Revised Final Plan
Attachment 9.12

Compressor Stations

August 2025

PUBLIC

Dampier Bunbury Pipeline

1 Compressor Stations

1.1 The ERA's position

The ERA accepts the full amount of capex undertaken by DBP in relation to compressor stations in AA5 as conforming capex.

For AA6, the ERA accepts the capex proposed across all asset classes, with the exception of the compression asset class. Within this class, DBP has proposed 10 projects. The ERA considers DBP is likely to spend 20% or $3.4 million less than have proposed on the basis that EMCa has suggested DBP could prudently defer some works as it has been able to do in previous periods.

The ERA has also applied a 10% reduction across all projects in the compression asset class within this business case on the basis that unit rates within the compression asset class are highly rounded.

These two issues are addressed in the following sections.

1.1.1 There may be opportunities for life extension

In deciding to apply a broad brush 20% reduction to our proposed projects relating to the compression asset class, the ERA has relied on EMCa's advice which states[1]:

> *DBP has not adequately justified all projects*
>
> *292. While DBP's business cases for these replacements provide evidence of need in most cases, we consider that not all projects are adequately justified and that, as it did in AA5, DBP will find opportunities to defer or otherwise not proceed with some projects. Specific factors leading to our findings for the projects within this business case are as follows:*
>
> - *DBP has a comprehensive compressor unit overhaul programme which will reduce the requirement for replacement through use of life-extension options;*
> - *forecast reduced throughput will reduce the requirement for compressor stations 1-6 to operate with the same frequency as previous periods;*
> - *the increase in forecast expenditure for compressor air package replacement relative to the current period is significant and life-extension options do not appear to have been fully explored;*
> - *the amount proposed for compressor station valve replacements was excessive given condition monitoring may reveal opportunities for life-extension in some cases; and*

[1] EMCa, Review of Proposed DBNGP Access Arrangement (AA6) 2026 – 2030, June 2025, p 59-60, (para 291-293).

- *the proposed allowance for rotor bundle replacement ($1.5m) appears speculative given further monitoring and inspection will reveal life-extension opportunities.*

1.1.2 Rounded unit rates

The ERA considered unit costs for all compressor asset projects are not detailed to the level expected for mature planned projects and result from a process that it is reasonable to assume involved a degree of rounding up.

The ERA proposes an across the board 10% reduction in DBP's allowance for this asset class based on EMCa's observations[2] as follows:

> *Unit costs*
>
> *Unit costs for all compressor asset projects are not at the detailed level that we would expect for mature planned projects and result from a process that it is reasonable to assume involved a degree of rounding up*
>
> *To the extent that DBP undertook similar projects in AA5, for the most part we observe unit costs for AA6 that are broadly consistent (in real terms). The exception is the project for turbine exhaust replacement, for which the average unit costs for the two replacements recorded in AA5 is $705,000, but the AA6 forecast shows an average of $1.43m per replacement.*
>
> *We also observe that many unit rates are highly rounded. For example, all RO replacements are costed at $300,000, helicopter landing pads at $200,000 each and replacement of GC's at $200,000 each. While such estimates may not be inaccurate in aggregate, the rounded estimates are a further indication of the relatively low level of maturity of much of the project budget for compressor station work at this stage and suggest that for much of its program, DBP lacks hard evidence of projects costs that it can utilise in producing its forecasts.*
>
> *Overall, we consider it likely that there was a tendency to round up the unit costs applied in developing DBP's AA6 forecast and hence proposes an across the board 10% reduction in DBP's allowance for this asset class, to account for this.*

1.2 DBP's response

We accept in principle that we may be able to find life extension options over the period which would allow us to defer some works into AA7. We have reviewed specific programs within the compression asset class in the compressor stations business case and consider there may be the opportunity to defer one of each of the following replacements scheduled for 2030, to 2031 (i.e. the AA7 period):

- Gas chromatographs
- Compressor air packages
- Compressor station valves

[2] Paragraph 302-304, ibid.

For the remaining programs, we cannot identify specific deferrals that could be achieved so have accepted the 20% reduction, albeit we note neither EMCa nor the ERA have explained the rationale or calculation behind the magnitude of the reduction.

We will also accept the ERA's reduction of the rotor bundle replacement project. The alternative forecast of $1.2 million may be sufficient for us to re-wheel the turbines rather than replace the rotor bundles.

Should we be unable to defer these works or need to fully replace the rotor bundles during the AA6 period, we will undertake the works as initially planned, seeking to work within the overall AA6 allowance to the extent possible.

The following tables compare our Final Plan to our Revised Final Plan for each of the specifically pared back programs.

