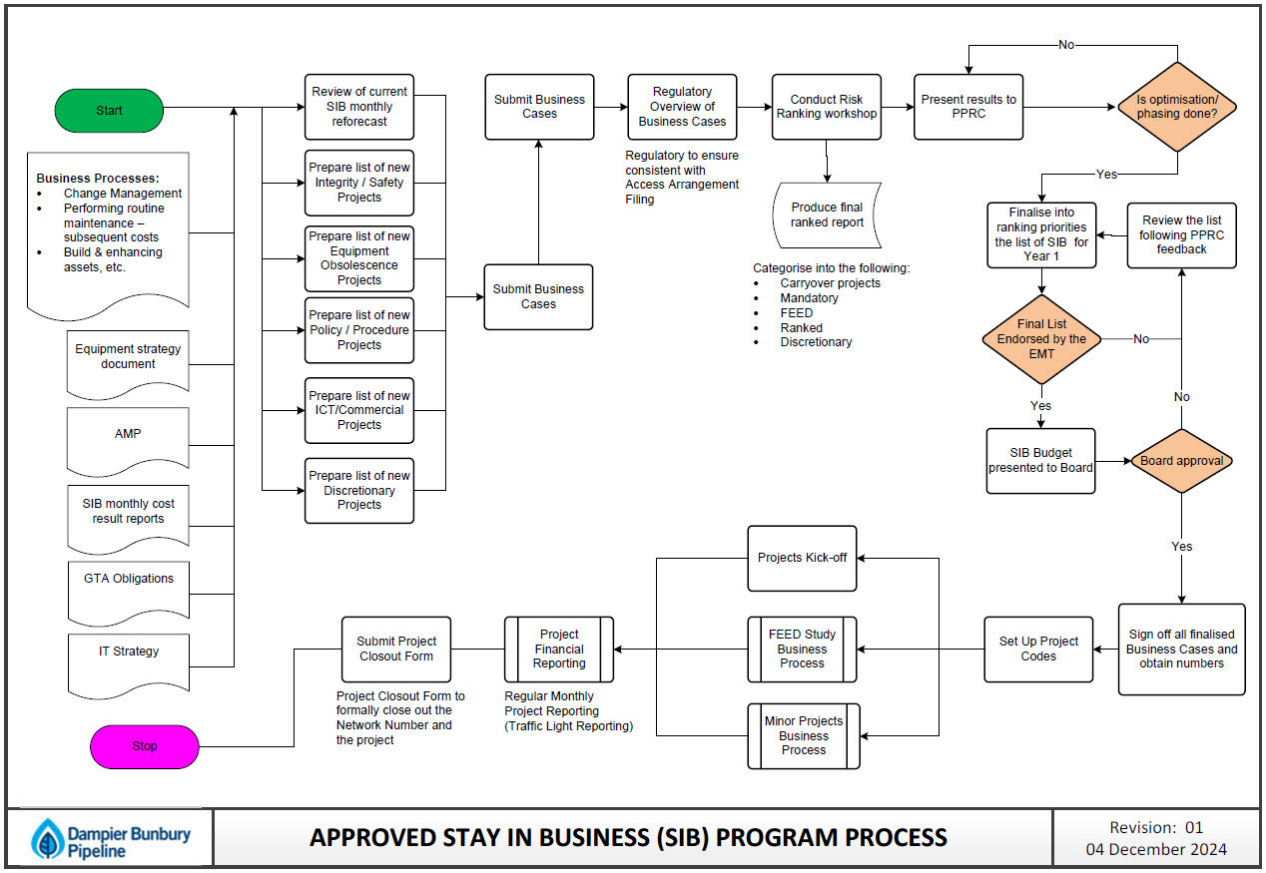
- stay-in-business (SIB) capex – where it maintains or improves our ability to deliver the current quantity of services our customers demand; or
- expansion capex – where it is required to increase the quantity of services we can deliver to our customers.

Our forecast capex in AA6 is solely SIB capex totaling $285.3 million (Dec 2024, excluding labour cost escalation). This report also includes $78.2 million in bottom-up build initiatives which are included in regulatory opex.

1.2.1. Stay-in-business capital process

Our SIB capex process is summarised in Figure 1.1 below.

Figure 1.1: Summary of our SIB process



Asset managers submit projects for screening and risk ranking based on business processes (such as Management of Change and routine maintenance), equipment strategies, our Asset Management Plan (AMP) and our obligations.

Subsequent to the screening and risk ranking process, the proposed SIB project list undergoes a Regulatory Overview of Business Cases to ensure consistency with AA filing documents. It is then presented to our Project and Procurement Review Committee (PPRC) (formerly PRC) for evaluation taking into consideration funding requirements and resource availability and any major deviation between the year's business revised risk priorities and the AA filed documents.

Based on the feedback from the PPRC, the SIB list for year is finalised together with an optimised list for the 5-year planning cycle to ensure funding and resource requirements are balanced (without significant fluctuations) for each year in comparison with other years within the planning cycle. This forms part of the budget pack for sign off from the Board.

Following Board approval of the budget, SIB projects are authorised for execution by the Executive Management Team or Chief Executive Officer, as per the Delegation of Financial Authority, prior to transitioning into appropriate business processes, which include planning, detailed design, procurement of materials, construction and commissioning and operational readiness in line with our Project Management Methodology.

2. Ongoing activities

The forecast expenditure program includes a number of ongoing activities that are volume-driven, substantially repeatable and delivered in a consistent manner over time. For these programs, the estimate cost for the forecast program is based on identifying the volume of work required and applying an historical unit rate, typically a three-year average.

The unit rate or program work costs may be based on a consolidation of different unit rates reflecting several different specialist areas and could comprise of resources available internally within DBP or external contractors or consultants. Where the program is delivered externally, the unit rates reflect current contracting arrangements and are also matched to similar locations.

Historical unit rates are broken down into the specialist discipline and work activity (as summarised in Table 2) and may include materials and other costs. Where materials and other costs are not included in historical unit rates the estimate reflects historical average costs or the costs included in commercial agreements.

The volume of work represents the best estimate for AA6 based on AMP, risk-based condition assessment and delivery optimisation considerations. The work required and options considered are outlined in the relevant business case.

2.1. Forecast expenditure for ongoing activities estimated using unit rates

The forecast expenditure for ongoing activities is $124 million and represents 34% of the AA6 expenditure forecast (including bottom-up items treated as regulatory opex). The programs are delivered by a mix of internal and external resources. Table 2.1 below shows the programs of work for ongoing activities in AA6 where the costs are forecast based on unit rates. More detailed information on the volume and unit rate assumptions is provided in section 2.3.

Table 2.1: Ongoing activities estimated based on unit rates in AA6

Project/initiative name	Engineering discipline	Activity type	AA6 forecast expenditure
Turbine exchange/overhauls	Rotating	Asset replacement/overhaul	28,484
Refurbishment of below ground pipework	CP	Inspections	9,755
GEA engine overhaul	Rotating	Asset replacement/overhaul	3,500
Annual replacement of DBNGP fleet vehicles	Vehicles	Asset replacement/overhaul	9,000
Meter Station Valves and Control Valves overhauls	Metering	Asset replacement/overhaul	4,490
Painting of aboveground facilities	CP	Asset repair/maintenance	3,548

Project/initiative name	Engineering discipline	Activity type	AA6 forecast expenditure
Dry gas seal replacement.	Rotating	Asset replacement/overhaul	2,496
Integrity Management	EOP	Asset repair/maintenance	1,000
Annual allocation for MoC projects	EOP	Asset repair/maintenance	2,500
Hazardous area inspection and rectification	ECI	Asset repair/maintenance	2,155
Tools	Tools	Asset replacement/overhaul	3,780
Recycle valve replacement/overhaul	Mechanical	Asset replacement/overhaul	1,200
DCVG and dig up of unpiggable pipes at facilities	CP	Inspections	1,100
SCADA hardware upgrade (various hardware)	OT	Asset replacement/overhaul	6,891
I-05 Other Core Systems	Corporate IT	Asset repair/maintenance	1,000
Refresh of Core Business Applications	Corporate IT	Asset repair/maintenance	6,306
Inspection of pressure vessels and pressure relief valves	Mechanical	Inspections	9,007
SCADA software upgrade (various software	OT	Asset repair/maintenance	3,252
Electrical Protection Integrity Testing	ECI	Asset testing	825
Citrix farm and Citrix virtual servers	Corporate IT	Asset repair/maintenance	351
DMZ upgrade	Business Systems	Asset repair/maintenance	605
Replacement of civil equipment - truck, grader and tractor, manitou, safe transport	Plant	Asset replacement/overhaul	3,575
Safety Case Revision and remaining life review	Safety	Asset repair/maintenance	570
WHS Improvement Projects	Safety	Health & Safety	635
DCVG of unpiggable pipes{This is duplication – see above)	CP	Inspections	380
CP Visibility of compressor stations	CP	Inspections	360
Rectification of Corrosion Under Insulation at CS	Mechanical	Asset repair/maintenance	1,100

Project/initiative name	Engineering discipline	Activity type	AA6 forecast expenditure
Annual digup program based on Runcom results	CP	Asset repair/maintenance	2,255
Inspection and Re-preservation of Compressor Bundles in Storage	Rotating	Inspections	35
VOC and VBEX monitoring	Health and Safety	Safety	348
Maximo Upgrade	Business systems	Asset repair/maintenance	3,000
OneERP Maximo incremental functionality enhancement	Business systems	Asset repair/maintenance	1,000
OneERP S/4/HANA Upgrade	Finance systems	Asset repair/maintenance	3,250
OneERP SuccessFactors Half Yearly Releases	Business systems	Asset repair/maintenance	650
OneERP S/4HANA incremental functionality enhancement	Finance systems	Asset repair/maintenance	3,250
Application architecture tool	Corporate IT	Asset repair/maintenance	444
Data Archiving	Corporate IT	Asset repair/maintenance	604
Centralised GIS System	Business Systems	Asset repair/maintenance	1,333
AA6 Ongoing activities forecast			**124,034**

2.2. Current status of supporting contracts

We rely on external resources to deliver a number of ongoing activities which are supported by contracts. These contracts have been established based on a competitive tender process or reflect the preferred supplier subsequent to reviewing multiple quotes as required by the procurement policy.

