



FINAL DECISION
Amadeus Gas Pipeline
Access Arrangement
2016 to 2021

Attachment 6 – Capital
expenditure

May 2016

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Note

This attachment forms part of the AER's final decision on the access arrangement for the Amadeus Gas Pipeline for 2016–21. It should be read with all other parts of the final decision.

The final decision includes the following documents:

Overview

Attachment 1 - Services covered by the access arrangement

Attachment 2 - Capital base

Attachment 3 - Rate of return

Attachment 4 - Value of imputation credits

Attachment 5 - Regulatory depreciation

Attachment 6 - Capital expenditure

Attachment 7 - Operating expenditure

Attachment 8 - Corporate income tax

Attachment 9 - Efficiency carryover mechanism

Attachment 10 - Reference tariff setting

Attachment 11 - Reference tariff variation mechanism

Attachment 12 - Non-tariff components

Attachment 13 - Demand

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Shortened forms

| Shortened form | Extended form |
|-----------------------|---|
| AA | Access Arrangement |
| AAI | Access Arrangement Information |
| APTNT | APT Pipelines (NT) Pty Limited (APTNT) |
| AER | Australian Energy Regulator |
| AGP | Amadeus Gas Pipeline |
| ATO | Australian Tax Office |
| capex | capital expenditure |
| CAPM | capital asset pricing model |
| CPI | consumer price index |
| DRP | debt risk premium |
| ECM | Efficiency carryover mechanism |
| ERP | equity risk premium |
| Expenditure Guideline | Expenditure Forecast Assessment Guideline |
| gamma | value of imputation credits |
| GTA | Gas Transport Services Agreement |
| MRP | market risk premium |
| NGP | Northern Gas Pipeline (formerly North East Gas Interconnector/NEGI) |
| NGL | National Gas Law |
| NGO | National Gas Objective |
| NGR | National Gas Rules |
| NPV | net present value |
| opex | operating expenditure |
| PTRM | post-tax revenue model |
| RBA | Reserve Bank of Australia |
| RFM | roll forward model |
| RIN | regulatory information notice |
| RPP | revenue and pricing principles |
| SLCAPM | Sharpe-Lintner capital asset pricing model |
| TAB | tax asset base |
| UAFG | unaccounted for gas |

| Shortened form | Extended form |
|----------------|----------------------------------|
| WACC | weighted average cost of capital |
| WPI | Wage Price Index |

6 Capital expenditure

This attachment outlines our assessment of APTNT's revised proposed conforming capex for 2010–2016 and forecast capex for the 2016–21 access arrangement period.

6.1 Final decision

6.1.1 Conforming capex for 2010–16

We approve \$42.1 million (\$2015–16) of APTNT's proposed total net capex of \$44.4 million (\$2015-16) for the 2011–16 access arrangement period as conforming capex under rule 79(1) of the NGR. We also approve APTNT's actual capex of \$4.5 million (\$2015–16) in the 2010–11 year as conforming capex for the purpose of establishing the opening capital base for the 2011–16 access arrangement period.

Table 6.1 Ashows approved capex for the 2010–16 period by category.

Table 6.1 AER approved capital expenditure by category over the 2010–16 period (\$million, 2015–16)

| Category | 2010-11 ^(a) | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 ^(b) | Total (2011-16) |
|--|------------------------|------------|-------------|------------|------------|------------------------|-----------------|
| Expansion | 3.0 | 0.9 | 0.8 | 0.6 | 0.1 | - | 2.3 |
| Replacement | 1.1 | 3.4 | 14.6 | 2.2 | 2.3 | 10.1 | 32.5 |
| Non-system | 0.4 | 0.2 | 1.6 | 1.6 | 1.9 | 2.4 | 7.7 |
| GROSS TOTAL CAPITAL EXPENDITURE | 4.5 | 4.5 | 17.0 | 4.3 | 4.2 | 12.6 | 42.5 |
| Contributions | - | - | - | - | - | - | - |
| Asset disposals | - | - | 0.0 | 0.3 | 0.1 | - | 0.4 |
| NET TOTAL CAPITAL EXPENDITURE | 4.5 | 4.5 | 16.9 | 4.0 | 4.1 | 12.6 | 42.1 |

Source: AER analysis. Totals may not add up due to rounding.

Notes: (a) We have made a decision on conforming capex for the 2010-11 year for the purposes of establishing the opening capital base for the 2011–16 access arrangement period.

(b) This is our estimate of conforming capex for this year, including our labour escalation adjustment. We will assess whether APTNT's actual capex for 2015–16 is conforming capex under the NGR in the next access arrangement review. We will adjust the capital base actual conforming capex at that time as required.

Table 6.2 shows APTNT's proposed capex compared with our approved conforming capex for each category in the 2011–16 access arrangement period. The reason for our reduction is that, after submitting its revised access arrangement proposal, APTNT reduced its estimate of likely costs for the below ground station pipework recoating project. We have therefore reduced conforming capex in the 2015–16 year by \$2.3 million (\$2015–16) to account for APTNT's revised estimate of costs.

Table 6.2 Comparison of AER approved and APTNT’s revised proposed capital expenditure over the 2011–16 access arrangement period (\$million, 2015–16)

| Category | Proposed | Approved(a) | Difference (\$millions) | Difference (%) |
|--|-------------|-------------|-------------------------|----------------|
| Expansion | 2.3 | 2.3 | - | - |
| Replacement | 34.8 | 32.5 | -2.3 | -6.6% |
| Non-system | 7.6 | 7.7 | 0.0 | 0.6% |
| GROSS TOTAL CAPITAL EXPENDITURE | 44.8 | 42.5 | -2.3 | -5.0% |
| Contributions | - | - | - | - |
| Asset disposals | 0.4 | 0.4 | - | - |
| NET TOTAL CAPITAL EXPENDITURE | 44.4 | 42.1 | 2.3 | -5.1% |

Source: AER analysis.

Note: (a) Including AER labour escalation adjustments.

6.1.2 Conforming capex for the 2016–21 access arrangement period

We approve \$16.8 million (\$2015–16) of APTNT’s proposed \$29.0 million (\$2015–16) total net capex for 2016–21 as conforming capex under r. 79(1) of the NGR.

Table 6.3 shows approved capex for the 2016–21 access arrangement period by category.

