



DRAFT DECISION
Multinet Gas
Access arrangement
2018 to 2022

Attachment 13 – Demand

July 2017

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Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne Vic 3001

Tel: 1300 585 165

Email: AERInquiry@aer.gov.au

Note

This attachment forms part of the AER's draft decision on the access arrangement for Multinet Gas for 2018-22. It should be read with all other parts of the draft decision.

The draft 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

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Attachment 13 - Demand

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Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
ATO	Australian Tax Office
capex	capital expenditure
CAPM	capital asset pricing model
CESS	Capital Expenditure Sharing Scheme
CPI	consumer price index
CCP	Consumer Challenge Panel
DRP	debt risk premium
EBSS	Efficiency Benefit Sharing Scheme
ERP	equity risk premium
Expenditure Guideline	Expenditure Forecast Assessment Guideline
gamma	Value of Imputation Credits
GSL	Guaranteed Service Level
MHQ	maximum hourly quantity
MRP	market risk premium
NGL	national gas law
NGO	national gas objective
NIEIR	National Institute of Economic and Industry Research
NGR	national gas rules
NPV	net present value
opex	operating expenditure
PTRM	post-tax revenue model
RAB	regulatory asset base
RBA	Reserve Bank of Australia
RIN	regulatory information notice
TAB	Tax asset base
UAFG	Unaccounted for gas
WACC	weighted average cost of capital
WPI	Wage Price Index

13 Demand

This attachment sets out our assessment of the demand forecasts for Multinet for the 2018–22 access arrangement period. Demand is an important input into the derivation of Multinet's reference tariffs. It also affects operating expenditure (opex) and capital expenditure (capex), which are linked to network growth (new connections).¹

13.1 Draft decision

Based on all the information before us, we do not accept Multinet's Tariff V demand forecasts for the 2018–22 access arrangement period. Multinet has not established that its forecast is arrived at on a reasonable basis because:

- our analysis has revealed that Multinet's forecast for gross new residential connections is understated, and inconsistent with the gross connection volumes used to derive Multinet's proposed connection capex.²
- we have determined that Multinet's opex step change for a marketing program does not meet the opex criteria which in turn impacts its demand forecasts, in particular, forecast residential connection numbers.³

We have determined an alternative forecast of 40,604 gross new residential connections over the 2018–22 access arrangement period that we are satisfied is arrived at on a reasonable basis and represents the best possible forecast in the circumstances. This is approximately 23 per cent higher than Multinet's proposed forecast of 33,138 gross residential connections.⁴

With respect to Tariff D and Tariff L,⁵ we accept Multinet's forecast demand (MHQ) for these tariff classes.⁶

The reasons for our draft decision are discussed in Section 13.4 below.

Multinet's forecasts are based on work undertaken by its consultant, the National Institute of Economic and Industry Research (NIEIR). We have necessarily taken a high level approach to the assessment of, NIEIR's methodology because Multinet did not explain to our satisfaction the particulars of the methodology NIEIR employed or

¹ Our draft decisions on Multinet's capex and opex are respectively set out in Attachments 6 and 7 of this draft decision

² Multinet, *Attachment 13.10.1 - Capital Expenditure Overview - Residential, Commercial and Industrial connections capital expenditure*, 15 December 2016, p.22-23

³ Attachment 7 sets out the reasons for our draft decision on the marketing step change.

⁴ NGR, r. 74(2). Further, we are satisfied with NIEIR's residential disconnections forecast for this draft decision.

⁵ Tariff D applies to customers using more than 10,000 GJ a year or more than 10 GJ MHQ. Customers are charged based on their MHQ measured in GJ per hour. Tariff L is open to customers who consume more than 1TJ per annum or less than 10TJ per annum and have an MHQ demand of less than 10 GJ per hour. See Multinet, *2018 to 2022 Access Arrangement Information*, 21 December 2016, pp. 154-155

⁶ NGR, r. 74(2).

the details of how its forecasts were arrived at. This affected the analysis that we and our consultants, ACIL Allen, could undertake.⁷ This lack of transparency falls short of the quality of information that we would generally expect to accompany an access arrangement proposal. We would encourage Multinet and NIEIR to reconsider their approach for the purposes of the revised access arrangement proposal and other future review processes.