The existing contracts for external labor and materials which are relevant to the historical actual unit rates and estimated unit rate forecasts for AA6 are summarised in Table 2.2 below, identifying the services provided as well as the process undertaken prior to entering into the arrangement.

Table 2.2: Relevant contracts underpinning unit rate forecasts and current status

Supplier	Engaged for the provision of	Specialist engineering discipline	Process for engagement
[redacted]	Labour and materials	ECI / Rotating	Sole Source - Original Equipment Manufacturer
[redacted]	Labour and materials	CP / Mechanical	Sole Source - Justification approved at DFA level
[redacted]	Labour only	ECI / Mechanical	Sole Source - Justification approved at DFA level
[redacted]	Labour only	ECI / Mechanical / CP	Alternative Services Providers also under contract [redacted]
[redacted]	Labour only	Rotating	Alternative Services Providers also under contract [redacted]
[redacted]	Labour and materials	Mechanical / CP / ECI	Alternative Services Providers also under contract [redacted]
[redacted]	Logistics services	Rotating / ECI / CP	Sole Source - Justification approved at DFA level
[redacted]	Labour and materials	OT / Telecommunications	Sole Source - Justification approved at DFA level
[redacted]	Labour and materials	Mechanical	Sole Source - Justification approved at DFA level
[redacted]	Labour only	Mechanical / ECI / Rotating / Telecommunications	Alternative Services Providers also under contract [redacted]
[redacted]	Labour and materials	Safety	Competitive Tender (AWB Building, Karratha Building Co and Coral Coastal Homes)
[redacted]	Materials only	Corporate	[redacted]
[redacted]	Labour only	ECI / Mechanical / CP / Telecommunications	Sole Source - Justification approved at DFA level
[redacted]	Labour and materials	Mechanical	All valving equipment purchases are competitively tendered between two or more vendors depending on value
[redacted]	Labour only	Mechanical	Sole Source - Justification approved at DFA level
[redacted]	Labour and Materials	Corporate	Purchase Orders as required, subject to purchasing procedure.

[redacted]	Labour only	CP	Sole Source - Justification approved at DFA level This scope was recently tendered, and they won the contract ... not sole source
[redacted]	Labour and materials	Mechanical / ECI	Competitive Tender [redacted]
[redacted]	Labour only	Mechanical/ECI	Competitive Tender [redacted]
[redacted]	Labour and materials	ECI	Sole Source - Justification approved at DFA level
[redacted]	Labour and materials	ECI	Sole Source - Justification approved at DFA level

2.3. Forecast unit rates for ongoing activities by work program

The following sections provide further information on the estimated costs and volumes for ongoing activities in AA6 by work program. The unit rates reflect historical average or contracted rates. Where contracts are scheduled to expire, unit rates have been assumed to be maintained at the current rate unless there are specific drivers for a change, which are individually identified in the relevant section below.

Some unit rates can be affected by foreign currency fluctuations. Where this is the case, the most recent actual unit purchase price in AUD equivalent is considered the unit rate component for the AA6 period, rather than the average actual over AA5. Unit rates could also be affected by the location of the works as the DBNGP spans the state from Dampier to Bunbury through remote areas of Western Australia.

All unit rate values are expressed in real un escalated dollars of December 2024 unless otherwise stated.

The forecast volume of work reflects the best estimate for AA6 based on asset management plans, risk-based assessment and delivery optimisation considerations. Further information on the work required and options assessed is captured in the relevant business case.

2.3.1. Rotating

Rotating equipment assets are a subset of pipeline mechanical equipment, made up of gas turbines driving compressors and power generation (Gas Engine Alternators- GEA's) and their associated sub systems. There are a number of ongoing activities in this program of work that are volume based; overhauling turbines, overhauling GEAs, replacing dry gas seals, and inspecting and re-preserving compressor bundles in storage.

2.3.1.1. Turbine overhaul

Gas turbines driven centrifugal compressors are used to maintain pipeline pressure to meet gas demand. There are two operational turbines within each of the ten compressor stations (20 total). The turbines are overhauled once the manufacturer's guideline for operational hours is exceeded to avoid, compromising its integrity and potential failure.

Overhaul of a gas turbine includes the transport and acceptance of the unit at Solar's designated plant, the disassembly, inspection, repair or replacement of subcomponents with refurbished parts (at zero hours) using strict engineering quality processes that is witnessed by AGIG subject matter expert. The refurbished unit is reassembled and air tested at the plant to confirm performance of the turbine before it is packaged up and transported to the DBNGP for installation and commissioning to full service.

During AA6, five turbines are forecast to be overhauled compared to five turbines in AA5, with allowance for two premature failures/repair, compared to three in AA5.

Table 2.3: Unit rates forecasts ($'000) for turbine overhauls

Turbine overhauls	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit rate	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labor, external labor, materials, travel and other costs for the turbine overhauls and is based on a three-year historical average.

The unit rate for [redacted] is [redacted]m compared to [redacted] for [redacted]. One of the overhauls in AA6 is for a [redacted] turbine, resulting in a higher unit rate than that experienced in AA5, which will be slightly offset by two less premature failures/repairs. GE Turbines are larger and heavier industrial gas turbines compared to the [redacted]. The volume of [redacted] fleet serviced by [redacted] worldwide has enabled the formalisation of an overhaul agreement whereby machines are returned to [redacted] for overhaul and in return a new engine is rebuild at the plant tested and returned to the DBNGP to replace the engine that has reached its operating 30,000 hours. GE which now services the two [redacted] gas turbines do not have the volume to support an overhaul agreement like [redacted], so the unit is returned to Florence for repairs whilst the spare unit at Jandakot is installed and the repaired unit is returned for spare long-term storage. The unit costs reflect the number of units on the market and what we have installed in the DBNGP with 2 [redacted] and 18 Solar units. The [redacted] service agreement does not justify the need for a spare as premature failures have been replaced quickly by [redacted] by redirecting other units being overhauled in their workshop to meet DBNGP urgent needs. The long turnaround time for a Nuova Pignone unit to be repaired had necessitate the holding of a spare engine at Jandakot that can be swapped with the unit as it approaches its overhaul due date and allows time for GE to overhaul the engine for spare holding. This turnaround time can take up to 12 months.

Specialist engineering disciplines, procurement and construction management (EPCM) activities are provided utilising internal resources.

The work will be delivered with external labor provided by [redacted] or [redacted]. The solar turbine is provided by [redacted] and the [redacted] turbines have been provided by [redacted].

2.3.1.2. GEA engine overhaul

The purpose of a GEA is to generate electricity. They are used at compressor stations as prime power generation and at mainline valves for backup power generation for battery charging.

GEAs need to be serviced at regular intervals and undergo overhauls at 12,000, 24,000, 48,000 and 52,000 hours. In AA6, we will overhaul 10 [redacted]

Table 2.4: Unit rates forecasts ($'000) for GEA engine overhaul

GEA overhaul	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit rate (3 year average)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external labour, materials, travel and other costs and is based on a three-year historical average.

EPCM activities are provided utilising internal resources. The delivery of the work will be undertaken by external resources provided by either [redacted] or [redacted] under a preferred supplier contract.

[redacted] and [redacted] supply the equipment for this program under a preferred supplier contract. The costs are specific to the GEA that is being overhauled. The estimated cost for the equipment in AA5 is based on historic averages and contracted rates.

2.3.1.3. Dry gas seal replacement

A dry gas seal and buffer seal work together to create a barrier or buffer between gas and oil on the driven compressor impeller bundle during operation of compressor units. All current operational units have dry gas and buffer seals installed. Dry gas seals are three times the cost of buffer seals to replace. Seals are replaced based on condition, with an allowance for the equivalent of six replacements every three-years included in AA6 compared to the equivalent of six so far in AA5.

The replacement cost of dry gas and buffer seals can also vary depending on location (with seals at remote locations costing more to replace than at metropolitan locations).