Table 6.3 AER approved capital expenditure^(a) by category over the 2016–21 access arrangement period (\$million, 2015–16)

| Category | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | Total |
|--|------------|------------|------------|------------|------------|-------------|
| Expansion | - | - | - | - | - | - |
| Replacement | 3.3 | 1.6 | 1.3 | 1.3 | 1.1 | 8.6 |
| Non-system | 4.5 | 1.0 | 1.0 | 1.1 | 1.3 | 8.8 |
| GROSS TOTAL CAPITAL EXPENDITURE | 7.8 | 2.6 | 2.3 | 2.3 | 2.4 | 17.4 |
| Contributions | - | - | - | - | - | - |
| Asset disposals | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.7 |
| NET TOTAL CAPITAL EXPENDITURE | 7.6 | 2.5 | 2.2 | 2.2 | 2.2 | 16.8 |

Source: AER analysis. Totals may not add up due to rounding.

Note: (a) Including AER labour escalation adjustments.

Table 6.4 shows APTNT's proposed capex compared with the AER's approved allowance for each category.

Table 6.4 Comparison of AER approved and APTNT's revised proposed capital expenditure over the 2016–21 access arrangement period (\$million, 2015–16)

| Category | Proposed | Approved ^(a) | Difference (\$millions) | Difference (%) |
|--|-------------|-------------------------|-------------------------|----------------|
| Expansion | - | - | - | - |
| Replacement | 21.0 | 8.6 | -12.3 | -59.0% |
| Non-system | 8.7 | 8.8 | 0.1 | 2.0% |
| GROSS TOTAL CAPITAL EXPENDITURE | 29.7 | 17.4 | -12.3 | -41.2% |
| Contributions | - | - | - | - |
| Asset disposals | 0.7 | 0.7 | - | - |
| NET TOTAL CAPITAL EXPENDITURE | 29.0 | 16.8 | -12.2 | -42.1% |

Source: AER analysis.

Note: (a) Including AER labour escalation adjustments.

The principal reason for the difference between APTNT's revised proposal and our final decision is that we are not satisfied that forecast capex for the Channel Island bridge project is such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services. We have also reduced the forecast of conforming capex for the below ground station pipework recoating project in the 2016–17 year, based on APTNT's revised estimate of likely costs.

We have revised the access arrangement having regard to our reasons for refusing to approve APTNT's proposal and the further matters identified in the NGR section 64(2). Our revisions are reflected in the *Approved Access Arrangement for the Amadeus Gas Pipeline for 2016–21*, which gives effect to this decision.

6.2 APTNT's revised proposal

6.2.1 Capital expenditure over the 2011–16 access arrangement period

In its revised proposal, APTNT proposed total conforming net capex of \$44.4 million (\$2015–16) for the 2011–16 access arrangement period.¹ This is 92 per cent above the approved forecast for the 2011–16 access arrangement period.

Table 6.5 APTNT's revised proposed capital expenditure over the 2011–16 access arrangement period (\$million, 2015–16)

| Category | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | Total |
|--|------------|-------------|------------|------------|-------------|-------------|
| Expansion | 0.9 | 0.8 | 0.6 | 0.1 | 0.0 | 2.3 |
| Replacement | 3.4 | 14.6 | 2.2 | 2.3 | 12.4 | 34.8 |
| Non-system | 0.2 | 1.6 | 1.6 | 1.9 | 2.4 | 7.6 |
| GROSS TOTAL CAPITAL EXPENDITURE | 4.5 | 17.0 | 4.3 | 4.2 | 14.8 | 44.8 |
| Contributions | - | - | - | - | - | - |
| Asset disposals | - | 0.0 | 0.3 | 0.1 | - | 0.4 |
| NET CAPITAL EXPENDITURE | 4.5 | 17.0 | 4.0 | 4.1 | 14.9 | 44.4 |

Source: APTNT, *Amadeus Gas Pipeline Access Arrangement Revised Proposal - B6 Capex model - 2016 AER labour escalators*, January 2016.

Note: Numbers may not add up due to rounding.

APTNT submitted that the assumption in our draft decision that the below ground station pipework recoating project can be conducted over five years, while maintaining the benefits of fixed cost tendering, is not correct. APTNT stated that this assumption ignores the additional resource requirements for both APTNT and the construction contractor to mobilise and demobilise the site work crew on multiple occasions to remote locations.²

APTNT submitted that the below ground station pipework project has already commenced, and that converting it from a single project to six annual projects adds additional mobilisation, demobilisation, project management and supervision costs of approximately \$2 million. APTNT also stated that by maintaining the same crew,

¹ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 32; APTNT, *Amadeus Gas Pipeline Access Arrangement Revised Proposal - B6 Capex model - 2016 AER labour escalators*, January 2016.

² APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 31.

savings are incurred on training costs and productivity is increased as the crew derive efficient work practices with experience. APTNT submitted that it has avoided these additional costs and increased productivity by conducting the works as a single project.³

In summary, APTNT submitted that its approach to the below ground station pipework recoating project results in a lower cost for the project and therefore would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services.⁴

APTNT also stated that it accepted the AER's updated real labour cost escalators, and applied them in respect of 2015-16 and forecast capital expenditure.⁵

6.2.2 Capital expenditure for the 2016–21 access arrangement period

In its revised proposal, APTNT proposed total forecast net capex of \$29.0 million (\$2015-16) for the 2016–21 access arrangement period.⁶ This is \$0.9 million (\$2015-16) or 3 per cent less than its proposed capex in its initial proposal.

³ APTNT, Amadeus Gas Pipeline, *Access Arrangement Revised Proposal, Response to Draft Submission Decision*, 1 July 2016 to 30 June 2021, p. 31.

⁴ APTNT, Amadeus Gas Pipeline, *Access Arrangement Revised Proposal, Response to Draft Submission Decision*, 1 July 2016 to 30 June 2021, pp. 31–32.

⁵ APTNT, Amadeus Gas Pipeline, *Access Arrangement Revised Proposal, Response to Draft Submission Decision*, 1 July 2016 to 30 June 2021, p. 32.

⁶ APTNT, Amadeus Gas Pipeline, *Access Arrangement Revised Proposal, Response to Draft Submission Decision*, 1 July 2016 to 30 June 2021, p. 43 and *APTNT - Amadeus Gas Pipeline Access Arrangement Revised Proposal - B6 Capex model - 2016 AER labour escalators*, January 2016.

