DRAFT DECISION
Jemena Gas Networks (NSW) Ltd
Access Arrangement

2020 to 2025

Attachment 9
Reference tariff setting

November 2019

AUSTRALIAN ENERGY REGULATOR

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Note

This attachment forms part of the AER's draft decision on the access arrangement that will apply to Jemena Gas Networks (NSW) Ltd ('JGN') for the 2020–2025 access arrangement period. 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 – Regulatory depreciation

Attachment 5 – Capital expenditure

Attachment 6 – Operating expenditure

Attachment 7 – Corporate income tax

Attachment 8 – Efficiency carryover mechanism

Attachment 9 – Reference tariff setting

Attachment 10 – Reference tariff variation mechanism

Attachment 11 – Non-tariff components

Attachment 12 – Demand

Attachment 13 – Capital efficiency benefit scheme

Contents

Shortened forms

Shortened form	Extended form
AER	Australian Energy Regulator
Capex	Capital expenditure
CESS	Capital expenditure sharing scheme
CCP/CCP19	Consumer Challenge Panel, sub-panel 19
CPI	Consumer price index
EBSS	Efficiency benefit sharing scheme
ECM	Efficiency carryover mechanism
JGN	Jemena Gas Networks (NSW) Ltd
LRMC	Long run marginal cost
NGL	National Gas Law
NGO	National Gas Objective
NGR	National Gas Rules
Opex	Operating expenditure

9 Reference tariff setting

This attachment outlines our assessment of the reference tariffs proposed by JGN against the requirements of the National Gas Rules (NGR). Our assessment focuses on the structure of reference tariffs and takes into account the revenue and pricing principles.[1]

9.1 Draft decision

We are satisfied JGN's proposed structure of the reference tariffs for the 2020–25 access arrangement period complies with the requirements of the NGR.[2] While this is the case, the quantum of JGN's proposed reference tariffs must be amended to reflect the revised revenue allowance of this draft decision.

9.2 JGN's proposal

JGN's proposed reference tariffs for the 2020–25 period are consistent with those applying in the current 2015–20 period. Table 9.1 below outlines JGN's proposed haulage reference tariffs.

Table 9.1 JGN's proposed haulage reference tariffs

Tariff category	Tariff classes	Charging structures
Volume market		
Volume individual metered	VI-Country VI-Coastal	Fixed charge Declining block volume charges ($/GJ/qtr.)
Volume boundary metered	VB-Country VB-Coastal	Fixed charge Declining block volume charges ($/GJ/qtr.)
Residential distributed generation technology	VRT-03, VRT-04, VRT-06, VRT-10	Fixed charge Declining block chargeable demand ($/GJ CD)
Demand market		
Capacity country	DC Country	Fixed charge Declining block chargeable demand ($/GJ CD)

1 NGL, ss. 24(2)-(7).

2 NGR, rr. 93, 94.

Capacity country	DC1 to DC11	Fixed charge Declining block chargeable demand ($/GJ CD)
First response	DCFR-01, DCFR-06 & DMTFR-03	Declining block chargeable demand ($/GJ of CD pa)
Major end-user (throughput)	DMT1 to DMT5	Fixed charge Declining block demand throughput ($/GJ)
Throughput	DT	Fixed charge Declining block demand throughput ($/GJ)
Demand capacity first response	DCFR2 to DCFR11	Fixed charge Declining block chargeable demand ($/GJ CD)
Demand throughput first response	DMTFR1 to DMTFR5	Fixed charge Declining block demand throughput ($/GJ)

Source: AER analysis of JGN, *2020–25 Access Arrangement Proposal, Attachment 4.1 Our reference service and tariffs*, June 2019 p. 23

Table 9.2 below outlines JGN's ancillary reference service tariff structure.

Table 9.2 JGN's ancillary reference service tariff structure

Service	Charge
Hourly charge—non-standard retailer-initiated requests and queries	• Hourly charge (min charge of 1 hour)
Disconnection & Reconnection—Volume Customer Delivery Points	• Completed service charge • Wasted visit charge
Expedited reconnection	• Completed service charge
Abolishment	• Completed service charge for meters at or under 25m3/hr • Meters over 25m3/hr will be individually priced
Special meter read	• Completed service charge • Wasted visit charge

Source: JGN, *2020–25 Access Arrangement Proposal, Attachment 4.1 Our reference service and tariffs*, June 2019 p. 16.

Additionally, JGN is proposing to continue providing prudent discounts to customers who, without the discount, may elect to bypass JGN's network, meaning that tariffs may be higher for all other customers on JGN's network.