Table 2.5: Unit rates forecasts ($'000) for Dry gas and buffer seal replacement

Dry gas and buffer seal replacement	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit rate (three-year average)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external labour, materials, travel and other costs for the dry gas and buffer seal replacement program and is based on a three-year historical average.

Internal labour is utilised for delivery. Materials are supplied by the OEM; [redacted] and [redacted] or their authorised subcomponent manufacturers and managed in line with our OEM and preferred supplier contracts.

2.3.1.4. Inspection and re-preservation of Compressor Bundles in storage

This program includes the inspection of compressor bundles in long term storage in Jandakot and, when required, refreshing the preservation to mitigate against corrosion. They are inspected periodically to confirm the condition of the desiccant is adequate as a secondary measure to prevent corrosion on the bundles.

An allowance has been included in AA6 for inspection and re-preservation of [redacted]

Table 2.6: Unit rates forecasts ($'000) for inspection and re-preservation of compressor bundles in storage

Inspection and re-preservation of compressor bundles in storage	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	-	[redacted]	0	0	0	0	[redacted]
Total units	-	[redacted]	0	0	0	0	[redacted]
Unit rate (three-year average)	-	[redacted]	0	0	0	0	[redacted]

The unit rate includes the internal labour, external labour, materials, travel and other costs for the inspection and re-preservation of compressor bundles program and is based on a three-year historical average.

Project management and delivery will be undertaken by internal and external resources depending on capacity and opportunities to bundle with other works and represents the majority of costs.

2.3.2. Corrosion Protection

A key system used for corrosion protection is Cathodic Protection (CP), the main function of which is to prevent corrosion of buried pipeline and piping. The cathodic protection system uses impressed current and sacrificial systems and is connected to all buried pipelines and includes the mainline, loop lines, laterals and pipework installed inside facilities, meter stations, compressor stations and mainline valves.

This program includes four ongoing programs; refurbishing below ground pipework, painting of aboveground facilities and managing the integrity of un piggable pipes and digging up below ground pipework to verify the condition.

2.3.2.1. Refurbishment of below ground pipework

The program involves exposing the below ground pipework at compressor stations and meter stations, assessment of coating condition, sandblasting, inspection, recoating and backfilling. The refurbishment of below ground pipework is driven by ongoing in service inspection, monitoring and risk assessment.

Table 2.7: Unit rates forecasts ($'000) for refurbishment of below ground pipework program

Refurbishment of below ground pipework	AA5 Forecast	AA5 Forecast					
	AA5 Forecast	2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure:	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units Compressor Stations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units – Meter Stations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit rate (three-year average)							
Compressor Station	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Meter Station	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external labour, materials, travel and other costs for the refurbishment of below ground pipework and is based on a three-year historical average.

EPCM and integrity assessment is undertaken by internal resources.

The civil works, blasting and painting will be delivered by external labour provided by [redacted] Digging around the pipeline is one of the highest risk asset management activities we undertake. These contractors have a long history of delivering this work to high safety and quality standards and their contracts are regularly reviewed in line with the Procurement Policy and Purchasing Procedure to ensure competitive and efficient pricing is achieved.

The purchase of paint and coating materials and other consumables is consistent with the minimum purchasing requirements for low value purchases.

2.3.2.2. Painting of Aboveground Facility

This program involves the painting of meter stations, MLVs and compressor stations. In general the painting condition on the whole asset is 30+ years old and needs to be refurbished.

The estimated unit rates are based on the historical average cost for coating refurbishment as follows:

1. Compressor Stations - [redacted]
2. Meter Stations - [redacted]
3. Main Line Valves - [redacted]

Table 2.8: Unit cost forecasts ($'000) for Painting of Aboveground Facility

Painting of Aboveground Facility	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total CS units	[redacted]	[redacted]	[redacted]	[redacted]			[redacted]
CS unit cost	[redacted]	[redacted]	[redacted]	[redacted]			[redacted]
Total MS units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MS unit cost	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total MLV units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MLV unit cost	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]9

The unit cost includes the internal labour, external labour, materials, travel and other costs for the Painting of Aboveground Facility program.

EPCM activities will be provided by internal resources. The delivery of the work and supply of required materials will be undertaken by external providers. External resources are selected based on standard procurement processes as per the Procurement Policy.

[redacted]

DCVG and dig up of un piggable pipes is a core practice in monitoring the condition of and providing assurance around the effectiveness of corrosion protection measures such as pipeline coating and cathodic protection. Contractors that have been utilised include Orontide Alphablast, West Coast Soda Clean and DFT Coating Services.

The AA6 program allows for five dig ups per year, with a smaller program in [redacted]

Table 2.9: Unit cost forecasts ($'000) for DCVG and digup of unpiggable pipes

DCVG and DCVG and digup of unpiggable pipes	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure-DCVG & Digup of unpiggable pipes	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	6	6	6	6	[redacted]
Unit rate (three-year average)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total forecast expenditure-DCVG of unpiggable pipes	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit rate –DCVG of unpiggable pipes	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external labour, materials, travel and other costs for the DCVG and digup of unpiggable pipes is based on a three-year historical average.

EPCM and integrity assessment is provided by internal resources. civil works will be delivered by external labour provided by [redacted] Digging around the pipeline is one of the highest risk asset management activities we undertake. These contractors have a long history of delivering this work to high safety and quality standards, and their contracts are regularly reviewed in line with the Procurement Policy and Purchasing Procedure to ensure competitive and efficient pricing is achieved.

2.3.2.4. Annual dig-up program based on ILI

This program involves the excavation and physical inspection of the pipeline to verify in line inspection results which have identified pipe defects. Ten excavations are forecast each year for AA6. This compares to 43 in AA5, with the works in this program aligning to the timing of pigging. There will be a pickup in dig-up activity in AA6 coinciding with the next cycle of intelligent pigging.

Table 2.10: Unit cost forecasts ($'000) for annual dig-up based on ILI

Annual dig-up based on ILI	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit rate (three-year average)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external labour, materials, travel and other costs for the dig-up program based on a three-year historical average.

EPCM and integrity assessment is provided by internal resources. As with the above program, the civil works will be delivered by external labour provided by [redacted] (in the north) and [redacted] (in the south). Digging around the pipeline is one of the highest risk asset management activities we undertake. These contractors have a long history of delivering this work to high safety and quality standards and their contracts are regularly reviewed in line with the Procurement Policy and Purchasing Procedure to ensure competitive and efficient pricing is achieved.

2.3.2.5. CP Visibility of compressor stations

The compressor station SCADA CP visibility program of work in AA6, will provide visibility of the CP performance on the pipework within the compressor station. Station pipework is exposed to most severe conditions of operations with fluctuating pressures, temperatures driven by the compressors and the ground conditions under which the pipes are buried. CP is the primary form of protection, together with coating systems monitoring. This project proposes to install devices that can monitor the level of CP being injected and achieved at selected sections of the station pipework. This will enable remote adjustments to be made on a continuous basis.

The AA6 program will provide additional visibility to CS01 and CS02.

Table 2.11: Unit cost forecasts ($'000) for CP Visibility of compressor stations

CP Visibility of compressor stations	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit rate	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external labour, materials, travel and other costs for the dig-up program based on a CS09 CP visibility completed in AA5.

EPCM activities will be provided by internal resources. The delivery of the work and supply of required materials will be undertaken by external providers, [redacted] and [redacted]. External resources are selected based on standard procurement processes as per the Procurement Policy.

2.3.3. Mechanical

2.3.3.1. Recycle valve replacement/overhaul

This program involves the major overhaul or strip [redacted]

Table 2.12: Unit cost forecasts ($'000) for recycle valve replacement/overhaul

Recycle valve replacement/overhaul	AA5 Forecast*	AA6 Forecast					
		2026	2027	2028	2029	2030	2026
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total overhaul units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit rate (three-year average)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external labour, materials, travel and other costs for the recycle valve replacement/overhaul program and are based on a three-year historical average.

EPCM activities are provided by internal resources. Valve are supplied by the three OEMs [redacted].

2.3.3.2. Inspection of pressure vessels and pressure relief valves

This program involves the inspection of both pressure valves and water bath heaters for turbine fuel gas temperature control. The inspection program runs on a 4 yearly basis, as required by AS3788. Where the previous vessel inspection indicated no corrosion/deterioration of the vessel, the inspection method could be changed to non-intrusive inspection for the subsequent one, remaining compliant with the requirements of AS3788 but reducing the unit cost significantly relative to historical.

Table 2.13: Unit cost forecasts ($'000) for inspection of pressure vessels and pressure relief valves

Inspection of pressure vessels and pressure relief valves	Measure	AA5	2026	2027	2028	2029	2030	AA6
Total forecast expenditure		6,724	1,767	1,767	2,028	1,723	1,723	9,007
Pressure vessel – compressor stations	Total	[redacted]						
	Units	[redacted]						
	Unit cost	[redacted]						
Pressure vessel – meter stations	Total	[redacted]						
	Units	[redacted]						
	Unit cost	[redacted]						
Pressure vessel – mainline valves	Total	[redacted]						
	Units	[redacted]						
	Unit cost	[redacted]						
Pressure relief valve – compressor stations	Total	[redacted]						
	Units	[redacted]						
	Unit cost	[redacted]						
Pressure relief valve – meter stations	Total	[redacted]						
	Units	[redacted]						
	Unit cost	[redacted]						
Pressure relief valve – mainline valves	Total	[redacted]						
	Units	[redacted]						
	Unit cost	[redacted]						

The unit rate includes the internal labour, external labour, materials, travel and other costs for the inspection of pressure vessels and testing / certification of the pressure relief valves.