Table 6.6 APTNT’s revised proposed capital expenditure by category over the 2016–21 access arrangement period (\$million, 2015-16)

| Category | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | Total |
|--|-------------|------------|------------|------------|------------|-------------|
| Expansion | - | - | - | - | - | - |
| Replacement | 15.8 | 1.6 | 1.2 | 1.3 | 1.1 | 21.0 |
| Non-system | 4.4 | 0.9 | 1.0 | 1.1 | 1.3 | 8.7 |
| GROSS TOTAL CAPITAL EXPENDITURE | 20.2 | 2.5 | 2.2 | 2.4 | 2.4 | 29.7 |
| Contributions | - | - | - | - | - | - |
| Asset disposals | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.7 |
| NET TOTAL CAPITAL EXPENDITURE | 20.0 | 2.5 | 2.1 | 2.2 | 2.2 | 29.0 |

Source: APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 43.

Note: Numbers may not add up due to rounding.

APTNT identified three elements of its proposed capex for the 2016-21 access arrangement period that we did not accept in our draft decision, namely:⁷

- the Channel Island Bridge Project
- restaging of the below ground station pipework project, and
- forecast real cost escalation.

Channel Island Bridge Project

APTNT stated that it does not concur with our draft decision to reduce the scope of the Channel Island Bridge project and submitted additional information in relation to:⁸

- the integrity risk of the pipeline section and the consequences of a leak or rupture to the security of gas supply and to public safety
- APTNT’s obligations under Australian Standard AS2885 and good industry practice
- the weaknesses of other integrity methods, including Direct Current Voltage Gradient (DCVG) surveys, excavations and inspections, and extrapolation of pigging data

⁷ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 33.

⁸ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, pp. 34–42.

- a review of the forecast capex provided by our consultant Sleeman Consulting, to install a pig launching facility at the Darwin City Gate Station and a pig receiving facility upstream of the Channel Island bridge.

Our assessment of these issues is discussed below.

Risk and consequences

APTNT submitted that the Channel Island Power Station is regarded as critical infrastructure and falls under the definition of critical infrastructure in the *Framework for the Protection of Northern Territory Critical Infrastructure*. APTNT identified the consequences of a loss of containment on the Channel Island spurline to be dependent on:⁹

- the location of the release:
 - whether this causes damage to other plant or infrastructure (including the only Channel Island Power Station access road), and
 - site accessibility to assess damage and effect repair
- whether there are people in the vicinity at the time of release
- the extent of any damage to the Channel Island Power Station access road or adjacent overhead power lines
- the ability to switch to back-up diesel supply at the Channel Island Power Station, the capacity of the diesel generation system, and the duration for which this can be maintained (which may be dependent on any damage to the access road); and
- the availability and capacity of other power stations to meet demand.

APTNT submitted that in worst case conditions (pipeline operating at maximum allowable operating pressure), an ignited full bore rupture has the potential to cause fatal injuries to persons within 180 metres of the release site and hospitalising injuries to persons within 300 metres.¹⁰

APTNT stated that the duration of the interruption to the Darwin power supply would depend largely on the type of failure and its location. This could range from as little as one day for a minor leak, to a week or more for a full bore rupture.¹¹

APTNT submitted that an unplanned interruption to the gas supply (from a rupture) would cause almost instant loss of generating capacity at Channel Island with widespread blackouts as it takes some time to cutover to the diesel backup system.

⁹ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 35.

¹⁰ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 35.

¹¹ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 35.

APTNT also submitted that the prolonged use of diesel would require additional volumes of diesel fuel to be transported to the power station over the bridge and that a significant repair might result in a partial or complete road closure, making this activity difficult or impossible.¹²

APTNT engaged GPA Engineering to review and comment on the advice provided to us by Sleeman Consulting. APTNT highlighted the following findings from the GPA Engineering report.¹³

Australian Standard AS 2885

APTNT noted that our draft decision in respect to the Channel Island Bridge project is based (in part) on our assessment that inline inspection is not mandated by the relevant Australian Standard, and that inline inspection is therefore not the only approach to pipeline integrity management that is consistent with accepted good industry practice.¹⁴ APTNT acknowledged that AS 2885 cannot make a blanket rule that all pipelines are required to be inspected by intelligent pigging and that the standard is pragmatic as it recognises that there are circumstances where it is not possible or necessary to do so.¹⁵

APTNT stated that it considers the clear intent of AS 2885 is that the pipeline should be made piggable unless there is a valid and compelling reason not to. APTNT also stated that while alternative integrity assessment methods are accepted in certain circumstances, it should not be inferred that the standard considers the alternatives provide an equivalent level of integrity assessment.¹⁶

APTNT submitted that any decision to not undertake inline inspection (including a decision to not modify the pipeline to make it piggable) needs to be considered in the context of the requirements of the safety management study and the pipeline integrity management plan.¹⁷

Reliance on external inspection

APTNT acknowledged that visual inspection would be an acceptable approach for detecting external corrosion on the section of the line slung under the Channel Island Bridge. However, APTNT noted that this is but one section of the line and that external

¹² APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 36.

¹³ GPA Engineering, *AER Draft Decision Review - APA Channel Island Bridge Project - APA Group*, December 2015.

¹⁴ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, p. 36.

¹⁵ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 37.

¹⁶ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 37.

¹⁷ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 37.

inspection is not a viable option for those buried sections of the pipeline leading to or from the bridge.¹⁸

Reliance on Direct Current Voltage Gradient (DCVG) surveys, excavations and inspections

APTNT stated that while the DCVG method provides an indication of some coating defects, it does not provide an indication that metal loss due to corrosion is occurring and it does not provide an indication of coating defects that result in shielding of the cathodic protection system.

APTNT stated that DCVG surveys have identified five sites on the Channel Island section (downstream of the bridge) with significant coating defects. These sites have not been excavated to date due to the difficulty in performing the excavations and in anticipation of the project to make the pipeline piggable. APTNT also submitted that there are two defects on the upstream section between Darwin City Gate and the bridge that are in a mangrove swamp where ground conditions have never been favourable for excavation.