Table .1: Gas chromatograph replacement, $'000 2024

	2026	2027	2028	2029	2030	Total AA6
Final Plan						
Number of packages	1	1	1	1	1	**5**
Compressor station site	CS1	CS2	CS6	CS8	KJ	
Cost per replacement	200	200	200	200	200	
Total cost ($'000)	**200**	**200**	**200**	**200**	**200**	**1,000**
Revised Final Plan						
Number of packages	1	1	1	1	-	**4**
Compressor station site	CS1	CS2	CS6	CS8	-	
Cost per replacement	200	200	200	200		
Total cost ($'000)	**200**	**200**	**200**	**200**	**-**	**800**

Table .2: Compressor air package replacement, $'000 2024

	2026	2027	2028	2029	2030	Total AA6
Final Plan						
Number of packages	2	1	2	1	1	**7**
Compressor station site	CS9 Unit 2 CS1 Unit 2	CS7 Unit 3	CS3 Unit 3 CS4 Unit 3	CS6 Unit 3	CS7 Unit 3	
Cost per replacement	400	400	400	400	400	
Total cost ($'000)	**800**	**400**	**800**	**400**	**400**	**2,800**
Revised Final Plan						
Number of packages	2	1	1	1	1	**6**
Compressor station site	CS9 Unit 2 CS7 Unit 3	CS1 Unit 2	CS3 Unit 3	CS4 Unit 3	CS6 Unit 3	
Cost per replacement	400	400	400	400	400	
Total cost ($'000)	**800**	**400**	**400**	**400**	**400**	**2,400**

Table .3: Compressor station valve replacement, $'000 2024

	2026	2027	2028	2029	2030	Total AA6
Final Plan						
Station isolation valves	-	1	1	1	2	**5**
Cost per replacement	-	300	300	300	300	
Unit isolation valves	3	-	-	-	-	3
Cost per replacement	95	-	-	-	-	
Total cost ($'000)	**285**	**300**	**300**	**300**	**600**	**1,785**
Revised Final Plan						
Station isolation valves	-	1	1	1	1	**4**
Cost per replacement	-	300	300	300	300	
Unit isolation valves	3	-	-	-	-	
Cost per replacement	95	-	-	-	-	
Total cost ($'000)	**285**	**300**	**300**	**300**	**300**	**1,485**

1.2.1 Unit costs for compressor asset projects

We are of the view that our unit rates meet the requirements of NGR 74, and that the ERA's generalised reduction of costs by 10% appears arbitrary.

1.2.1.1 Our forecasting methodologies meet the requirements of NGR 74

Our forecasts have been developed using both quantitative and qualitative methods. Where we have historical information or quotes from third-party providers, we use this as the basis for our forecast. While history is the best indication of future costs, consideration of future expectations should also be factored in.

The adjustment of actual costs is common practice. This is reflected in the well-established forecasting method for opex. We take our revealed costs, make adjustments to the base year and add escalate those costs for external influences including inflation, labour and materials cost expectations, and efficiencies. These adjustments are often based on qualitative expert judgement.

Similarly to forecasting opex, when forecasting capex we use actuals and adjust them where required to ensure they align with our expectations for the future. This involves quantitative adjustments, for example to reflect prices from up-to-date contract negotiations, recent quotes and foreign exchange rates, or qualitative adjustments based on advice from subject matter experts.

How we have derived our unit rates for each program of regular works is outlined in the Cost Estimation Methodology provided as Attachment 8.7 in our initial proposal. This includes information on our contracting arrangements, current contracts, and unit rates forecast in AA6 compared to those seen in AA5. EMCa appears to consider these unit rates to be reasonable, stating:

> *To the extent that DBP undertook similar projects in AA5, for the most part we observe unit costs for AA6 that are broadly consistent (in real terms).*[3]

If the costs for similar projects undertaken in AA5 are deemed to be conforming it is unclear as to why the AA6 forecast costs are deemed non-conforming.

We maintain that both these methods of adjusting our historical costs produce forecasts that meet the requirements of NGR 74 and have demonstrated that in our initial proposal. They both result in estimates that have been arrived at on a reasonable basis and represent the best forecast or estimate possible in the circumstances. The fact that some unit rates may be rounded up or down has limited relevance, particularly given only actual capital expenditure will be recovered.

1.2.1.2 A broad-brush reduction of 10% is unfounded and unreasonable

At the end of the AA6 period, we will only roll the amount actually spent on these projects into the regulated asset base (RAB). The wording of the requirement of NGR 74 reflects this, referring to the *best forecast or estimate possible in the circumstances*.