EPCM activities will be provided by internal resources. The delivery of the work and supply of required materials will be undertaken by external resources. External labour is delivered by [redacted]

2.3.3.3. Rectification of Corrosion Under Insulation at CS

This program involves the completion of the remaining scope for the Corrosion Under Insulation project that was started in AA5. The remaining scope includes the installation of chain link and signage to identify hot pipework where the insulation has been removed.

Table 2.14: Unit cost forecasts ($'000) for rectification of corrosion under insulation at CS

Rectification of corrosion under insulation at CS	AA5 Forecast*	AA6 Forecast					
		2026	2027	2028	2029	2030	2026
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total overhaul units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit rate (three-year average)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external labour, materials, travel and other costs for the rectification of corrosion under insulation at CS program and are based on historical average costs in AA5.

EPCM and integrity assessment is provided by internal resources. As with the above program, the civil works will be delivered by external labour provided by GPC (in the north) and Granotek (in the south). These contractors have a long history of delivering this work to high safety and quality standards and their contracts are regularly reviewed in line with the Procurement Policy and Purchasing Procedure to ensure competitive and efficient pricing is achieved.

2.3.3.4. ECI

The Electrical, Control and Instrumentation activities are used to operate and protect plant as well as to provide an interface for displaying the current and historical status of the plant. There are three volumetric programs in AA6 including the inspection and rectification of hazardous areas, testing electrical protection integrity and upgrading HMI software.

2.3.3.5. Hazardous area inspection and rectification

This is a [redacted]. The work is split into two programs based on the location type; compressor stations (which are more complex sites), meter stations and mainline valves (which are less complex sites).

The total cost for each section will also depend on the repair and rectification work that is required. We have assumed the level of repairs and rectification addressed during AA5 are reflective of typical levels and have no reason to think these levels will change in AA6.

Is some of the meter stations and MLV scopes have been captured under the CS program in AA5 but overall the intent of this scope is to ensure all field equipment located in hazardous areas regardless of process are assured to be operating in compliance with this requirement.

Table 2.15: Unit cost forecasts ($'000) for Hazardous area inspection and rectification

Hazardous area inspection and rectification	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Hazardous area inspection and rectification at compressor stations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Hazardous area inspection and rectification at MLVs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Hazardous area inspection and rectification at Meter stations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external labour and materials, travel and other costs for the electrical protection integrity testing program and is based on historical cost of inspection and rectification works across the pipeline.

EPCM is undertaken by internal resources. The delivery of the work will be by external resources. [redacted] are specialists in this field and are contracted to deliver the external labour, which includes the physical inspection on site, rectification or repair on site and all associated reports.

2.3.3.6. Electrical Protection Integrity Testing

This program involves the protection setting testing of the 415 volt AC to switch gear. AA6 program of 2 per year so all 10 stations will be complete every 5 years.

Table 2.16: Unit cost forecasts ($'000) for Electrical Protection Integrity Testing program

Electrical Protection Integrity Testing program	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]						
Total units							
Unit rate (three-year average)							

The unit rate includes the internal labour, external labour, materials, travel and other costs for the electrical protection integrity testing program and are based on a three-year historical average.

Project management is undertaken by internal resources. The delivery of the work and supply of materials is by external resources. NHP is contracted to provide the external labour.

2.3.4. Safety

2.3.4.1 Safety Case review

The Safety Case will be revised and updated in AA6 to reflect changes in assets, operational requirements and review the appropriate remaining lives. The Safety Case is required to be revised and signed off by the Department of Energy, Mines, Industry Regulation and Safety every five years, with the last 5 yearly review completed in 2022.

Table 2.17: Unit rate forecasts ($'000) for Safety Case review

Safety Case review	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]						
Total units							
Unit rate (three-year average)							

The unit rate includes all costs for the Safety Case revision and is anticipated to be undertaken internally.

2.3.4.2 Health, safety and environment

In line with our Zero Harm principles, we undertake ongoing improvements in our health, safety and environment (HSE) obligations. They are required to keep our staff and the public safe in a

constantly changing environment.

Continued investment in HSE improvement projects is necessary and fundamental to our vision and approach to asset management and operation as well as meeting our workplace health and safety obligations, and Safety Case.

Table 2.18: Unit rate forecasts ($'000) for Health, safety and environmental

WHS Improvements (BAU HHealth, safety and environment	AA4 Forecast	AA5 Forecast					
		2021	2022	2023	2024	2025	TOTAL
WHS Improvements (BAU HSE)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
HSE VOX and BTEX monitoring	[redacted]	[redacted]	[redacted]				[redacted]
HSE Total Expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The forecast opex under this option is $983,000 for the AA6 period. This estimate is aligned with the average actual per annum cost during AA5 including the arc study project which is expected to be a similar size to the VOC and BTEX monitoring project.

2.3.5. Metering

The volumetric metering program includes the replacement and overhaul of meter station pressure control valves and shutdown / isolation valves as well as updates to gas measurement flow computers hardware and software.

2.3.5.1. Meter station valves and control valves overhaul

Isolation valve and pressure control valve/pressure regulator overhaul is an ongoing program of works that is a continuation of the current levels of activities delivered during AA5. During the AA6 period we have identified ten isolation and control valves that are due to overhaul and or replacement. Table 2.20 shows the estimated cost for AA6.

Table 2.19: Unit rate forecasts ($'000) for Meter Station Valves and Control valves overhauls program

Meter Station Valves and Control valves overhauls	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
MS valves and control valves forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MS stations	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Valve and Control valve per station unit rate	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external labour, materials, travel and other costs for the meter station valves and control valves overhauls replacement program and is based on average historical costs.

EPCM activities is undertaken by internal resources. The delivery of the work and supply of materials will be by external resources. [redacted] are engaged to deliver the materials under OEM contracts.

The engineering and operational projects discipline includes a number of support activities to manage the integrity of assets and address defects or unsafe situations.

2.3.5.2. Integrity Management [1]

Each year there is miscellaneous capital expenditure required to sustain the operation and the management of asset integrity and may include updated drawings, engineering software, process design software, security software, Document Management system upgrade, updates to our GIS and server room integrity.

The AA6 forecast is based on the annual average expenditure incurred over AA5.

Table 2.20: Unit rate forecasts ($'000) for EOP Integrity Management

EOP Integrity Management	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	1,035	200	200	200	200	200	1,000
Total units	5	1	1	1	1	1	5
Unit rate (three-year average)	**207**	**200**	**200**	**200**	**200**	**200**	**200**

The unit rate includes the internal labour, external contractors, capitalised licenses and materials & services costs.

EPCM activities are provided by internal resources. The supply and servicing of required materials will be undertaken by external providers. External resources are typically supplied by [redacted]

2.3.5.3. Annual allocation for MoC Projects

This program includes the cost of addressing defects or unsafe situations that occur during normal operations that need to be addressed to ensure a safe and reliable asset. Engineering changes can also be submitted for approval which prompt the need for some additional changes to ensure efficiency, reliability and operability of the asset.

The costs are estimated based on the average annual historical cost for this type of work.

Table 2.21: Unit rate forecasts ($'000) for Annual allocation for MoC Projects

Annual allocation for MoC	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	1,748	500	500	500	500	500	2,500
Total units	5	1	1	1	1	1	5
Unit cost (three-year average)	**350**	**500**	**500**	**500**	**500**	**500**	**500**

1 Note that this was previously referred to as 'Subsequent Costs'

The unit rate includes the internal labour, external contractors/consultants, materials and other costs for MoC Projects based on the average historical MoC costs.

EPCM activities and labour are provided by internal resources. The supply of required materials will be undertaken by external providers. External resources are supplied by various contracted resources as required by the issue to be addressed.

2.3.6. OT

The periodic OT program includes the replacement of hardware and upgrading SCADA software.

2.3.6.1 SCADA Hardware and Software replacement

This program includes the replacement of SCADA servers, switches, routers, firewalls, storage, UPS, HVAC) in line with their useful life and upgrading the SCADA software.