APTNT provided further details of limitations of DCVG and other survey techniques with respect to determining the extent of corrosion under shielded coating defects. APTNT concluded that it considers that reliance on DCVG surveys and excavation inspections alone is not sufficient to address the risks associated with corrosion in compliance with AS2885.3.¹⁹

Extrapolation of findings of other pig runs

APTNT does not agree with Sleeman Consulting's proposition that the upstream section before the bridge can be made piggable and the results from the inspection of this section can be extrapolated to the downstream unpiggable section. APTNT submitted that upstream section in-line inspection results cannot be reliably extrapolated to the downstream section of the bridge as the pipeline construction methods and environmental conditions are different.²⁰

Good industry practice

APTNT submitted that upgrading the spur line to facilitate intelligent pigging in order to ensure that it can be operated safely and reliably would be considered good industry practice.

¹⁸ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 37.

¹⁹ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, pp. 38–40.

²⁰ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 38.

APTNT stated that as pipelines age, experience has shown that coating defects will develop in the buried sections and where these are not detectable due to coating shielding, the pipeline cathodic protection will also be shielded and the underlying pipeline is likely to corrode. APTNT submitted that there is no external inspection regime other than a full excavation and inspection that can adequately identify the pipe wall condition and therefore, unless upgraded to facilitate intelligent pigging, the pipeline could fail catastrophically in service.²¹

Costing of AER proposed alternative

APTNT submitted that the cost estimate of \$1.1 million for Sleeman Consulting's recommended scope of work adopted in our draft decision is unsupported, and does not reflect a reasonable estimate of the amount of required work.

APTNT also submitted that, should we continue in our view that pigging only the DN300 section of the spurline is the more efficient option, a reasonable forecast of capital expenditure must be allowed for that option to be executed. APTNT proposed that as the scope of our preferred approach is approximately half that of APTNT's preferred option, a reasonable cost estimate would be more in line with half the cost of the APTNT forecast of \$5.35 million. APTNT estimated the up-front capital cost of our option to be \$5.014 million. APTNT also noted that this approach has a greater reliance on DCVG analysis and excavation inspections, adding a larger ongoing opex component than its preferred option.²²

Below ground station pipework project

APTNT did not accept our draft decision to defer completion of the below ground station pipework project until the end of the 2016-21 access arrangement period and maintained the majority of expenditure on this project in the 2011-16 access arrangement period.²³

Real cost escalation

APTNT accepted our updated real labour cost escalators, and applied them in respect of the 2015-16 year and forecast capital expenditure.²⁴

6.3 AER's assessment approach

Our assessment approach is the same as in the draft decision.²⁵

²¹ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, pp. 40–41.

²² APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, pp. 41–42.

²³ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 42.

²⁴ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 43.

6.4 Reasons for final decision

6.4.1 Conforming capex for 2010–16

We approve net conforming capex of \$42.1 million (\$2015–16) for the 2011–16 access arrangement period. This is a reduction of \$2.3 million or 5.1 per cent from APTNT's revised estimate of conforming capex. We also approve APTNT's actual capex of \$4.5 million (\$2015-16) for the 2010-11 year as conforming capex. Table 6.7 summarises our approved conforming capex for the 2011–16 access arrangement period and the preceding 2010-11 year.

Table 6.7 AER approved capital expenditure over the 2010–2016 period (\$million, 2015-16)

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | Total (2011-16) |
|--|------------|------------|-------------|------------|------------|-------------|-----------------|
| Expansion | 3.0 | 0.9 | 0.8 | 0.6 | 0.1 | - | 2.3 |
| Replacement | 1.1 | 3.4 | 14.6 | 2.2 | 2.3 | 10.1 | 32.5 |
| Non-system | 0.4 | 0.2 | 1.6 | 1.6 | 1.9 | 2.4 | 7.7 |
| GROSS TOTAL CAPITAL EXPENDITURE | 4.5 | 4.5 | 17.0 | 4.3 | 4.2 | 12.6 | 42.5 |
| Contributions | - | - | - | - | - | - | - |
| Asset disposals | - | - | 0.0 | 0.3 | 0.1 | - | 0.4 |
| NET TOTAL CAPITAL EXPENDITURE | 4.5 | 4.5 | 16.9 | 4.0 | 4.1 | 12.6 | 42.1 |

Source: AER analysis. Totals may not add up due to rounding.

Note: Includes AER labour escalation adjustments.

Our analysis of the capex driver categories is set out below.

Expansion capex

In our draft decision we were satisfied that the amount of proposed expansion capex of \$1.4 million (\$2015-16) for the 2011-16 access arrangement period met the criteria of rule 79(1)(a) of the NGR and was justifiable on the basis of rule 79(2)(b) of the NGR. APTNT's expansion capex was for two completed projects; the Katherine meter station upgrade (\$0.8 million (\$2015-16)) and the Noonamah offtake (\$0.6 million (\$2015-16)).²⁶

²⁵ AER, Draft Decision, *Amadeus Gas Pipeline Access Arrangement 2016 to 2021, Attachment 6 - Capital expenditure*, November 2015, pp. 6-10 to 6-14.

²⁶ AER, *Draft decision - Amadeus Gas Pipeline Access Arrangement 2016 to 2021 Attachment 6 – Capital expenditure*, November 2015, pp. 6-15 to 6-16.

In its revised proposal, APTNT has included \$0.9 million (\$2015-16) expansion capex for the Channel Island meter station upgrade completed during the 2011-16 access arrangement period.²⁷ In its initial proposal, APTNT classified this expenditure as replacement capex which we approved. We accept APTNT's reclassification of the Channel Island meter station upgrade as expansion capex. This classification is now consistent with the Katherine meter station upgrade classification.

We therefore consider that APTNT's proposed expansion capex of \$2.3 million (\$2015-16) for the 2011-16 access arrangement period meets the criteria of rule 79(1)(a) of the NGR and is justifiable on the basis of rule 79(2)(b) of the NGR.

Replacement capex

In our draft decision, we included \$28.8 million (\$2015-16) for replacement capex in our estimate of conforming capex for the 2011–16 access arrangement period. This was a reduction of \$7.0 million or 20 per cent from APTNT's proposed replacement capex for the 2011–16 access arrangement period.²⁸ The reduction of \$7.0 million (\$2015-16) was for the final year of the below ground station pipework recoating project (total proposed capex of \$9.1 million (2015-16)), which we considered could be deferred and completed by the end of the 2016-21 access arrangement period.²⁹

We have reviewed APTNT's revised proposal for the below ground station pipework recoating project and are satisfied that APTNT's approach of accelerating its program of works by completing the bulk of its recoating work within two years results in a lower cost for the project. We are therefore satisfied that based on APTNT's approach the capex for this project is such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice, to achieve the lowest sustainable cost of providing services.³⁰ We have come to this view on the basis that:

- the project has already commenced. This is consistent with PWC's submission where PWC stated that at the end of 2015, fifty per cent of the below ground station pipework project (based on the number of stations) was completed³¹
- spreading the recoating work over the 2016-21 access arrangement period would likely result in significant additional resource requirements for both APA and the

²⁷ APTNT, *Amadeus Gas Pipeline Access Arrangement Revised Proposal, B6 Capex model - 2016 AER labour escalators*, January 2016.

