

**ActewAGL Distribution  
Access Arrangement 2016-21  
ACT, Queanbeyan and Palerang**

**Comments  
on  
ActewAGL Response  
to the  
AER's Draft Decision**

**28 March 2016**

# Contents

	Page
1. Background .....	2
2. Capacity development capex .....	3
3. Network renewal and upgrade capex .....	7

## 1 BACKGROUND

- 1.1 In June 2015, ActewAGL Distribution (**AAD**) submitted to the Australian Energy Regulator (**AER**) an Access Arrangement Proposal for the ACT, Queanbeyan and Palerang Gas Distribution Network (**Network**) for the period 2016/17 to 2020/21.
- 1.2 I provided advice (**Initial Advice**) to the AER on the prudence and efficiency of capital expenditure forecasts for selected projects included by AAD in its plans for the Network over the period 2016/17 to 2020/21. The AER considered my Initial Advice in preparing its November 2015 Draft Decision on AAD's Access Arrangement Proposal.
- 1.3 In January 2016 AAD submitted to the AER its Response to the AER's Draft Decision (**Response**).
- 1.4 I have been asked by the AER to consider and comment upon those aspects of the Response that relate to projects reviewed in my Initial Advice and for which AAD has not accepted the position of the AER as set out in the Draft Decision.
- 1.5 My review and comments are set out in the following sections of this Report.

## **2 CAPACITY DEVELOPMENT CAPEX**

### **2.1 Molonglo Primary Extension Stage 1**

2.1.1 In my Initial Advice I noted that:

- i) the peak demand forecast used by AAD in modeling of the Network was inconsistent with the forecast set out in documentation submitted to the AER, and was excessive;
- ii) the Molonglo Primary Extension Stage 1 is not required in the period to 2020/21; and
- iii) alternative means of meeting forecast gas demand growth did not appear to have been investigated.

2.1.2 In its Response, AAD has:

- i) reviewed its gas demand forecast with regard for the latest dwelling development forecast released by the ACT Government Land Development Agency;
- ii) clarified that modeling of the Network is carried out using '1 in 20' peak demand forecasts; and
- iii) provided an overview of possible alternatives to extending the Molonglo Primary to meet gas demand growth.

2.1.3 AAD has concluded<sup>1</sup> that completion of the Molonglo Primary Extension Stage 1 can be delayed, but only to 2020/21.

2.1.4 I consider the revised 1 in 20 peak gas demand forecast as adopted by AAD in the Response is still excessive. My reasons for this are as follows:

- i) AAD's 1 in 20 forecast of peak hourly gas demand per residential customers is developed<sup>2</sup> by applying a 'severity factor' to the estimated 'non-severe' peak hourly gas demand per customer.
- ii) The 'non-severe' peak hourly gas demand figure and the severity factor, as used<sup>3</sup> to develop forecast gas demands for the Access Arrangement Proposal, were derived (respectively) from the non-severe peak gas demand figure for 2013, and through comparison of the maximum daily gas demand for 2013 with the maximum daily demand experienced in 2006. This gave a 'non-severe' peak

---

<sup>1</sup> Page 61 of AAD "Response to Draft Decision", January 2016.

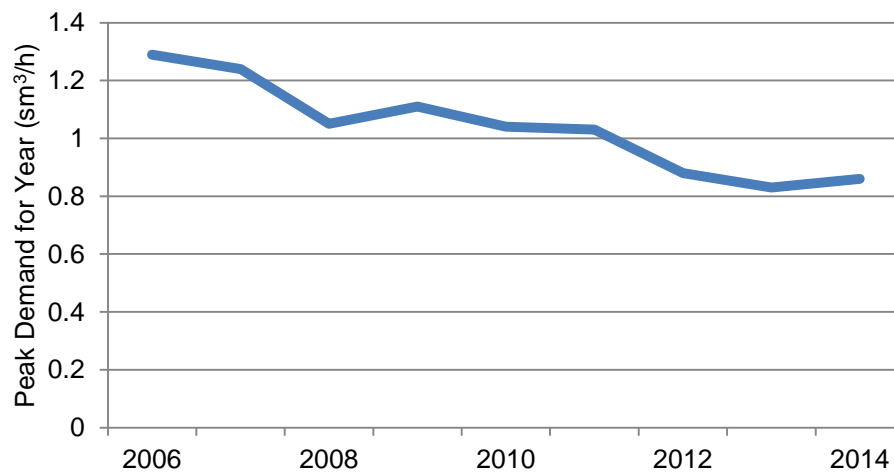
<sup>2</sup> Second last paragraph on page 6 of AAD Response to AER Information Request 051, 17 February 2016.