13.2 Multinet's proposal

Multinet engaged NIEIR to prepare its demand forecasts for its Victorian network for the 2018–22 access arrangement period. A summary of the key aspects of Multinet's demand forecasts are set out in Table 13-1 (Tariff V - residential and commercial) and Table 13-2 (Tariff D and Tariff L).

Table 13-1: Multinet demand forecasts for Tariff V for the 2018–22 access arrangement period

	2018	2019	2020	2021	2022
Residential connections ^a	685,064	688,840	692,594	696,332	699,910
Residential consumption per connection (GJ) ^a	55.2	54.3	53.5	52.6	51.8
Residential Demand (TJ) ^a	37,810	37,421	37,061	36,620	36,222
Commercial connections	15,524	15,388	15,290	14,974	14,898
Commercial consumption per connection (GJ)	311	306	300	297	291
Commercial Demand (TJ)	4,832	4,712	4,588	4,448	4,334

Source: Multinet Access Arrangement Information - Demand forecasts as proposed.⁸

Notes: a. these values include the impact of Multinet marketing step change

⁸ Multinet, *2018 to 2022 Access Arrangement Information*, 21 December 2016, p.36-9.

Table 13-2: Multinet demand forecasts for Tariff D and Tariff L MHQ for the 2018–22 access arrangement period

	2018	2019	2020	2021	2022
Demand (MHQs - GJ/hr)	3,672	3,638	3,599	3,578	3,545

Source Multinet Access Arrangement Information - Demand forecasts as proposed.⁹

Note: these values include the aggregate of Tariff D and Tariff L in MHQs GJ/hr.

Multinet made a post-model adjustment to account for the impact on the demand forecasts of its proposed marketing program. The values in Table 13-1 include this impact which represents an estimate that 5 per cent of appliance rebates will result in new connections.¹⁰ This leads to an incremental increase of 0.78 per cent of residential demand and approximately 1,400 net new connections.¹¹

In summary, Multinet’s proposed forecast for:

- total residential Tariff V demand decreases by around 1 per cent per year over the 2018–22 access arrangement period.¹² This compares to a 1 per cent per year decline in the current access arrangement period. The residential demand forecast is a result of a forecast reduction in consumption per connection of 1.6 per cent per year being offset by net customer growth of 0.5 per cent per year.¹³
- total commercial demand decreases by 2.7 per cent over the 2018–22 access arrangement period. This compares to a decline of 2.5 per cent per year in the current access arrangement period.
- industrial demand (Tariff D and L) decreases by 0.9 per cent over the 2018–22 access arrangement period. This compares to an increase of 0.5 per cent per year in the current access arrangement period.

13.2.1 Forecasting methodology

The forecasts for Tariff V residential gas demand were derived by multiplying the forecast of net residential customer numbers by the forecast residential consumption per connection.¹⁴

⁹ Multinet, *2018 to 2022 Access Arrangement Information*, 21 December 2016, p.40.

¹⁰ Multinet Gas, *14.3 - Axiom Economics - Consistency of Victorian gas distribution businesses joint marketing campaign with rule 91 of the NGR*, 20 December 2016, p.57.

¹¹ AER Analysis of the proposed figures. See Multinet, *2018 to 2022 Access Arrangement Information*, 21 December 2016, p.37.

¹² Multinet, *2018 to 2022 Access Arrangement Information*, 21 December 2016, p.37.

¹³ This analysis reflect Multinet's proposal and incorporates the impact of the marketing step change on the demand numbers.