²⁸ AER, *Draft decision - Amadeus Gas Pipeline Access Arrangement 2016 to 2021 Attachment 6 – Capital expenditure*, November 2015, p. 6-16.

²⁹ AER, *Draft decision - Amadeus Gas Pipeline Access Arrangement 2016 to 2021 Attachment 6 – Capital expenditure*, November 2015, p. 6-19.

³⁰ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, pp. 31–32.

³¹ Power and Water Corporation, *Amadeus Gas Pipeline Access Arrangement 2016-21, Submission of Power and Water Corporation (public version)*, February 2016.

construction contractor to mobilise and demobilise the site work crew on multiple occasions to remote locations³²

- it is likely that by maintaining the same crew, savings in training costs and increased productivity will be realised as workers derive efficient work practices with experience. APTNT submitted that it has avoided these additional costs and increased productivity by conducting the works as a single project; and³³
- Sleeman Consulting has confirmed that completion of the below ground station pipework recoating project in the timeframe proposed by APTNT is prudent since this is the basis upon which the benefit of fixed cost contracting has been secured and the overall cost of the project minimised.³⁴

In reviewing APTNT's revised proposal for this project, we sought clarification from APTNT as to whether the proposed capex for this project (\$9.6 million in the 2011–16 access arrangement period) included amounts for contingencies or other costs which may not be required given progress on the project to date.³⁵ APTNT provided an updated estimate of project costs taking into account actual costs incurred to date and the forecast amount required to complete the project. APTNT's revised estimate of expected capex for the below ground station pipework recoating project in the 2011–16 access arrangement period is \$7.3 million (\$2015–16), a reduction of \$2.3 million.³⁶ We have therefore reduced APTNT's proposed replacement capex for the 2011–16 access arrangement period by this amount. We are satisfied that replacement capex of \$32.5 million (\$2015-16) for the 2011-16 access arrangement period, reflecting APTNT's revised estimate for the below ground station pipework recoating project, meets the criteria of rule 79(1)(a) of the NGR and is justifiable on the basis of rule 79(2)(b) of the NGR.

Non-system capex

In our draft decision, we accepted APTNT's proposed non-system capex for the 2011–16 access arrangement period as meeting the criteria of rule 79(1)(a) of the NGR and justifiable on the basis of rule 79(2)(b) of the NGR.³⁷

APTNT's revised proposal for non-system capex in the 2011–16 access arrangement period is consistent with its initial proposal. We therefore remain of the view that APTNT's proposed non-system capex of \$7.6 million (\$2015–16) for the 2011–16

³² APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 31.

³³ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 31.

³⁴ Sleeman Consulting, *Comments on APT Pipelines (NT) Pty Limited's Response to the AER's Draft Decision*, March 2016.

³⁵ APTNT, *Response to Information Request AER Amadeus 13a (PUBLIC)* [email to AER], 22 March 2016, pp. 1-3.

³⁶ APTNT, *Response to Information Request AER Amadeus 13a (PUBLIC)* [email to AER], 22 March 2016, p. 2.

³⁷ AER, *Draft decision - Amadeus Gas Pipeline Access Arrangement 2016 to 2021 Attachment 6 – Capital expenditure*, November 2015, p. 6-28.

access arrangement period meets the criteria of rule 79(1)(a) of the NGR and is justifiable on the basis of rule 79(2)(b) of the NGR.

6.4.2 Conforming capex for the 2016–21 access arrangement period

We approve conforming net capex of \$16.8 million (\$2015–16) for the 2016–21 access arrangement period. This is a reduction of \$12.2 million (\$2015-16) or 42.1 per cent from APTNT’s forecast of conforming capex. Table 6.8 summarises our approved forecast of conforming capex for the 2016–21 access arrangement period.

Table 6.8 AER approved capital expenditure over the 2016–21 access arrangement period (\$million, 2015-16)

| Category | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | Total |
|--|------------|------------|------------|------------|------------|-------------|
| Expansion | - | - | - | - | - | - |
| Replacement | 3.3 | 1.6 | 1.3 | 1.3 | 1.1 | 8.6 |
| Non-system | 4.5 | 1.0 | 1.0 | 1.1 | 1.3 | 8.8 |
| GROSS TOTAL CAPITAL EXPENDITURE | 7.8 | 2.6 | 2.3 | 2.3 | 2.4 | 17.4 |
| Contributions | - | - | - | - | - | - |
| Asset disposals | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.7 |
| NET TOTAL CAPITAL EXPENDITURE | 7.6 | 2.5 | 2.2 | 2.2 | 2.2 | 16.8 |

Source: AER analysis. Totals may not add up due to rounding.

Expansion capex

Consistent with its initial proposal, APTNT has not forecast any expansion capex in the 2016–21 access arrangement period.

Replacement capex

In our draft decision we accepted APTNT's forecast capex of \$6.8 million (\$2015–16) for 17 of the 19 separate replacement projects or programs proposed by APTNT. We considered these 17 asset replacement projects to be business as usual projects as they were typically routine and ongoing in nature and included the purchase of minor plant and equipment or the replacement of various classes of assets due to

obsolescence or poor condition.³⁸ For the reasons set out in our draft decision, we remain of the view that APTNT's forecast capex for these minor projects is conforming capex in accordance with rule 79 of the NGR.

In regard to the remaining two replacement projects, the below ground station pipework recoating and Channel Island Bridge projects, APTNT has not accepted our draft decision to amend the forecast of conforming capex for these projects. APTNT's revised proposal includes forecast capex for these projects in line with its initial proposal. These two projects account for \$14.3 million (\$2015–16) or 68 per cent of the forecast replacement capex in APTNT's revised proposal. Our consideration of APTNT's revised proposal capex for these two projects is set out below.