<sup>3</sup> Page 6 of AAD Response to AER Information Request 051, 17 February 2016.

demand per customer figure of 0.84 m<sup>3</sup>/h and a 1 in 20 peak gas demand per customer figure of 0.98 m<sup>3</sup>/h.

- iii) AAD has applied its estimated 1 in 20 peak hourly gas demand per customer figure to the total number of dwellings it is estimated may be developed in the Molonglo area in order to determine an overall peak load for Network design purposes.
- iv) I consider AAD's estimated peak load is still excessive since:
  - the 1 in 20 peak hourly demand figure is not reliable (see vi) below); and
  - not all new dwellings constructed will connect to gas (see vii) below).
- v) Since 2006, residential gas demand has declined, as illustrated in Figure 1 for actual peak demand, and is forecast to continue to decline<sup>4</sup>.

*Figure 1: Residential Peak Gas Demand per Customer*



- vi) I consider it likely that the use of a fixed (2013) 'non-severe' peak hourly gas demand figure will result in progressively increasing overstatement of peak demand forecasts for the period through to 2021. This is because a fixed figure does not provide for potential ongoing decline in peak hourly demand in line with the trend set out in Figure 1, and as overall residential gas demand declines.

- vii) Regarding the number of new dwellings that may connect to gas, AAD initially adopted<sup>5</sup> a 90% penetration rate for connection of new

<sup>4</sup> See Section 3.1.1 of AAD "Attachment 3: Demand, throughput and customer numbers" to Access Arrangement Submission, June 2015. Table 3.1 of the Attachment predicts average residential gas throughput will fall by more than 20%, from 35.3 GJ/a in 2015/16 to 28.0 GJ/a in 20/21.

<sup>5</sup> Item 3 of section titled "New Dwelling Connections" (page 28) in Core Energy Group, "Gas Demand Forecast", June 2015.

dwellings to use gas. In the Draft Decision, the AER adopted an overall penetration rate of 62% for new suburbs. In its Response, AAD has proposed a penetration rate of 71.3%<sup>6</sup>. For the sake of my following analysis, I have adopted AAD's proposed 71.3%, but this does not indicate an acceptance of AAD's proposal. I leave it to the AER to assess this matter.

viii) With potential for development of 6,000 new dwellings in the Molonglo area, with a penetration rate of 71.3% and with a 1 in 20 peak gas demand per customer of, at most, 0.978 m<sup>3</sup>/h a reasonable forecast of the Molonglo peak hourly gas demand for 2020/21 is 4,184 m<sup>3</sup>/h.

ix) In my Initial Advice I opined<sup>7</sup> that a peak demand of 5,061 m<sup>3</sup>/h in 2020 was "marginally high but not unrealistic". AAD interpreted the 5,061 m<sup>3</sup>/h figure to be a 'non-severe' peak demand estimate. I hereby confirm that I presented it as a design (ie, 1 in 20) peak demand estimate.

x) I now consider my previous estimate to be generous.

2.1.5 AAD has postulated that it has adopted a 100% penetration rate for the Molonglo area as an alternative to separately assessing the contribution to peak hourly gas demand that might be associated with commercial and retail type loads<sup>8</sup>. I have difficulty reconciling this suggestion with the rigor adopted by AAD and Core Energy Group in demand forecasting activities more generally.

2.1.6 I reaffirm, and reinforce, my Initial Advice that development of the Molonglo Primary Extension Stage 1 will not be required in the period to 2020/21.