¹⁴ Multinet, *2018 to 2022 Access Arrangement Information*, 21 December 2016, p.30.

The methodology for Tariff V commercial demand was based on an econometric commercial equation which uses commercial output and real gas prices to forecast demand. NIEIR's modelling methodology relies heavily on its own economic and energy model which produces forecasts of population, dwelling stock growth and estimates of gross regional product at the Local Government Area (LGA) level. As noted above, NIEIR's methodology does not have the degree of transparency that we consider necessary to evaluate the particulars of that methodology, and accordingly, our assessment has had to proceed at a high level.

13.2.1.1 Forecasting of Tariff V residential connections numbers

On the available information, Multinet's residential connection numbers were forecast by estimating that 34 to 47 per cent of new dwellings are expected to connect to gas over 2018-22 access arrangement period.¹⁵ The new dwelling forecast is based on NIEIR's own model projections.¹⁶

13.2.1.2 Forecasting of Tariff V residential consumption per connection

NIEIR used its own model to project residential consumption per connection which is undertaken separately for existing and new connections.¹⁷ In its model, annual consumption per connection is a function of real household income per capita, real energy gas prices, climate change¹⁸ and government policy¹⁹ responses.²⁰ Weather was also assumed to affect consumption per connection.

13.2.1.3 Forecasting of Tariff V commercial demand

Aside from Multinet's response to our information request,²¹ we have no visibility of the exact methodology used to derive net commercial customer numbers and commercial consumption per connection. Multinet noted in its response to the information request that it relied on an in-house developed commercial equation as the methodology used to predict Tariff V commercial demand.²² The commercial equation took into account

¹⁵ ACIL Allen, *Review of demand forecasts for Multinet*, June 2017, p. 15.

¹⁶ NIEIR notes that Multinet's dwelling growth completions was below state projection as Multinet's network covers an established area of Melbourne. See Multinet, *Response to Information Request #13 - Demand Forecast*, 27 March 2017, p. 5.

¹⁷ In the access arrangement information, Multinet notes that new customers typically have more efficient appliances and thermally efficient dwelling. See Multinet, *2018 to 2022 Access Arrangement Information*, 21 December 2016, p.35.

¹⁸ This relates to demand for space heating. See ACIL Allen *Review of demand forecasts for Multinet*, June 2017, p. 17.

¹⁹ Policy responses appear to relate to Minimum Energy Performance Standard (MEPS) for water and space heating targets. See ACIL Allen *Review of demand forecasts for Multinet*, June 2017, p. 17.

²⁰ Multinet, *Response to Information Request #13 - Demand Forecast*, 27 March 2017, p. 9.

²¹ Multinet provided us the high level equation that was used to inform the parameterisation of commercial gas demand. See Multinet, *Response to Information Request #13 - Demand Forecast*, 27 March 2017, p. 3.

²² NIEIR considered that Multinet's eight years historical billing data, to be an insufficient length of time to rely on it as an estimate for forecasting Tariff V commercial demand. See Multinet Gas, *9.1 - National Institute of Economic and*

the impact of weather in the form of Effective Degree Day Index (EDD), gas and electricity prices, and commercial output drivers for various sectors and economic activity.

13.2.1.4 Forecasting of Tariff D and Tariff L

NIEIR forecast Tariff D demand using econometric modelling at the industry level. NIEIR mainly relied on the Australian and New Zealand Standard Industrial Classification (ANZSIC) to divide Multinet's existing Tariff D customers into distinct categories with varying economic outlooks. NIEIR considered that the sectoral outlook at the industry level has an effect on Tariff D volume and consumption movements.²³ NIEIR supplemented the results from industry-level modelling with those from direct surveys. The survey results were incorporated as a post-modelling adjustment.²⁴

To forecast Tariff L, NIEIR exclusively used the economic modelling approach.²⁵

13.3 AER Assessment approach

The NGR require that the access arrangement information for a full access arrangement proposal for a distribution pipeline must include usage of the pipeline over the earlier access arrangement period showing:

- minimum, maximum and average demand for each receipt and delivery point; and customer numbers in total and by tariff class for each receipt or delivery point.²⁶
- to the extent it is practicable to forecast pipeline capacity and utilisation of pipeline capacity over the access arrangement period, a forecast of pipeline capacity and utilisation of pipeline capacity over that period and the basis on which the forecast has been derived.²⁷

The NGR also require that forecasts and estimates:²⁸

- are arrived at on a reasonable basis; and
- represent the best forecast or estimate possible in the circumstances.

We consider that there are two important considerations in assessing whether demand forecasts are arrived at on a reasonable basis and whether they represent the best forecasts possible in the circumstances.²⁹ These are:

Industry Research, Natural gas, customer number and MHQ forecasts for Multinet Gas to 2026 - Volume 1, August 2016, p.39.

²³ Multinet Gas, 9.2 - *National Institute of Economic and Industry Research, Peak day, peak hour and postcode projections for Multinet Gas to 2026 - Volume 2, August 2016, p.26.*

²⁴ The surveys were addressed to Multinet's top 30 Tariff D customers. 12 out of the 30 customers responded to the survey, which represent about 29 per cent of total Tariff D consumption. See Multinet, *Response to Information Request #13 - Demand Forecast, 27 March 2017, p.2.*

²⁵ ACIL Allen, *Review of demand forecasts for Multinet, June 2017, p.*

²⁶ NGR, r. 72(1)(a)(iii).

²⁷ NGR, r. 72(1)(d).

²⁸ NGR, r. 74(2).

- the appropriateness of the forecast methodology – this involves consideration of how the demand forecast has been developed; and
- whether or not relevant factors have been taken into account in developing demand forecasts.

To determine whether Multinet proposed demand forecasts are arrived at on a reasonable basis and are the best possible forecasts in the circumstances, we have reviewed:

- information provided by Multinet as part of its proposed access arrangement;
- the data inputs used to implement the forecasting methodology;
- NIEIR demand model and its report on Multinet's demand forecasts;
- Multinet's Access Arrangement information; and
- Multinet's responses to the regulatory information notice (RIN).

In making our draft decision, we have had regard to:

- information provided by Multinet as part of its proposed access arrangement information;
- alternative methodologies for forecasting demand, while being cognisant of the idiosyncratic features of a given methodology compared to other possible alternatives;³⁰
- advice from ACIL Allen in its review of Multinet demand forecasts. ACIL Allen reviewed Multinet's demand forecasts and provided independent advice on NIEIR's methodology and assumptions;
- additional information provided by Multinet in response to our information requests; and
- public submissions during the consultation process.

13.3.1 Interrelationships

We have considered the relevant interrelationships between different components of Multinet's access arrangement as part of our analysis.

This includes the effect of forecast demand on the efficient amount of capex and opex and tariffs in the 2018–22 access arrangement period. In particular, the demand forecasts:

- impact approved tariff V connections capex, given the number of new connections affects the amount of approved connections capex

²⁹ NGR, r. 74(2).

³⁰ ACIL Allen, *Review of demand forecasts for Multinet*, June 2017, p. A1.

- impact approved opex, given the forecast total connections numbers and total consumption (output growth) is used in deriving the additional opex required to service the larger network
- impact tariffs, given they depend on forecast consumption (demand) per connection. Changes in these forecasts will change tariff prices. In simple terms, tariffs are determined by cost divided by quantity (where quantity is measured by demand per connection). This means that an increase in forecast quantity has the effect of reducing the tariff.
- are impacted by Multinet's proposed marketing program.

13.4 Reasons for draft decision

Based on the information before us, we are not satisfied that Multinet's forecasts for Tariff V demand are arrived at on a reasonable basis and therefore does not represent the best forecasts possible in the circumstances.³¹ This is for two reasons.