The unit rate includes the internal labour, materials, travel and other costs for the SCADA Hardware replacement. Project management and installation will be undertaken by internal resources. The other activities and supply of required materials will be undertaken by external providers. Where external resources are required, they are supplied by [redacted]

Table 2.22: Unit rate forecasts ($'000) for SCADA Hardware and Software replacement ($'000)

SCADA Hardware and Software replacement	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Hardware-SCADA CISCO and ethernet switches	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Hardware-Fortinet Firewalls	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Hardware-Tape Library	-				[redacted]		[redacted]
Hardware-HVAC	[redacted]		[redacted]			[redacted]	[redacted]
Hardware-Pure Storage	-		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Software-Delinea	-				[redacted]		[redacted]
Software-VMware	-	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Software-VEEAM	-			[redacted]			[redacted]
Software-Tenable	-	[redacted]	[redacted]				[redacted]
Software-AVIVA	-					[redacted]	[redacted]
Software-Fortinet Manager & Analyser				[redacted]			[redacted]
Software-Duo, ManageEngine & Bitwise	-		[redacted]	[redacted]	[redacted]		[redacted]

2.3.7. Vehicles

We have a fleet of vehicles which is used as mobile workshops by the field teams and engineers. The vehicles are set up with safety requirements, work benches, communication equipment and fit for purpose trays and tooling storage for ease of carrying our maintenance of equipment in the field. Some vehicles are also fitted with lifting equipment to handle heavy parts. These vehicles are replaced regularly based on age, condition and ongoing maintenance costs to ensure the safety and reliability of the fleet, minimise potential risk to employees and minimise whole of life costs.

We replace our fleet at a rate of roughly 7 per year in AA5. Vehicles are prioritized for replacement based on total kilometres, age, condition and the historic use of vehicle. Vehicles primarily used in metropolitan areas and on sealed roads do not wear and tear as quickly as vehicles with considerable remote driving and on unsealed roads. In AA6, 60 vehicles are due to be replaced compared to 34 AA5.

2.3.7.1. Annual replacement of fleet vehicles

Table 2.23: Unit rate forecasts ($'000) for DBNGP fleet vehicle replacements

Fleet vehicle replacements	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit rate (three-year average)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate reflects the total cost incurred in the acquisition of a fleet vehicle, including post-factory modifications. It is based on average historical costs with the vehicle types replaced each year being relatively consistent.

All fleet vehicles are supplied by [redacted]. Pricing between the different [redacted] dealerships in and around Perth is regularly reviewed to ensure competitive and efficient pricing is achieved.

2.3.7.2. Replacement of civil equipment

We have a number of heavy vehicles and civil equipment used in operating and maintaining the pipeline. This equipment is serviced or replaced on an age and/or condition basis to ensure ongoing safety, reliability and availability of the equipment. The AA6 forecast includes replacement of heavy vehicles, civil equipment, manitou and transport safetyhis is consistent with spend and activities in AA5.

Table 2.24: Unit rate forecasts ($'000) for civil equipment

Replacement of civil equipment	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Heavy vehicles and civil equipment units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit rate (three-year average)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Manitous units	-	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]
Unit rate manitou	-	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]
Transport Safety Equipment	-	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit rate transport safety	-	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external contractors, materials and other costs for the replacement of civil equipmentand is based on historical costs.

EPCM will utilise internal resources. Other activities and supply of materials will be undertaken by

a range of specialist external providers in line with our procurement policy.

2.3.8. Tools

The Transmission Operations and Transmission Asset Management teams require special tools to carry out activities in the operation, maintenance and management of the pipeline. These include monitoring, fault finding, repairs and installation/replacement of new equipment,

Table 2.25: Unit rate forecasts ($'000) for Replacement of tools

Replacement of tools	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	1,345	980	700	700	700	700	3,780
TAM Tools	405	114	114	114	114	114	570
TOM Tools	940	316	216	216	216	216	1,180
Calibration tools	-	200	200	200	200	200	1,000
Specialised tools	-	220	120	120	120	120	700
Wear and tear items		130	50	50	50	50	330

The forecast cost includes the supply of materials and a small amount of capitalized time of internal labour for EPCM. Materials and services are procured from a range of suppliers in line with our procurement policy and minimum purchasing requirements.

2.3.9. Corporate and IT

We have a number of IT systems and hardware which support our corporate, business (operational) and finance functions. These systems and hardware must be updated, upgraded and replaced regularly to ensure they remain robust, secure, fit-for-purpose and supported by the vendor.

The ongoing programs for corporate, business and finance systems in AA6 includes Maximo Upgrade, Refresh of core business applications, Other core systems, Contract Management System, Application architecture tool, Data archiving, Centralised GIS database, OneERP s/4HANA Upgrades and SuccessFactors Releases.

Table 2.26: Forecasts ($'000) for Corporate and IT

	AA5 forecast	AA6						Supplier/ vendor
		2026	2027	2028	2029	2030	TOTAL	
Maximo Upgrade	[redacted]	[redacted]			[redacted]		[redacted]	[redacted]
I-05 Other Core Systems	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Refresh of various core busin	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Application acrhitecture tool		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

	AA5 forecast	AA6						Supplier/ vendor
		2026	2027	2028	2029	2030	TOTAL	
(EAM)								
Data Archiving		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Centralised GIS database	-	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
OneERP S/4HANA & Upgrades	[redacted]				[redacted]		[redacted]	[redacted]
OneERP SuccessFactors Half Yearly Releases	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
OneERP Maximo functionality incremental enhancement	-	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
OneERP S/4HANA incremental functionality enhancement	-	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
DMZ Upgrade		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
Citrix Farm (incl. Netscalers)		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
Citrix Virtual Servers		-	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
Maximo Business Process redesign	[redacted]	-	-	-	-	-	-	
Total Corporate and IT Ongoing	**41,138**	**5,155**	**3,430**	**3,057**	**7,379**	**2,772**	**21,793**	

The forecasts for each program includes internal labour, external resources, materials and other costs. These programs are delivered externally, with internal labour providing EPCM.

Materials and external resources are supplied by each of the listed suppliers and vendors under supplier and vendor agreements. These agreements are reviewed and tendered periodically to ensure they continue to deliver efficient outcomes. Single source suppliers are managed in line with our Procurement Policy and Purchasing Procedure. End user and network equipment is procured from various suppliers as per the minimum purchasing requirements.

3. Periodic work programs

The forecast expenditure program includes a number of programs of work that may not be required in every regulatory period or have not been required previously but are expected in the future. For these programs, the estimate cost for the forecast program is based on identifying the volume of work required and applying an historical unit cost. In general, the cost estimate is based on the most recent actual cost incurred to deliver comparable work.

The unit costs may be based on a consolidation of different unit costs reflecting several different specialist areas and could comprise of internally or externally delivered work. Where the program is delivered externally, the unit costs are also matched to similar locations.

Historical unit costs are broken down into the specialist discipline and work activity (as summarised in Table 1.1) and may include material and other costs. Where materials and other costs are not included in historical unit costs the estimate reflects historical average costs or the costs included in commercial agreements.

The specification of work reflects the requirements of the AMP and previous periods where available.

For some infrequent or new periodic programs of work, a bottom up approach has been used to forecast costs by outlining each component required and applying the most comparable rates from recent activities and supplier quotes.

3.1. Forecast expenditure for periodic programs estimated using unit costs

The forecast expenditure for periodic programs is $68 million and represents 19% of the AA5 expenditure forecast. This program is delivered by utilising a mix of internal and external resources. Table 3.1 below shows the periodic programs of work which are forecast based on unit costs for AA5. More detailed information on the unit cost assumptions is provided in section 3.4.

Table 3.1: Programs of work which are estimated based on unit cost forecasts in AA5

Project/Program	Discipline	Category of expenditure	Frequency	AA6 expenditure ($'000s)
Compressor unit control system replacement	ECI	Asset replacement/overhaul	18 year replacement cycle	15,500
CSN Cisco Firewall and Server Replacement	OT	Asset replacement/overhaul	5 year replacement cycle	375
ILI of mainline, looplineloop line and laterals	CP	Asset replacement/overhaul	8 year replacement cycle1	12,780

Project/Program	Discipline	Category of expenditure	Frequency	AA6 expenditure ($'000s)
Turbine exhaust replacement	Mechanical	Asset replacement/overhaul	17 – 35 years	5,710
Pig barrel isolation valve replacement	Mechanical	Asset replacement/overhaul	30+ year replacement cycle	2,250
Station F&G PLC replacement	ECI	Asset replacement/overhaul	End of life	1,300
Heater fuel gas train replacement	Mechanical	Asset replacement/overhaul	End of life	3,850
Replacement of Air Conditioning at Meter Stations	Mechanical	Asset replacement/overhaul	End of life	200
Enterprise SCADA 2023	OT	Asset repair/maintenance	Approx 5-7 yearly	3,917
GEA control system replacement	ECI	Asset replacement/overhaul	15-year replacement	6,756
Meter station piping repairs	Mechanical	Asset repair/maintenance	On condition (+35 years)	570
Aboveground/Belowground Interface inspection	Mechanical	Inspections	5-yearly	1,818
Earthing Replacement and AC mitigation of facilities	CP	Asset replacement/overhaul	On condition	490
Load bank Control Panel Redesign and Replacement	ECI	Asset replacement/overhaul	Design flaw causes cracks – safety concern	1,300
Replace batteries at Repeater Sites	ECI	Asset replacement/overhaul	8 year for battery and 15 year for charger	1,920
Impressed current groundbeds TRU Upgrade	CP	Asset replacement/overhaul	35 year replacement cycle	450
Replacement of solar panels	Communications	Asset replacement/overhaul	10-15 yearly	500

Project/Program	Discipline	Category of expenditure	Frequency	AA6 expenditure ($'000s)
Refurbishment of underground oil sump tanks.	Mechanical	Asset repair/maintenance	End of Life (+30 years)	638
TRU replacement	CP	Asset installation	20 years	1,250
Turbine meter refurbishment and replacement	Metering	Asset replacement/overhaul	End of Life (+30 years)	3,304
Coriolis and Ultrasonic meter replacement	Metering	Asset replacement/overhaul	End of Life	1,458
Flow computer replacement	Metering	Asset replacement/overhaul	Approx 5 years	2,190
AA5 programs – unit cost forecast				**68,526**

3.2. Current status of contracts

We have a number of contracts in place for the provision of external labour and materials which form the basis for unit costs adopted to estimate the cost of periodic programs in AA6. These are summarised in Table 3.2 below. The nature of our SIB capex means that a supplier may provide services for a range of programs, or over a number of years.