---

<sup>6</sup> This "implied penetration rate" was provided to me by the AER.

<sup>7</sup> Paragraph 2.1.5 of Initial Advice.

<sup>8</sup> AAD has identified the Stromlo leisure centre, the Charles Weston School and possible schools, shops and amenities in the Denman Prospect area as examples of this. See page 8 of AAD "Response to AER Information Request 051", 17 February 2016.

## 2.2 Molonglo Secondary Extension Stage 2

2.2.1 In my Initial Advice I noted that:

- i) gas demand growth in the Molonglo area (being the driver for development of the Molonglo Secondary Extension Stage 2) will be slower than was assumed by AAD; and
- ii) the Molonglo Secondary Extension Stage 2 will not be required by 2019 and may not be required in the period to 2020/21.

2.2.2 In its Response, AAD has reviewed its gas demand forecast with regard for the latest dwelling development forecast released by the ACT Government Land Development Agency.

2.2.3 AAD has concluded that the Molonglo Secondary Extension Stage 2 will not be required until 2022/23. This being the case, some costs (related to preparatory work) will need to be incurred in 2020/21<sup>9</sup>.

2.2.4 While I accept that the Molonglo Secondary Extension Stage 2 and the Molonglo Primary Extension Stage 1 have different purposes<sup>10</sup>, the demand related observations set out in section 2.1 hereof are of direct relevance to consideration of the timing of the Molonglo Secondary Extension Stage 2.

2.2.5 The material reduction in forecast peak hourly gas demand (as outlined in section 2.1 above) means that the requirement for completion of the Molonglo Secondary Extension Stage 2 can be delayed beyond the 2022/23 date proposed by AAD.

2.2.6 Since the completion of the Molonglo Secondary Extension Stage 2 can be delayed beyond the date proposed by AAD it is my opinion that preparatory work for the extension does not need to commence in 2020/21.

---

<sup>9</sup> Section 6.4.3, pages 61-62 of AAD "Response to Draft Decision", January 2016.

<sup>10</sup> In simplistic terms, the secondary extension is akin to a new branch of a tree (serving a new area) whereas the primary extension is akin to growth of the tree-trunk to support the branch.

### **3 NETWORK RENEWAL AND UPGRADE CAPEX**

#### **3.1 ACT Facilities Compliance Upgrade Programme**

3.1.1 In its Access Arrangement Proposal of June 2015, AAD proposed a 'Facilities Compliance Upgrade Programme' at seven locations within the Network. In essence, the programme as proposed involved assessment of electrical and mechanical non-conformances (if any) and then (as appropriate) revision of design documentation, procurement of new hardware and implementation of the new design.

3.1.2 In my Initial Advice I:

- i) noted that the programme was proposed because Jemena had identified instances of non-conformances across its gas distribution system and therefore considered similar non-conformances would exist within the Network;
- ii) noted that no non-conformances had actually been identified in the Network; and
- iii) concluded that the proposed programme of work was not efficient.

3.1.3 In its response AAD has, in essence:

- i) pointed out<sup>11</sup> that Jemena's NSW gas distribution system and the Network are alike as they were built and managed by the same organisation (meaning facilities, and problems experienced with them, are similar);
- ii) provided<sup>12</sup> findings from holistic audits, undertaken at four sites, to 'confirm' the Facilities Compliance Programme is required;
- iii) concluded that the Facilities Compliance Upgrade Programme is justified; and
- iv) increased the forecast cost of the Facilities Compliance Programme.

3.1.4 Regarding Jemena's observation that its NSW gas distribution system and the Network were built and managed by the same organisation, meaning non-compliances exist at facilities within the Network:

- i) While practices may have been similar across AGL owned/operated networks, I consider it most unlikely that the facilities in question: would not (when built) have been compliant with prevailing standards and regulations; and/or would not have been kept compliant on an ongoing basis.
- ii) The key standards referenced<sup>13</sup> by ActewAGL are those that form the AS/NZS 60079 series, relating to the use of electrical apparatus in explosive

---

<sup>11</sup> Page 64 of AAD "Response to Draft Decision", January 2016.