First, NIEIR's forecast for gross new residential connections is understated, and inconsistent with the connection volumes used to derive Multinet's proposed forecast connection capex.

Second, we have determined that Multinet's proposed step change for a marketing program does not meet the opex criteria. This, in turn, impacts its forecast of new residential connection numbers and therefore Tariff V demand. Attachment 7 sets out our draft decision on opex which includes our analysis of the proposed forecast marketing expenditure.

With respect to Tariff D and L, we are satisfied that the demand forecasts for these tariff classes are arrived at on a reasonable basis and the best forecasts possible in the circumstances.³²

The reasons for our decision are discussed further below.

13.4.1 Minimum, maximum and average demand

Under the NGR, Multinet's access arrangement must include minimum, maximum and average demand for the earlier access arrangement period.³³ Multinet's access arrangement information and its response to our RIN satisfy these requirements.³⁴

³¹ NGR, r. 74(2).

³² NGR, r. 74(2).

³³ NGR, r. 72(1)(a)(iii)(A).

³⁴ Mutlinet, *Access Arrangement Information 2018–22*, 21 December 2016, pp.28 and Multinet, *11A - Final 2018-22 Reset RIN Templates - Multinet Gas Response*, 9 January 2017.

13.4.2 Forecast pipeline capacity and utilisation

The NGR require that to the extent practicable, the access arrangement information should include forecast pipeline capacity and utilisation of pipeline capacity over the access arrangement period.³⁵

Multinet did not provide this information in the access arrangement information. However, Multinet's distribution network is a meshed network made up of interconnected pipes, and there are a number of considerations that mean that calculating forecast capacity and utilisation is not practicable.

13.4.3 Demand Forecast of Tariff V

Our draft decision is to not accept Multinet's forecast of Tariff V demand for the 2018–22 access arrangement period. This is because the input used to forecast Tariff V demand - forecast net new residential connection numbers - was not arrived at on a reasonable basis and therefore does not result in the best possible forecast in the circumstances.

We are satisfied that all the other forecasts used to derive the demand forecast for Tariff V, being forecast commercial demand and forecast consumption per connection for residential customers, are arrived at on a reasonable basis and the best possible forecasts in the circumstances.

13.4.3.1 Forecast of residential connections numbers

We consider Multinet's forecast of gross new residential connection numbers is understated.

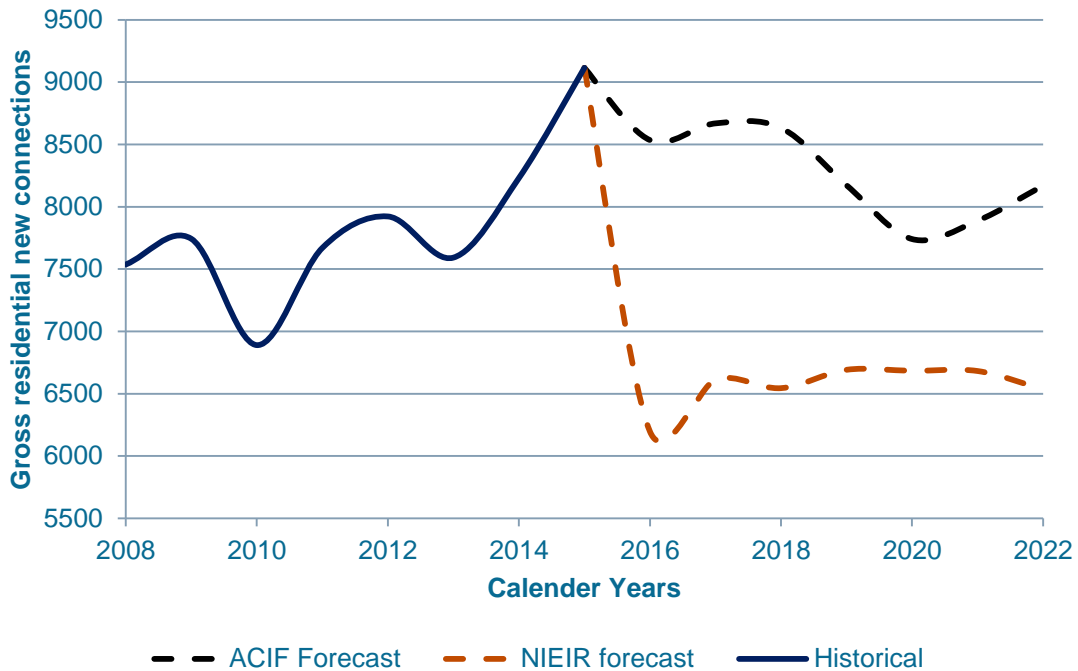
- First, Multinet provided a different forecast of new gross residential connection numbers to forecast gross connections capex. We observed that Multinet's forecast gross connections capex more closely aligns with the historical average connections than NIEIR's forecasts.³⁶ Figure 13-1 illustrates this.³⁷ The forecast used to derive Multinet's proposed connections capex was based on the Australian Construction Industry Forum (ACIF) indices, which is on average 23 per cent higher than NIEIR's gross residential connection forecasts.