Contracts for services are entered into in line with the requirements of procurement policy and purchasing procedure. Generally contracts are set for three years with two 12 month extension options available. Each contract has a custodian who is typically the largest user of the services under that contract. The value and quality of work delivered under these contracts is regularly evaluated.

Table 3.2: Summary of contracts for periodic work programs

Supplier	Provision of	Specialist engineering discipline	Process for engagement
[redacted]	Labour only	ECI / Mechanical	Sole Source - Justification approved at DFA level
[redacted]	Labour only	Mechanical / CP / ECI	[redacted]
[redacted]	Labour and materials	Mechanical / CP/ ECI	[redacted]

Supplier	Provision of	Specialist engineering discipline	Process for engagement
[redacted]	Labour only	Mechanical / ECI / Rotating / Telecommunications	[redacted]
[redacted]	Labour and materials	Mechanical	[redacted]
[redacted]	Labour only	Mechanical / CP / ECI / Telecommunications	Sole Source - Justification approved at DFA level
[redacted]	Labour and materials	Mechanical	All valving equipment purchases are competitively tendered between two or more vendors depending on value
[redacted]	Labour only	Mechanical	Sole Source - Justification approved at DFA level
[redacted]	Labour only	CP	Sole Source - Justification approved at DFA level
[redacted]	Labour only	Mechanical	Competitive Tender [redacted]
[redacted]	Labour and materials	ECI	Sole Source - Justification approved at DFA level
[redacted]	Labour and materials	ECI	Sole Source - Justification approved at DFA level

3.3. Forecast unit costs

In AA, where contracts are scheduled to expire, unit rates have been assumed to be maintained at the current rate unless there are specific drivers for a change.

Specific drivers for change include external events such as the impact of foreign currency fluctuations. Where this has materially influenced unit rates in AA5, the most recent actual unit purchase price in AUD equivalent is considered the unit rate component for the AA6 period, rather than the average actual over AA5.

The forecast also reflects the best estimate of the work volume that will be undertaken over AA5, based on asset management plans. More information on the work required and options considered is contained in the relevant business cases.

3.3.1 ECI

3.3.1.1. Compressor unit control system replacement

The compressor unit control systems are proactively replaced on an 18 year cycle. The compressor unit controls for the [redacted] units are due to be replaced.. The forecast unit cost for this replacement is based on the most recent supplier quotes and actual costs incurred to replace the unit controls for Stage 4 units in AA5.

Table 3.3: Unit cost forecasts ($'000) for compressor unit control system replacement

Compressor unit control system replacement	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit cost (three-year average)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The forecast unit cost includes internal labour, external labour, materials, travel and other costs. EPCM is undertaken by internal labour. External labour and materials are provided under the sole supplier contract with [redacted] for the Stage 4 [redacted] turbine units.

3.3.1.2. GEA control system replacement

The GEA control systems are replaced on a 15-year cycle, with 12 due to be replaced in AA6. The forecast unit cost for this replacement is based on most recent supplier quotes and actual costs incurred to replace similar controls in 2024.

Table 3.4: Unit cost forecasts ($'000) for GEA control system replacement

GEA unit control system replacement	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit cost (three-year average)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The forecast unit cost includes internal labour, external labour, materials, travel and other costs. EPCM is undertaken by internal labour. External labour is provided by [redacted] Materials are supplied by [redacted] or the engine OEM.

3.3.1.3. Station fire & gas PLC replacement

The compressor station fire & gas Programmable Logic Controllers (PLC) for CS7 and CS9 are due for replacement in AA6.

Table 3.5: Unit cost forecasts ($'000) for compressor unit fire & gas control and monitoring system replacement

Compressor unit fire & gas control and monitoring system replacement	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Station F&G PLC - Total forecast expenditure	-				[redacted]	[redacted]	[redacted]
Total units	-				[redacted]	[redacted]	[redacted]
F&G PLC - Unit cost (three- year average)	-				[redacted]	[redacted]	[redacted]

The unit costs include internal labour, external contractors, materials, services and other costs.

EPCM activities will be provided by internal resources. The delivery of the work and supply of required materials will be undertaken by external providers. External labour is delivered by [redacted] and [redacted]. Materials are supplied by [redacted] in line with our procurement policy.

3.3.1.4. Replacement of Batteries at repeater sites

Batteries provide primary and secondary power that supports electrical instrumentation and communications across compressor stations, meter stations and mainline valves. Batteries are replaced every eight years, chargers/rectifiers are replaced every 15 years. These replacements are prioritised by condition. Chargers are around four times the cost of a battery.

In AA6, we will replace batteries at repeater sites - 34 sites in the North, 5 sites in the south and 12 spur sites. A total of 54 repeater sites with 18 battery replacements per year.

Table 3.6: Unit cost forecasts ($'000) for battery replacement at repeater sites

Battery replacement at repeater sites	AA5 Forecast	AA6 Forecast				
		2026	2027	2028	2029	2030	TOTAL
Battery replacement at repeater sites - Total forecast expenditure	-		[redacted]	[redacted]	[redacted]		[redacted]
Total units	-		[redacted]	[redacted]	[redacted]		[redacted]
Batter replacement Unit cost			[redacted]	[redacted]	[redacted]		[redacted]

The unit cost for batteries, chargers and rectifiers includes internal labour, external contracts, materials and other costs.

The work is delivered using a combination of internal labour and external contractors, including [redacted], [redacted], [redacted], [redacted] and [redacted]. Materials are supplied by the battery [redacted] and [redacted] in line with our procurement policy.

3.3.1.5. Loadbank Control Panel Redesign and Replacement

The loadbank control panel, which power or de-power elements in the loadbank as the power demands go up and down, dissipating excess power. The redesign and replacement of loadbank control panels in AA5 will replace and rewire loadbank panels at five compressor stations which have been susceptible to failure caused by overheating. This compares to two completed in AA5.

Table 3.7: Unit cost forecasts ($'000) for Loadbank Control Panel Redesign and Replacement

Loadbank Control Panel Redesign and Replacement	AA5 Forecast	AA6 Forecast				
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit cost (three-year average)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit cost includes internal labour, external contractors, material, services and other costs.

Internal labour provides EPCM. External labour will be provided by [redacted]. Materials and services are supplied by the [redacted].

3.3.2 Telecommunications

3.3.2.1. Replacement of solar panels

Solar power systems are utilised as a primary power source across a number of smaller sites. This program replaces solar panels approximately every 10-15 years, depending on condition, consistent with the AMP. This ensures optimal power supply is maintained. 5 panels will be replaced in AA6, with the last replacement/initial installation of these panels completed in 2013.

Table 3.8: Unit cost forecasts ($'000) for replacement of solar panels

Replacement of solar panels	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	-	[redacted]					
Total units	-	[redacted]					
Unit cost	-	[redacted]					

The unit cost includes the internal labour, external labour, materials, travel and other costs.

EPCM activities are to be provided by internal resources. The work will be delivered and materials supplied by external providers engaged in line with our procurement policy.

3.3.3 Cathodic Protection

There are three cathodic protection periodic programs; replacing Transformer Rectifier Units (TRU) earthing replacement and impressed current ground beds.

3.3.3.1. TRU Replacement

TRUs have a useful life of around 20 years. There are 72 TRU units manufactured by Advanced Cathodic Protection, which was deregistered in 2019. This program will replace 50 end of life TRUs in the AA6 period, with 10 units expected to fail each year.

Table 3.9: Unit cost forecasts ($'000) for TRU replacement

TRU replacement	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]						
Total units	[redacted]						
Unit cost	[redacted]						

The unit cost includes the internal labour, external labour, materials, delivery, travel and other costs. The unit cost is based previous replacements undertaken.

EPCM activities will be managed by using internal . The delivery of the work and supply of required materials will be undertaken by external providers. External resources required will be engaged for the installation work based on our procurement policy.

3.3.3.2. Earthing Replacement and AC mitigation of facilities

Cathodic protection surveys have identified performance deterioration of several sacrificial anodes. Sacrificial anodes have a useful life of around 20 years.