Neither EMCa nor the ERA has provided any analysis or justification in support of their assumption of a systemic over estimation in our unit rates, or how they arrived at a 10% cut. Rather, EMCa seems to have based its recommendation on its assumption there is a *tendency to round up the unit costs applied in developing DBP's AA6 forecast.* EMCa has countered this by applying a similarly highly rounded 10% in response.

It is worth noting that since AA5, DBP has enhanced its cost estimating methodologies. As part of these improvements, contingency is no longer included in most estimates, including those within this current portfolio of works. This practice helps ensure we are not over inflating our estimates as part of budgeting and business planning processes, which includes our AA6 project planning.

Forecasts will more often than not be incorrect, particularly when estimating 5+ years out. We acknowledge there have been reductions in costs when compared to forecasts on some projects such as the refurbishment of underground oil sump tanks, which ended up being cheaper than we estimated. However, more often than not, we have seen costs increase.

For example, compressor station site accommodation costs have more than doubled, requiring us to reduce the scope and volumes over the AA5 and AA6 periods. As shown in the opex forecasting method, the general trend for costs is upwards. Capex is no different. However, it should be highlighted that this upwards trend does not equate to an over-forecast.

We maintain that our forecasts are our best estimate of the project costs and therefore should be in their entirety considered conforming capex. Moreover, neither EMCa nor the ERA have adequately justified the need for the cut or provided any level of information about the process used, or analysis supporting how they have determined the unit rates on these projects are 10% too high.

We maintain that the unit rates on these compression asset class projects meet the requirements of the NGR to be deemed conforming capex and included in DBP's AA6 forecast capex allowance.

[3] Paragraph 302, ibid.

We maintain that our unit rates on these compression asset class projects meet the requirements of the NGR to be deemed conforming capex and included in our AA6 forecasts.

1.2.1.3 Recent historical rates are consistent with our forecast rates

We provide the following information in support of our unit rate estimates related to compression assets.

Replacement of existing gas chromatographs (GCs)

Our Final Plan included $1 million forecast capex to replace five gas chromatographs at the end of their technical life. This was based on a unit rate of $200,000.

We established the unit rate used in the Final Plan as a rounded average of two AA5 projects. These were the GC at MLV011 which cost $129,000 in 2022, and the other at Cape Preston which is in progress and is estimated to cost $265,000 at completion.

The $200,000 is rounded unit rate reflecting the $197,000 average across these two projects.

We highlight the use of the average unit rate, rather than the most recent project results in a more conservative estimate. On this basis we do not consider a further reduction of 10% to be reasonable.

We maintain our unit rate reflects our best estimate in the circumstances and have retained it in our revised proposal, applying it to the reduced scope of work.

Compressor air package replacements

Our Final Plan included $2.8 million forecast capex to replace eight compressor air packages at the end of their technical life. This was based on a unit rate of $400,000.

We established the unit rate used in the Final Plan as a rounded average of our two AA5 projects. These were CS10/4 for $328,000 and CS2/3 which is in progress and is estimated to cost $466,000 at completion.

The $400,000 is rounded unit rate reflecting the $397,000 average across these two projects.

We highlight the use of the average unit rate, rather than the most recent project results in a more conservative estimate. On this basis we do not consider a further reduction of 10% to be reasonable.

We maintain our unit rate reflects our best estimate in the circumstances and have retained it in our revised proposal, applying it to the reduced scope of work.

Compressor station valve replacement

Our Final Plan included $1.8 million forecast capex to replace three unit valves and five station valves at the end of their technical life. This was based on a unit rate of $95,000 for unit valves and $300,000 for station valves.

We established the unit rate for unit valves taking the average of a mixture of both full and partial replacements conducted recently. The following table shows these historical costs.

Table .4: Recent unit valve projects with costings, $ nominal

Station / unit	Scope	Year	Cost
CS08/1	Complete replacement	2021	$111,696
CS01/1	Complete replacement	2022	$130,116
CS01/2	Complete replacement	2022	$101,042
CS05/2	Part replacement (actuator)	2022	$74,160
CS10/3	Part replacement (discharge ball valve)	2022	$55,368
Average			**$94,477**

The $95,000 is rounded unit rate reflecting the $94,477 average across these five projects.

We highlight the use of the average unit rate covering both part replacements and full replacements is likely to reflect a conservative mix of work, with an expectation that over the AA6 period more full replacements are likely to be required. On this basis we do not consider a further reduction of 10% to be reasonable.

Our only recent station valve works were overhauls at CS07. We have not replaced any in the last 10 years. The unit rate proposed is therefore an estimate based on third-party indications of cost.

We maintain our unit rate reflects our best estimate in the circumstances and have retained it in our revised proposal, applying it to the reduced scope of work.