³⁵ NGR, r. 72(1)(d).

³⁶ We acknowledge that the fact that a forecast diverges from the historical trend cannot in itself be taken as proof that the forecast is unreasonable. Rather, such divergence may prompt us to ask whether there are good reasons for the break in trend. See ACIL Allen, *Review of demand forecasts for Multinet*, June 2017, p.30.

³⁷ The difference between the historical connections numbers and ACIF average connections forecast is approximately 5 per cent, on the other hand, the difference between average historical connections and NIEIR average connections forecast is 16 per cent.

Figure 13-1: Comparison between historical, NIEIR and ACIF gross connection numbers



Source: AER analysis.³⁸

- Second, in response to an information request, Multinet itself admitted that NIEIR's gross new connections forecasts are not accurate. It submitted:³⁹

NIEIR's forecast is not consistent with historic actual connections. With all of the economic assumptions provided as part of our submission there is nothing that points to a lower number of actual gross connections than our historic actual data. Therefore NIEIR data was not considered to be an accurate forecast by [Multinet]. ACIF forecast however was consistent with all the macro assumptions and it is consistent with historic actual connections.

- Finally, under a price cap, we consider there is no reason why, for the purpose of demand forecasting and tariff setting, new connection numbers should differ from that used to forecast connections capex.

For these reasons, and on the basis of ACIL Allen's advice⁴⁰, we are not satisfied that Multinet's forecast of new residential connection numbers is arrived at on a reasonable

³⁸ The historical data and the ACIF forecast are as reported in the Reset RIN. The NIEIR forecast is as per Multinet Gas - 0.8 - NIEIR detailed volumes - 20161221.

³⁹ Multinet, *Response to information request #24*, 10 May 2017

⁴⁰ ACIL Allen considers that the accurate forecasts of gross and net connections numbers are fundamental to the reliability of the demand forecasts. ACIL Allen added that if Multinet considers NIEIR's gross connection forecast to be unacceptably low for the purposes of estimating future capital expenditure, then similarly it follows that their

basis or the best estimate possible in the circumstances. Our alternative forecast is 40,604 gross residential connections over the 2018–22 access arrangement period, approximately 23 per cent higher than Multinet's forecast of 33,138 gross residential connections. This is based on the ACIF indices, which are consistent with the historical actual trend and with comparative forecasts based on underlying data from a third independent source, HIA. It is also based on removing the forecast new residential connection numbers that were included by Multinet through the post-model adjustment it applied to account for its proposed marketing program. As noted above, our draft decision on opex does not accept Multinet's proposed forecast expenditure for marketing.