Table 3.10: Unit cost forecasts ($'000) for Earthing Replacement and AC mitigation of facilities

Earthing Replacement and AC mitigation of facilities	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit cost	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit cost includes the internal labour, external labour, materials, travel and other costs. The unit cost is based on similar work completed where some earthling systems were replaced at MLVs.

EPCM activities will be provided by internal labour. The delivery of the work and supply of required materials will be undertaken by external providers. [redacted] is engaged for earthing installation and other external resources required will be engaged based on our procurement policy.

3.3.3.3. Impressed current system: TRU Upgrade

This program is to replace underperforming TRUs with higher performing and more resilient units. It is proposed that more robust and resilient units that can survive the environment that the DBNGP is installed is introduced to replace the current units being deployed that are constantly being damaged by lightning strikes. The AA6 program is to replace 18 underperforming TRUs.

Table 3.11: Unit cost forecasts ($'000) for Impressed current system: TRU Upgrade

Impressed current system: TRU Upgrade	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]				[redacted]
Total units	[redacted]	[redacted]	[redacted]				[redacted]
Unit cost	[redacted]	[redacted]	[redacted]				[redacted]

The unit cost includes the internal labour, external labour, materials, travel and other costs. The unit cost is based on similar work completed where some earthling systems were replaced at MLVs.

EPCM activities will be provided by internal labour. The delivery of the work and supply of required materials will be undertaken by external providers. [redacted] is engaged for earthing installation and other external resources required will be engaged based on our procurement policy.

3.3.3.4. ILI of mainline, loopline and laterals

The integrity of a gas pipelines are monitored using In Line Inspection tools, also known as intelligent pigs. These devices are driven by gas pressure and travel along inside a pipeline to ascertain pipeline integrity and condition. Internal inspection utilising an ILI tool provides a thorough analysis of pipeline defects and locations.

Based on an 8-10 year cycle, the AA6 period considers the pipelines that are due for pigging. Note that the Mainline South section has been brought forward by 2 years from 2029 to 2027, for verification of RunCom analysis (which assesses and predicts corrosion growth based on a comparison of previously conducted ILIs) as part of the optimisation of physical digup inspections, as there have been numerous corrosion growths beyond ERF > 1 identified.

Table 3.12: Unit cost forecasts ($'000) for ILI of mainline, loopline and laterals

ILI of mainline, loopline and	AA6 Forecast

laterals	AA5 Forecast	2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	-	[redacted]	[redacted]	[redacted]			[redacted]
CSBP Lateral	-	[redacted]					[redacted]
Mainline & Loop line			[redacted]				[redacted]
Mainline South, 7 laterals, 2 loops				[redacted]			[redacted]

The cost includes the internal labour, external labour, materials, travel and other costs and based on the previous ILI conducted 8 years ago.

EPCM activities will be provided by internal labour. The delivery of the work and supply of required materials will be undertaken by external providers. The external resources required will be engaged based on our procurement policy.

3.3.4. Mechanical

3.3.4.1. Meter station piping repair

This program will repair piping at meter stations which have experienced normal above ground corrosion. There are currently 54 operating meter stations, and it is planned that one site per year will undergo inspection and repairs based on condition.

Table 3.13: Unit cost forecasts ($'000) for Meter Station Piping repair

Meter Station Piping repair	AA5 Forecast	AA6 Forecast 2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit cost	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit cost includes the internal labour, external labour, materials, travel and other costs. The unit cost is based on similar historical projects completed via our painting programs.

EPCM activities will be provided by internal resources. The delivery of the work and supply of required materials will be undertaken by external providers. External labour is delivered by [redacted] and materials supply is completed in line with our procurement policy.

3.3.4.2. Replacement of air conditioning at meter stations

This program involves the replacement of air conditioning at meter stations which has reached end of life, prioritising those which have faults. 10 replacements are scheduled each year for AA6 period.

Cost estimates include forecast for the removal of old units, reconfiguration or relocation of ventilation control systems, patching and remedial works.

Table 3.14: Unit cost forecasts ($'000) for replacement of air conditioning at meter stations

Replacement of air conditioning at meter stations	AA5 Forecast	AA6 Forecast 2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	-	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Total units	-	[redacted]					
Unit rate (three-year average)	-	[redacted]					

The unit rate includes the internal labour, external labour, materials, travel and other costs and is based on a three-year historical average.

EPCM activities are provided by internal resources. The delivery of the work and supply of air conditioning systems will be subject to commercial tender as per the procurement policy.

3.3.4.3. Above ground and below ground interface inspection

The inspection of piping above and below ground interface program in AA6 considers the inspection to dig up and visually inspect all soil to air interfaces on pipework. This program is to continue the interface assessment that started in AA5.

In total, there are 150 sites that need inspection. AA5 completed multiple inspections at 34 MLVs, 12 meter stations and 4 compressor stations.

Table 3.15: Unit cost forecasts ($'000) for above ground and below ground interface inspection

Above ground and below ground interface inspection	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]						
Total units							
Unit rate (historical average)							

The unit rate includes the internal labour, external labour, materials, travel and other costs and is based on actual historical costs of the mix of site types. EPCM activities are provided by internal resources. External labour provided by DFT Coating Services in line with our procurement policy.

3.3.4.4. Pig barrel isolation valve replacement

The pig barrel isolation valves provide positive isolation to launch and receive pigging tools during the ILI program. Failing isolation valves will require isoaltion and venting of pipe sections from the nearest MLV to accommodate pig launch and retrieval, which is a safety risk with environmental and financial impact. We will replace five valves in AA6 in preparation for the next ILI runs in AA6.

Table 3.16: Unit cost forecasts ($'000) for Pig barrel isolation valve replacement

Pig barrel isolation valve replacement	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]						
Total units							
Unit cost							

The unit rate includes the internal labour, external labour, materials, travel and other costs and is based on historical costs for similar works along with material cost estimates from suppliers.

EPCM will be provided by internal resources. The delivery of the work and supply of required materials will be undertaken by external resources. External labour is resourced by a number of suppliers - [redacted]

3.3.4.5. Heater fuel gas train replacement

The heater fuel gas trains at meter stations require replacement due to their age and have become obsolete with increasing maintenance costs.

Table 3.17: Unit cost forecasts ($'000) for Heater fuel gas train replacement

Heater Fuel gas train replacement	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]
Unit cost	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external labour, materials, travel and other costs and is based on actual historical costs for similar replacements and quotes for materials from suppliers.

EPCM is provided by internal resources. External labour and materials will be engaged/purchased in line with our procurement policy.

3.3.4.6. Refurbishment of underground oil sump tanks

There are approximately five underground tanks at each compressor station ranging from 12-30 years. Soil monitoring indicates that some of these tanks are failing. We will undertake a program of work beginning in AA5 to refurbish or replace these tanks based on condition. This program continues in AA6 for total of nine tanks in six sites,

Table 3.18: Unit cost forecasts ($'000) for Refurbishment of underground oil sump tanks

Refurbishment of underground oil sump tanks	AA5 Forecast	AA6 Forecast					
		2021	2022	2023	2024	2025	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit cost	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external labour, materials, travel and other costs and is based on actual historical costs for similar replacements and quotes for materials from suppliers.

EPCM is provided by internal resources. External labour and materials will be engaged/purchased in line with our procurement policy.

3.3.4.7. Turbine exhaust replacement

This program includes the replacement of four turbine exhaust systems that have reached end-of-life. The turbine exhaust system directs exhaust gases safely to protect the compressor station and pipeline assets from excessive heat and/or pressure. The condition of the turbine exhaust system impacts the availability of the compressor unit.

The forecast expenditure for AA6 is $3 million more than the forecast expenditure in AA5 of $2.7 million. The incremental increase in AA6 is a result of replacing 4 units, as opposed to 3 units in AA5. The ACS turbine exhausts units in AA6 are significantly more complex than those delivered in AA5, which has been a contributing factor to the underspend in AA5.

Table 3.19: Unit cost forecasts ($'000) for Turbine exhaust replacement

Turbine exhaust replacement	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit cost	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit rate includes the internal labour, external labour, materials, travel and other costs and is based on actual historical costs for similar replacements and quotes for materials from suppliers.

EPCM is provided by internal resources. External resources are provided by [redacted] and materials will be engaged/purchased in line with our procurement policy.

3.3.5. Metering

The periodic metering programs include the replacement of meters, flow computers and heater fuel gas trains as well as the upgrade of gas measurement monitoring software.

3.3.5.1. Flow computer replacement

This program will replace flow computers at 21 sites, totalling 73 units from 2025. This follows on from a larger program of work which upgraded flow computers across compressor stations and meter stations in AA4.

Table 3.20: Unit cost forecasts ($'000) for flow computer replacement

Flow computer replacement	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit cost (three-year average)	[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit cost includes the internal labour, materials, travel and other costs. The unit cost is based on the flow computer replacement costs incurred in AA5.

EPCM activities will be provided by internal resources. The delivery of the work and supply of required materials will be undertaken by external resources. External resources are provided by [redacted] and [redacted].