Below ground station pipework recoating project

In our draft decision we accepted the need for and scope of the below ground station pipework recoating project. However, because we did not consider the timing of capex for this project to be efficient, we:³⁹

- reduced APTNT's estimated capex for the final year of the 2011–16 access arrangement period by \$7.0 million (\$2015–16); and
- increased forecast capex in the 2016–21 access arrangement period by the same amount.

We included \$10.7 million (\$2015–16) for the below ground station pipework recoating project in our forecast of conforming capex for the 2016–21 access arrangement period.⁴⁰

APTNT's revised proposal reflected its initial timing for completion of this project in the 2016–17 year. APTNT forecast capex for the below ground station pipework recoating project in the 2016–21 access arrangement period of \$3.5 million (\$2015–16), consistent with its initial proposal.

As discussed above in our assessment of capex in the 2011–16 access arrangement period, in response to our request APTNT subsequently provided an updated estimate of project costs taking into account actual costs incurred to date and the forecast amount required to complete the project.⁴¹ APTNT's revised estimate reduced the forecast capex for the below ground station pipework recoating project in the 2016–21 access arrangement period by \$1.7 million (\$2015–16). We have therefore reduced APTNT's proposed capex for this project in the 2016–21 access arrangement period by this amount. We are satisfied that capex of \$1.8 million (\$2015–16) for the below

³⁸ AER, *Draft decision - Amadeus Gas Pipeline Access Arrangement 2016 to 2021 Attachment 6 – Capital expenditure*, November 2015, p. 6-24.

³⁹ AER, *Draft decision - Amadeus Gas Pipeline Access Arrangement 2016 to 2021 Attachment 6 – Capital expenditure*, November 2015, p. 6-19.

⁴⁰ AER, *Draft decision - Amadeus Gas Pipeline Access Arrangement 2016 to 2021 Attachment 6 – Capital expenditure*, November 2015, p. 6-27.

⁴¹ APTNT, *Further response to Information Request AER Amadeus 13a* [email to AER], 24 March 2016.

ground station pipework recoating project in the 2016–21 access arrangement period, reflecting APTNT's revised estimate, meets the criteria of rule 79(1)(a) of the NGR and is justifiable on the basis of rule 79(2)(b) of the NGR.

Channel Island Bridge project

APTNT's revised proposal included \$10.8 million (\$2015–16) for the Channel Island bridge project in the 2016–21 access arrangement period. The purpose of the Channel Island bridge project is to allow the existing 12 kilometre spurline of the AGP from the Darwin City Gate Station to the Channel Island Power Station to be inspected by intelligent inline inspection tools (known as intelligent pigs).

In our draft decision, although we agreed with APTNT that inline inspection is accepted good industry practice, we noted that it is not mandated by the relevant Australian Standard⁴². We noted that inline inspection is therefore not the only approach to pipeline integrity management that is consistent with accepted good industry practice. We also noted that there is no regulatory obligation which requires modifications to permit the inline inspection of gas pipelines regardless of the cost of doing so. Our engineering consultant, Sleeman Consulting, identified an alternative approach to the project which would deliver many of the benefits of the project but at a significantly lower cost. We therefore were not satisfied that APTNT's forecast capex for the Channel Island bridge project met the criteria for conforming capex in rule 79 of the NGR as it was not efficient and did not achieve the lowest sustainable cost of providing services.^{43 44}

In our draft decision, we made allowance for an alternative preferred option that provided for approximately 90 per cent of the Channel Island spurline to be made piggable at an estimated cost of \$1.1 million (\$2015–16). We considered that the remaining section of the spurline could continue to be assessed by visual inspection of the exposed pipeline and by a combination of DCVG surveys, excavations and the extrapolation of upstream pigging results. We were satisfied that this approach was prudent, efficient, and consistent with achieving the lowest sustainable cost of providing services.⁴⁵

We have reviewed APTNT's revised proposal, and also sought further engineering advice from Sleeman Consulting to assist in assessing the additional technical information provided by APTNT in relation to this project. We have also considered

⁴² Australian Standard AS2885.3 provides that "where a pipeline (or section of a pipeline) is not capable of being inspected by an inline tool, the Licensee shall consider whether the pipeline needs to be modified to permit inspection by an inline inspection tool. Any decision not to undertake modifications for this purpose shall be consistent with the safety management study and the pipeline integrity management plan, and shall be documented."

⁴³ NGR, r. 79(1)(a).

⁴⁴ AER, *Draft decision - Amadeus Gas Pipeline Access Arrangement 2016 to 2021 Attachment 6 – Capital expenditure*, November 2015, p. 6-26.

⁴⁵ AER, *Draft decision - Amadeus Gas Pipeline Access Arrangement 2016 to 2021 Attachment 6 – Capital expenditure*, November 2015, p. 6-26.

submissions relating to the project received from PWC and Territory Generation, respectively, the sole shipper and end user of gas on the Channel Island spurline.

Power and Water Corporation (PWC) and Territory Generation submissions

In its submission, PWC did not endorse APTNT's proposed expenditure for the Channel Island bridge project. In respect to the risks and consequences of a loss of containment, PWC submitted that whilst the potential for corrosion under failed heat shrink sleeves could cause gas to leak, it is unlikely to result in a burst failure. PWC also stated that the Channel Island lateral does not pass through any built up areas.⁴⁶

In respect to the justification and prudence of APTNT's proposed expenditure for the Channel Island bridge project, PWC submitted that it is concerned that the project may not be commercially viable and did not consider that there is any imperative for the project to be expedited. Rather, in consultation with APTNT and Territory Generation, PWC proposed to investigate alternatives to APTNT's Channel Island bridge project and identified the following options:⁴⁷

- undertaking dig-ups, including those on Channel Island that have been delayed, so that the condition of the lateral can be reliably predicted and potential future costs quantified
- construction of facilities to allow pigging of the section of the lateral between the Darwin City Gate station and the Channel Island bridge; and
- construction of a new pipeline to replace the lateral (particularly if dig-ups reveal widespread problems).

In its submission, Territory Generation stated that it had consulted with PWC in respect to the Channel Island Bridge project and believes that the proposal does not fully address the risks associated with its requirements. In particular, Territory Generation does not support the project as proposed because:⁴⁸

- the proposal does not align with Territory Generation's Strategic Plan in relation to gas supply
- the project may curtail gas supply during the construction phase
- the project does not provide a dual gas feed into Channel Island, which would allow Territory Generation to reduce its reliance of diesel as an alternative fuel source.