13.4.3.2 Commercial connections

ACIL Allen advised that the equation used by NIEIR to forecast commercial demand incorporate a range of factors that might reasonably be expected to influence commercial demand.⁴¹ However, neither Multinet nor NIEIR provided us with any diagnostic information or explained how the factors in its commercial equation were incorporated, used or applied. As a result, we and our consultant, ACIL Allen, applied other high-level techniques to assess NIEIR's forecasts.

ACIL Allen used historical trend analysis as a cross check on NIEIR's forecasts. ACIL Allen observed that NIEIR anticipates an accelerated fall in commercial connection during the 2018–22 access arrangement period, when compared to the historical trend.⁴² This outlook appears reasonable given the challenges facing the retail gas industry in terms of supply, price and appliance switching from gas to electricity.⁴³

Taking into account our analysis that Multinet's forecast is generally reflective of the historical trend, we accept it on this basis. We did not arrive at this conclusion on the basis of NIEIR's methodology because of the lack of transparency of that methodology. We note that if, following our high level analysis, the forecast had not corresponded with the historical trend or there had been no explanation for any divergence from that trend, there would have been no basis upon which we could have reached our conclusion.

forecasts of Tariff V demand are likely to be too low. See ACIL Allen, *Review of demand forecasts for Multinet*, June 2017, p. 16.

⁴¹ ACIL Allen, *Review of demand forecasts for Multinet*, June 2017, p. 22.

⁴² ACIL Allen, *Review of demand forecasts for Multinet*, June 2017, p. 30.

⁴³ ACIL Allen, *Review of demand forecasts for Multinet*, June 2017, p.30.

13.4.3.3 Forecast of Tariff V residential and commercial consumption per connection

We are satisfied that NIEIR's forecast of residential and commercial consumption per connection for the 2018–22 access arrangement period is arrived at on a reasonable basis and represents the best forecast possible in the circumstances.⁴⁴

Weather normalisation

NIEIR applied the EDD index which estimates a 'normal' weather trend. This was based on a regression analysis, which derived the average linear decline trend from 1970 to 2015.⁴⁵ The results are an estimated declining rate of -7.6 EDD per year.⁴⁶

In assessing NIEIR's EDD index, ACIL Allen compared it against other recent studies of weather trends in Victoria, including AEMO's weather analysis in the 2016 National Gas Forecasting Report.⁴⁷ NIEIR's finding is broadly consistent with AEMO's forecast of -6.8 decline in EDD per year for Victoria over the next 20 years.⁴⁸

We agree with ACIL Allen's assessment that NIEIR's weather normalisation methodology is sound and that its application leads to a reasonable estimate of future 'normal' weather.

Assessment of the forecast of consumption per connection

NIEIR provided a high level description and results from its forecasting of residential and commercial consumption per connection. Again, in the absence of an explanation of the details underpinning the consumption per connection forecasts, ACIL Allen compared the forecasts to the historical 8 year period (2008–15) and reviewed some of the modelling assumptions about the retail, residential and commercial gas prices as well as own and cross-price elasticities of demand.

NIEIR forecasts the residential gas price to increase from \$21.40 per GJ in 2015/16 to \$25.50 per GJ in 2021/22, and the commercial prices to increase from \$8.50/GJ in 2015-16 to \$13.90 GJ in 2025-26.⁴⁹ In coming to these forecasts, NIEIR considered a number of factors, such as the ramp up of LNG exports on the eastern seaboard, which are prone to uncertainty and variation in the current market environment. As

⁴⁴ NGR, r. 74(2).

⁴⁵ Multinet Gas, 9.1 - *National Institute of Economic and Industry Research, Natural gas, customer number and MHQ forecasts for Multinet Gas to 2026 (Volume One)*, August 2016, pp. 40-49.

⁴⁶ NIEIR obtained data from the Bureau of Meteorology to construct the Effective Degree Index. See Multinet, *2018 to 2022 Access Arrangement Information*, 21 December 2016, p.30.