<sup>12</sup> Attachment 6.05 to AAD "Response to Draft Decision", January 2016.

<sup>13</sup> See section 1.3 of AAD, Appendix 6.05.02: Gungahlin PRS Electrical and Instrumentation Holistic Audit, January 2016. [CONFIDENTIAL]



atmospheres. These standards have been in force for more than 5 years, since 2009.

- iii) The Network is licensed under the *Utilities Act 2000* (ACT) and the *Gas Supply Act 1996* (NSW). ActewAGL is required to report to the Independent Competition and Regulatory Commission each year on compliance with the Utilities Act, industry and technical codes and any other licence requirements. ActewAGL has not reported any known material breach of any licence or authorisation<sup>14</sup>.
- iv) I conclude that if non-conformances exist they must be immaterial.

### 3.1.5 Regarding Jemena's assertion that the holistic audits confirm the Facilities Compliance Programme is required:

- i) The holistic audits were carried out at 4 sites<sup>15</sup>. A summary of findings is set out in Table 1.
- ii) It is unclear how the circumstances alluded to in the holistic reports can have been allowed to arise given that the applicable codes have been in force for many years. The majority of the suggested non-conformances appear to relate to matters (for example, maintaining proper records) that a reasonable and prudent operator should attend to in the normal course of business. I leave it to the AER to consider whether such matters, left unattended, may subsequently be grouped together to qualify as capital expenditure.
- iii) While there are some aspects of the proposed compliance programme (such as lightning protection systems) that superficially appear to have merit, it is bizarre to suggest that AAD would allow operations to be non-compliant, especially for an extended period. In the case of lightning protection, the relevant standard<sup>16</sup> has been in place since 2007. In any case, the standard is non-mandatory.
- iv) I do not consider AAD has provided information that justifies the proposed Facilities Compliance Upgrade Programme.

### 3.1.6 The five facilities at which ActewAGL now proposes to undertake compliance upgrade work are Watson, Hoskinstown, Gungahlin, Bungendore and Philip. A capital cost of \$3.05m has now been estimated by AAD, representing an increase of \$1.65m from the amount previously estimated for seven facilities. Even if the compliance upgrade work was justified, I consider the estimated cost excessive since:

- i) ActewAGL's previous cost estimate was prepared with knowledge of a compliance upgrade programme being carried out by Jemena in the Jemena Gas Networks<sup>17</sup>. AAD has stated<sup>18</sup> "...the non-conformances identified by the

---

<sup>14</sup> The most recent report is reported in Section 2 of "Attachment 4 - Utility Licence Annual Report 2013-14 summary", as attached to the Independent Competition and Regulatory Commission's Annual Report 2014-15.

<sup>15</sup> Bungendore, Gungahlin, Hoskinstown and Watson.

<sup>16</sup> AS/NZS 1768:2007 "Lightning Protection" was introduced in 2007, to replace AS/NZS 1768:2003.

<sup>17</sup> See page 1 of Opportunity Brief C424-143 "Facilities Compliance Upgrade program".

holistic audits are **identical** to those identified in similar audits by JGN of its network”. It is incongruous that estimated project costs should more than double at the same time that the scope of work is reduced from seven to five facilities; and

- ii) the Watson and Hoskinstown facilities are, in any case, to undergo major upgrades during the forthcoming access arrangement period. AAD does not appear to have considered my observation <sup>19</sup> that opportunities for coordination of work programmes to reduce upgrade costs should be investigated.

3.1.7 I do not consider the proposed Facilities Compliance Upgrade Programme to be justified. Applicable standards have been in force for more than five years and AAD has not reported any non-compliance of its facilities.

---

<sup>18</sup> Page 13 of AAD “Response to AER Information Request 045 (REDACTED)”, 4 February 2016.

<sup>19</sup> Paragraph 3.4.4 of Initial Advice

Table 1: Summary of Findings of Holistic Audits [CONFIDENTIAL]