Territory Generation submitted that in order to provide it with security of gas supply, its preference is to construct a Territory Generation-owned pipeline lateral from Wickham

⁴⁶ Power and Water Corporation, *Amadeus Gas Pipeline Access Arrangement 2016-21, Submission of Power and Water Corporation (public version)*, February 2016, p. 3.

⁴⁷ Power and Water Corporation, *Amadeus Gas Pipeline Access Arrangement 2016-21, Submission of Power and Water Corporation (public version)*, February 2016, pp. 3–4.

⁴⁸ Territory Generation, *Submission on APT Pipelines (NT) Pty Ltd's Revised Proposal for the Amadeus Gas Pipeline Access Arrangement for the 2016-21 Access Arrangement Period*, February 2016.

Point Pipeline. Territory Generation estimated that the cost of a new lateral would be of the same order as the estimated cost of APTNT's Channel Island bridge project.⁴⁹

In light of these submissions from APTNT's customers, we sought confirmation from APTNT as to the level of certainty that the project would proceed in accordance with the scope, timing and costs proposed in its revised proposal.

APTNT submitted that there appeared to be confusion and misinformation regarding this project, largely as a result of the fluid nature of the planning associated with it. APTNT submitted that:⁵⁰

- Territory Generation and PWC both support the project to make the Channel Island spurline piggable
- as PWC and Territory Generation are the major customers/end users of the pipeline, APTNT conducts a collaborative planning process with them and they have a role in deciding the scope and timing of some projects
- Territory Generation is concerned that the piggability works may present risks to the security of gas supply to the Channel Island Power Station while the works are being undertaken. Territory Generation considers that it would be prudent for it to operate the Power Station on diesel for the entire duration of the works but is concerned about its ability to maintain adequate electricity supply using only diesel fuel for this extended period.
- Territory Generation has indicated that it intends to connect the Wickham Point Pipeline to the Channel Island Power Station, providing the security of an alternate gas supply. Territory Generation has indicated, as a preliminary estimate, that the planning and construction of this additional pipeline would take two years.
- the timing of the Channel Island bridge project may be delayed until the Wickham Point connection has been completed to obviate the need for Territory Generation to operate the Channel Island Power Station on diesel fuel while the works are undertaken. APTNT estimated that 'at this stage' it expects the Channel Island bridge project is more likely to proceed in 2019 rather than 2016.

In our view, the submissions received from PWC and Territory Generation indicate that there is a high degree of uncertainty over the scope, timing and cost of the Channel Island bridge project as proposed by APTNT. PWC has identified a number of alternative options that it proposes to investigate. Territory Generation supports the construction of an additional pipeline to supply the Channel Island Power Station, which has implications for both the timing and underlying need for the scope of works proposed by APTNT for the existing Channel Island spurline. APTNT has acknowledged that the planning of this project is 'fluid' and the project timing is 'at this

⁴⁹ Territory Generation, *Submission on APT Pipelines (NT) Pty Ltd's Revised Proposal for the Amadeus Gas Pipeline Access Arrangement for the 2016-21 Access Arrangement Period*, February 2016.

⁵⁰ APTNT, *Response to Information Request AER Amadeus 13a (PUBLIC)* [email to AER], 18 March 2016, pp. 5–7.

stage' likely to be deferred by three years.⁵¹ Given these circumstances and the alternative options available (undertaking dig-ups, construction of facilities to allow pigging of the section of the lateral between the Darwin City Gate station and the Channel Island Bridge and construction of a new pipeline to replace the lateral) there is a significant degree of uncertainty in respect to the scope, timing and cost of this project. As such, we are not satisfied that APTNT's forecast capex for this project has been arrived at on a reasonable basis, represents the best forecast possible in the circumstances, or is such as would be incurred by a prudent service provider acting efficiently.⁵²

Sleeman Consulting engineering advice

In summary, Sleeman Consulting advised that:

- in regard to the requirements of AS2885:
 - Sleeman Consulting agrees with APTNT that AS2885 is pragmatic in respect of the need for in-line inspection and/or for modification of an existing pipeline to permit in-line inspection
 - AS2885 does not require replacement of a pipeline (or section of pipeline) that is not piggable
 - a decision as to whether or not a pipeline should be modified should have regard for risks and consequences and also for costs and benefits
 - the pragmatism of AS2885 extends to circumstances in which the costs of carrying out in-line inspection exceed the potential benefits of doing so
 - APTNT has not assessed all possible costs associated with pigging of the Channel Island spurline, or quantified the benefits that may be realised.
- in regard to the risks and consequences of pipeline failure:
 - the Channel Island project should be assessed with consideration for the risks and consequences of pipeline failure
 - the likelihood of an extended gas supply interruption is at worst 'remote' given the anticipated type of corrosion on the pipeline is highly unlikely to result in a pipeline rupture, meaning the overall risk rating is 'negligible' to 'low' or, at worst, 'intermediate'
 - Territory Generation's intended approach to construct a new pipeline to Channel Island will have a material impact upon the consequences of failure of the existing Channel Island spurline
 - construction by Territory Generation of a new pipeline to Channel Island will reduce the consequence of failure of the Channel Island spurline to a 'trivial'

⁵¹ APTNT, *Response to Information Request AER Amadeus 13a (PUBLIC)* [email to AER], 18 March 2016, pp. 5–7.

⁵² NGR, rr. 74(2) and 79(1)(a).

or 'minor' level. With the likelihood of such failure being 'remote', the overall risk rating will be 'negligible'.