⁴⁷ Australian Energy Market Operator, *Forecasting Methodology Information Paper - National Gas Forecasting Report*, February 2017, p.53

⁴⁸ Australian Energy Market Operator, *Forecasting Methodology Information Paper - National Gas Forecasting Report*, February 2017, p.53

⁴⁹ Multinet Gas, 9.1 - *National Institute of Economic and Industry Research, Natural gas, customer number and MHQ forecasts for Multinet Gas to 2026 (Volume One)*, August 2016, p.65.

such, we agree with ACIL Allen that NIEIR's forecasts of retail prices are reasonable given significant uncertainty about the future gas market.⁵⁰

NIEIR proposed long run own-price elasticity values of -0.28 for residential consumers, and -0.21 for commercial consumers. The long-run price of elasticity estimate was based on a literature review of Australian and overseas studies. We agree with ACIL Allen that these elasticities are consistent with previous decisions.

In addition, NIEIR estimated a cross price elasticity value of 0.08.⁵¹ However, in response to an information request, Multinet confirmed that NIEIR had excluded the cross price effects from its modelling.⁵²

Comparing forecast and historical trends for residential consumption per connection in the 2018-22 access arrangement forecast period reveals that there is a continuing decline similar to the long-run historical downward trend.⁵³ NIEIR submitted that this decline is attributable to a number of factors including improvements in energy efficiency of new housing stock and improvements in appliance efficiencies. Our position is that NIEIR's reasons for this continued decline are reasonable. Similarly, the commercial consumption forecasts decline at a rate similar to that of the historical trend.

13.4.4 Demand forecasts for Tariff D and Tariff L

We are satisfied that Multinet's forecast for industrial customers, Tariff D and Tariff L, is arrived at on a reasonable basis and represents the best forecast in the circumstances.⁵⁴

ACIL Allen compared the Tariff D MHQ forecast to the historical trend over 2008–15 period. It noted that the forecasts seem to exhibit a downward trend, whereas the historical data exhibits a slight upward trend.⁵⁵ However, given the small number of customers subject to Tariff D and the significant uncertainties in forecasting their usage, ACIL Allen concluded that Multinet's forecast is reasonable overall.⁵⁶ We reviewed NIEIR's Tariff D MHQ forecast and the work of our consultant and accept the forecast.

⁵⁰ ACIL Allen, *Review of demand forecasts for Multinet*, June 2017, p. 11.

⁵¹ Multinet Gas, 9.1 - *National Institute of Economic and Industry Research, Natural gas, customer number and MHQ forecasts for Multinet Gas to 2026 (Volume One)*, August 2016, pp. 118 and Multinet, *2018 to 2022 Access Arrangement Information*, 21 December 2016, p.32

⁵² Multinet, *Response to Information Request #13 - Demand Forecast*, 27 March 2017, p. 12.

⁵³ ACIL Allen, *Review of demand forecasts for Multinet*, June 2017, p.30-1.

⁵⁴ NGR, r. 74(2).

⁵⁵ ACIL Allen, *Review of demand forecasts for Multinet*, June 2017, p.33.

⁵⁶ ACIL Allen, *Review of demand forecasts for Multinet*, June 2017, p.33.

As for Tariff L, NIEIR's forecast exhibits a similar trend to that over the 2008–15 period. Given the small number of customers⁵⁷ and the significant uncertainties in forecasting their usage, we accept the forecasts of Tariff L MHQ.

13.5 Revisions

We require the following revisions to make the access arrangement proposal acceptable:



Revision 13.1	Make all necessary revisions to reflect this draft decision, as set out in Section 13.4.3.1.
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⁵⁷ Tariff L represent less than 0.2 per cent of consumption on the Multinet system. See ACIL Allen, *Review of demand forecasts for Multinet*, June 2017, p.10.