3.3.5.2. Turbine meter replacement

This program will replace end-of-life turbine meters which have been in service for over 30 years and can no longer be refurbished or recertified. Turbine meters come in various sizes from 2 inches up to 12 inches with larger meters costing more than smaller meters.

Table 3.21: Unit cost forecasts ($'000) for Turbine meters replacement

Turbine meters	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Unit cost	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

The unit cost includes the internal labour, materials, travel and other costs and is based on actual historical costs for similar replacements and quotes for materials from suppliers.

EPCM is provided by internal resources. External labour and materials will be engaged/purchased in line with our procurement policy.

3.3.5.3. Coriolis meter replacement

This will complete the Coriolis meter replacements started in AA5.

Table 3.22: Unit cost forecasts ($'000) for Coriolis meter replacement

Coriolis meters	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total units	5	2	2	2	2	2	10
Unit cost (three-year average)	**61**	**71**	**71**	**71**	**71**	**71**	**71**

The unit cost includes the internal labour, materials, travel and other costs and is based on actual historical costs in AA5.

EPCM is provided by internal resources. External labour and materials will be engaged/purchased in line with our procurement policy.

3.3.6. OT

3.3.6.1. Replacement of SCADA Systems (Enterprise SCADA)

Systems is upgraded around every seven years. The current SCADA system [redacted] was deployed in 2011 and last upgraded in 2016. This system is at the end of its technical life in 2024. A major upgrade was due in 2024, however the upgrade has been deferred and the scope of work has been extended from a major upgrade to a full replacement due to the incremental improvements that a new system will enable.

We have used [redacted] software as the SCADA software package in DBP control room operations since 1984. The cost of the upgrade has been estimated by considering the historical costs of upgrades and estimates received from our SCADA partner [redacted]). A FEED Study will be conducted in 2025.

Table 3.23: Unit rate forecasts ($'000) for Replacement of SCADA Systems (Enterprise SCADA)

Replacement of SCADA Systems	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	[redacted]	[redacted]	[redacted]			[redacted]

The total cost includes the internal labour, external labour, materials, travel and other costs and is based on advice from our SCADA software partner, [redacted]

EPCM will utilise internal resources. Other activities and supply of materials will be undertaken by external providers, with external resources supplied by [redacted]

3.3.6.2. CSN Cisco Firewall and Servers Replacement

This project will replace the firewall and server for our CSN network used by our field operations and maintenance team to communicate across the pipeline.

Table 3.24: Unit cost forecasts ($'000) for CSN Cisco Firewall and Server Replacement

CSN Cisco Firewall and Server Replacement	AA5 Forecast	AA6 Forecast					
		2026	2027	2028	2029	2030	TOTAL
Total forecast expenditure	[redacted]	375					375
Total units	[redacted]	1					1
Unit cost	[redacted]	**375**					**375**

The forecasts unit cost includes internal labour, external resources, materials and other costs. These programs are delivered externally, with internal labour providing EPCM.

Materials and hardware are supplied by various suppliers in line with our procurement policy.

4. Once off and new initiatives

The cost of once off and new initiatives are estimated based on the type of initiative. Large value, unique or relatively unique projects usually have detailed estimates developed at an early stage based on a comprehensive resource, cost and schedule. Whereas, lower value activities, which have some degree of repeatability or volume driven activities are estimated using a bottom up approach outlining each component required and applying the most comparable rates from recent activities and quotes for similar items from preferred suppliers.

4.1. Once off and new – individual estimates generated

The forecast expenditure for once off and new projects and programs is $172 million and represents 47% of the AA6 expenditure forecast.

Table 4.1 below shows the projects and initiatives for which individual estimates have been put together.

Table 4.1: Projects which have individual estimates for AA5 ('000)

Project/Program	Discipline	Driver for investment	AA6 estimate
Replacement of Northern communications system	Communications	Obsolescence of existing system and equipment failure	3,780
Jandakot site redevelopment	Operations	Safety and changing business needs	34,325
Supply and installation of varnish removal unit	Rotating	Asset replacement/overhaul	800
GC installation at producer inlets and at upstream of CS1 and CS2	Metering	End of life	6,000
RTU Replacement	Communications	End of life	6,880
Develop and install permanent reference electrode arrangement that maintains moisture level	CP	Asset repairs/maintenance	130
Water Supply at CS	Health & Safety	Health and Safety	201
CCVT Replacement	ECI	End of life	9,520
Replacement of RO Units	Mechanical	End of life	1,500

Project/Program	Discipline	Driver for investment	AA6 estimate
Working at height upgrades at Compressor Stations	Mechanical	Safety	2,255
Upgrade of Odorant Facilities at Meter Stations and Kingtool filling facilities	Metering	Public safety	2,360
Replace 110V DC Battery chargers	ECI	Asset replacement/End of life	330
Compressor Air Package Replacement	Mechanical	End of life	2,800
Installation of Fire Suppression System	ECI	End of life	800
Decommissioning & Mothballing of Non-Operational Assets/Facilities	Mechanical	Public safety	649
Replacement / upgrading of existing GCs which only requires replacement and software update	Metering	End of life	1,000
Aftercooler fan remote vibration monitoring	Mechanical	Asset integrity	350
Office equipment upgrade	Operations	Safety-OHS	150
Replacement of mainline USM flow meters at each compressor station	Metering	End of life	1,200
Earthing grid refurbishment at aboveground sites other than compressor stations	CP	Safety	450
Fit for purpose CSN	OT	Security	500
GEA engine replacement	Rotating	Reliability	11,620
Preservation and maintenance of emergency line pipe and equipment	Mechanical	Aset maintenance	550
Water bath heater replacement with electric heater	Mechanical	End of life	3,552
Buried Pits Inspection	Mechanical	Inspections	615
Meter recertification	Metering	Certification	1,245
Piping Interface wrap removal and insulation inspections	Mechanical	Asset integrity/safety	533

Project/Program	Discipline	Driver for investment	AA6 estimate
Physical security improvements at selected DBNGP sites	Health & Safety	Safety and security	504
Install Swipe at CS9	Health & Safety	Safety	300
Helicopter Landing Pads	Health & Safety	Safety	600
Site Building Conversion	Operations	Safety and security	1,540
Oil Farm	Operations	Health & Safety	400
IT Sustaining Infrastructure - various	Corporate	Support for IT infrastructure	13,970
IT Opex - various		IT Operations	12,372
Network Security - various	Corporate	Network security	6,022
Building and structural rectification following inspection	Operations	Inspections	300
Piggability of Mainline South	CP	Condition	100
Pipeline corridor erosion repair	CP	Condition	430
Polarisation cell, surge protection and reference electrode replacement	CP	Condition	763
Replacement of compound fencing	Safety	Safety and security	500
Repeater sites (south) power system/rectifiers replacement	ECI	End of life	332
Meter stations power system/rectifiers replacement	ECI	End of life	650
MLVs, meter stations and spur sites - replacement of raido equipment	Communications	End of life	1,723
Remote site toilets	Health & Safety	Health & Safety	1,680
Modify CP at Pinjar Meter Station	CP	Operational needs	174
Compressor Station Site Accommodation	Operation	Upgrade to industry standards	14,700
Gas Measurement software upgrade	Metering	End of life	1,475
UPS system 110v & 24v	ECI	End of life	796

UPS replacement at compressor stations	ECI	End of life	160
Replace 120V DC Battery and Charger for all Stage 4 units	ECI	End of life	304
Compressor Station valve replacement	Metering	Asset reliability	1,785
IP telephony routers and switches	Communications	End of life	170
Tertiary communication system replacement at CS	Communications	End of life	250
PA system replacement at Compressor Stations	Communications	End of life	715
Crane and lifting equipment major inspections	Mechanical	Inspections	459
Preservation of Spares	Operations	Operations/Asset maintenance	925
Training Competence	Operations	Training	200
Replace MOVs with 100V Leutron GDTs	CP	Operational needs	223
Kwinana Junction (third backup site)	Communications	End of life	24
Replacement of mobile voice radio	Communications	End of life	1,000
Building and structural inspections at compressor stations and meter stations	Mechanical	Condition	792
Rotor bundle replacement	Rotating	End of life	1,500
Hot Gas Path	Rotating	Asset reliability	1,200
Workshop at CS9	Operations	Operational needs	275
Contamination site inspection	Operations	Contamination	185
Spare Meters for calibration	Metering	Asset repairs	720
Analyser installation at intake sites	Metering	Gas quality	4,682
Install Palisade fencing at Kwinana Junction	Operations	Safety & Security	350

Project/Program	Discipline	Driver for investment	AA6 estimate
Electrical system upgrade at Meter stations/MLVs	ECI	Asset replacement/overhauls	450
Repair/replacement of concrete odorant bunds	Operations	Safety	300
Contract Management System	Commercial tool	Managing contracts	300
Leak survey of buried flanges c/w digup program	CP	Condition	127
Compressor stations boom gates	Operations	Safety and Security	200
Replacement of failed IGs	CP	Condition	175
AA5 programs – individual estimates			**170,895**

The individual estimates include the internal labour, materials, travel and other costs for all initiatives. More information on the build up of these costs can be found in the relevant Business Cases.