- in regard to cost considerations:
 - APTNT's estimated cost for making the Channel Island spurline piggable for its entire length does not make provision for remedial work that may be required, including at locations already in need of attention
 - depending upon remedial work requirements, overall costs incurred by proceeding with the project as proposed by APTNT may be higher, and potentially considerably higher, than the upfront cost estimate
 - it would be prudent to carry out a preliminary assessment of the condition of the Channel Island spurline prior to committing to the piggability project
- in regard to the project alternatives identified by PWC and Territory Generation:
 - PWC's proposal to undertake dig-ups to allow the condition of the pipeline to be reliably predicted has merit
 - in the event that dig-ups reveal material corrosion problems there would in turn be justifiable concern that, on top of the cost of making the pipeline piggable (all or in part), significant remedial costs may be incurred
 - in the event that dig-ups confirm that the integrity of the pipeline is not compromised, arguments in favour of incurring significant expense to make the pipeline piggable (all or in part) will be weakened
 - if Territory Generation proceeds with construction at its cost of a new pipeline running from the Wickham Point Pipeline to the Channel Island Power Station then the risks and consequences associated with operation of the existing Channel Island spurline will be materially impacted and the need for pigging reduced or avoided.
- in regard to the timing of the project:
 - information from dig-ups of the Channel Island spurline to date and of below ground station pipework shows that, while the problem of disbondment of heat shrink sleeves may be widespread, the consequent metal loss is not material
 - there is time available to fully and prudently assess whether or not existing practices for ensuring the integrity of the Channel Island spurline need to be changed and/or work carried out to make the pipeline piggable (all or in part)
- in conclusion:
 - provision should be made for dig-ups and inspections to allow an assessment of the present condition of the Channel Island spurline
 - Territory Generation's intention regarding construction of a new lateral to supply gas to Channel Island Power Station should be ascertained
 - having regard for the findings from dig-ups and the intention of Territory Generation, all options for ongoing prudent management of the integrity of

the Channel Island spurline should be considered with regard for costs, benefits, risks and consequences.

In our view, this advice from Sleeman Consulting further supports the views expressed by PWC and Territory Generation that alternatives to the project proposed by APTNT exist and should be further explored before a commitment is made to proceed with the project as proposed. Having regard to advice from Sleeman Consulting and submissions from PWC and Territory Generation we consider that the need for the works proposed by APTNT is not urgent given the likelihood of a significant pipeline failure is considered to be 'remote' and APTNT has confirmed it expects the project timing to be delayed 'at this stage' by three years. Deferral of the project proposed by APTNT, substituted with a program of dig-ups and inspections to evaluate the condition of the Channel Island spurline, would provide additional information to support the need or otherwise for the work as well as time to prudently assess the impact of Territory Generation's new pipeline, if constructed.

Considerations and conclusions

On the basis of:

- APTNT's revised proposal and its response to our information requests
- submissions from PWC and Territory Generation; and
- further advice from our engineering consultant

we are not satisfied that the forecast of conforming capex for the AGP in the 2016–21 access arrangement period should include provision for the cost of making the Channel Island spurline piggable as proposed by APTNT. We are not satisfied that the forecast conforming capex for this project would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice to achieve the lowest sustainable cost of providing services.⁵³

In our view, the proposed \$0.4 million opex provision for pigging and dig-ups of the Channel Island spurline should be applied to a more extensive program of dig-ups and inspections to allow an assessment of the present condition of the Channel Island spurline. This provision is included in the forecast opex discussed in attachment 7 of this decision. On the basis of the findings from the dig-ups and inspections, all options for the ongoing prudent management of the integrity of the Channel Island spurline should be considered with regard for costs, benefits, risks and consequences.

We have come to this view on the basis that:

⁵³ NGR, r. 79(1)(a).

- the practical application of AS2885 does not extend to require replacement or modification of a pipeline (or section) that is not piggable without full consideration of the relevant costs and benefits of doing so.⁵⁴
- the risks to pipeline integrity identified by APTNT are overstated, and the need for the piggability works is not urgent. This view is supported by both Sleeman Consulting and PWC.
- PWC and Territory Generation, the sole customers/end users of the Channel Island lateral, raised concerns in respect to the scope and timing of the project as proposed.
- APTNT has acknowledged that the timing of the Channel Island bridge project is likely to be delayed until the Wickham Point connection proposed by Territory Generation has been completed. On the evidence available, there is no certainty as to the timing of construction of this alternative pipeline, or whether this will actually proceed.
- Should the Territory Generation owned pipeline be built, this would have implications for the risks and consequences associated with operating the existing Channel Island spurline. It is not clear that these implications have been fully considered or assessed by APTNT at this time.

We have therefore not accepted APTNT's forecast capex for the Channel Island bridge project for the 2016–21 access arrangement period. We will consider whether any actual capex incurred by APTNT in the 2016–21 access arrangement period in relation to this project meets the criteria for conforming capex under the NGR at the time of the next access arrangement review.

We are satisfied that replacement capex of \$8.7 million (\$2015–16) for the 2016–21 access arrangement period meets the criteria of rule 79(1)(a) of the NGR and is justifiable on the basis of rule 79(2)(b) of the NGR.

Non-system capex

In our draft decision we accepted APTNT's forecast of \$8.7 million (\$2015–16) for the 2016–21 access arrangement period for the replacement or refurbishment of non-system assets such as motor vehicles, buildings and information technology. APTNT's revised proposal for non-system capex in the 2016–21 access arrangement period is consistent with its initial proposal. We therefore consider that APTNT's proposed non-system capex of \$8.7 million (\$2015-16) for the 2016-21 access arrangement period meet the criteria of rule 79(1)(a) of the NGR and is justifiable on the basis of rule 79(2)(b) of the NGR.

⁵⁴ APTNT's safety management study and pipeline integrity management plan do not dictate mandatory obligations in respect of pipeline management.

6.4.3 Labour cost escalation

In our draft decision, we did not accept APTNT's forecast of real labour cost escalation in 2015–16 and the 2016–21 access arrangement period. We substituted our forecast of labour cost escalation in place of APTNT's forecast in determining our estimate of conforming capex for 2015–16 and the 2016–21 access arrangement period. The impact of applying our forecast for labour cost escalation was a reduction in forecast capex of \$0.2 million (\$2015–16).⁵⁵

In its revised proposal, APTNT accepted our methodology for real labour cost escalation, and has applied it in respect of the 2015–16 year and forecast capex in the 2016–21 access arrangement period.⁵⁶ Since APTNT submitted their revised proposal, we have updated our estimate of real labour cost escalators and have therefore amended APTNT's conforming capex to reflect this adjustment. The impact of this adjustment is an increase in conforming capex of \$0.1 million (\$2015–16) for the 2011–16 access arrangement period and \$0.3 million (\$2015–16) for the 2016–21 access arrangement period.

⁵⁵ AER, *Draft decision - Amadeus Gas Pipeline Access Arrangement 2016 to 2021 Attachment 6 – Capital expenditure*, November 2015, pp. 6-32 to 6-33.

⁵⁶ APTNT, *Amadeus Gas Pipeline, Access Arrangement Revised Proposal, Response to Draft Submission Decision, 1 July 2016 to 30 June 2021*, January 2016, p. 43.