9.3 Assessment approach

In an access arrangement, a service provider is required to specify for each reference service, the reference tariff and proposed approach to setting the reference tariff.[3] This is done by:

- explaining how revenues and costs are allocated, including the relationship between costs and tariffs[4]
- defining the tariff classes[5]
- comparing the revenue to be raised by each reference tariff with the cost of providing each individual reference service[6]
- explaining and describing any pricing principles it employed.[7]

Following our assessment of the proposed reference tariffs, if we decide to not accept them, we must determine the initial (in this case, 2020–21) reference tariffs to apply for each reference service.

In our assessment of the proposed reference tariffs, we reviewed JGN's 2020–25 access arrangement information and proposal.[8] We also had regard to submissions received in the course of our consultation on JGN's proposed access arrangement.[9]

Identifying the reference service

The NGR require service providers to specify a reference tariff for each reference service.[10] When undertaking our review, we first consider what is (or are) the reference service(s) for the purpose of the NGR. Our decision on what constitutes the reference service is set out in Attachment 1 to this draft decision.

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3 NGR, rr. 48(1)(d)(i), 72(1)(j).
4 NGR, rr. 72(1)(j)(i), 93(1)–(2).
5 NGR, r. 94(1)–(2).
6 NGR, r. 94(3).
7 NGR, r. 72(1)(j)(ii).
8 JGN, *2020–25 Access Arrangement Proposal, Attachment 4.1 Our reference service and tariffs*, June 2019.
9 NGR, r. 59.
10 NGR, r. 48(1)(d)(i).

Assessing the tariff setting method for the reference service

The reference tariffs for an access arrangement must be designed to meet the requirements of the NGR.

We consider how the service provider, JGN, intends to charge for reference services by:

1. Assessing how JGN intends to allocate costs and revenues between reference services and other services. It must demonstrate that total revenue is allocated between reference and other services in the ratio in which costs are allocated between reference services and other services. Costs that are directly attributable to a service (including the reference service) must also be allocated to that service.[11]
2. Assessing how JGN grouped its customers into tariff classes. JGN is required to group together customers for reference services on an economically efficient basis and to avoid unnecessary transaction costs.[12] We consider whether the nature of the reference service (e.g. volume and demand tariff classes) is consistent with the need to group customers together on an efficient basis.
3. Assessing how:
   (a) the expected average revenue of a tariff class compares with the standalone cost and avoidable cost of providing the reference service to that tariff class
   (b) whether the tariff takes into account transaction costs associated with developing and applying the tariff
   (c) whether the tariffs take into account the long run marginal costs of providing reference services
   (d) whether customers belonging to the relevant tariff class are able, or likely, to respond to price signals.[13]

We assess any proposed new fixed principles seeking to promote consistency with the National Gas Objective (NGO), and with regard to the revenue and pricing principles.[14] We consider whether they are consistent with the requirements of the NGR.

For existing fixed principles that were approved before the commencement of the NGR, these are binding on the AER and JGN for the period for which the principle is fixed and these may only be varied or revoked with JGN's consent.[15]

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11 NGR, r. 93(2).
12 NGR, r. 94(2).
13 NGR, rr. 94(3)–(4).
14 NGL, s. 28(2); NGR, r. 100(1).
15 NGR, r. 99.

9.3.1 Interrelationships

JGN's tariffs have an interrelationship with the services it provides, our approved total revenue requirement for JGN and the application of annual tariff variation mechanisms.

JGN's haulage reference tariffs are adjusted annually by applying a weighted average price cap formula. Its haulage reference tariffs are derived from the total revenue requirement after demand for each tariff class is considered. This means the tariffs we determine (including the means of varying the tariffs from year to year) are the binding constraint across the 2020–25 period, rather than the total revenue requirement set out in our decision.

After the first year (i.e. 2020–21) of the 2020–25 access arrangement period, tariffs for JGN's haulage reference services and ancillary reference services are set by applying the tariff variation formula.

Our draft decision on:

- JGN's total revenue requirement—is set out in the Overview of this draft decision
- the services JGN will offer to customers over the 2020–25 period are set out in Attachment 1—Services covered by the access arrangement
- the annual tariff variation mechanisms are set out in Attachment 10—Reference tariff variation mechanism.

9.4 Reasons for draft decision

We accept JGN's proposed reference service tariff structures because we are satisfied they comply with the NGR requirements, discussed in section 9.3.

The tariff structures are consistent with those which applied in the current, 2015–20 access arrangement. While we are satisfied with the tariff structures, the quantum of the proposed initial reference tariffs must be amended to reflect our 2020–25 draft decision forecast demand and revenue allowance.

The remainder of this section sets out the reasons for our draft decision under the following headings:

- allocation of revenues and costs to reference tariffs
- establishment of tariff classes
- tariff classes and revenue limits, including prudent discounts
- tariff and price level strategy.

9.4.1 Allocation of revenues and costs to reference tariffs

JGN's proposal included information outlining its standalone costs, long run marginal costs and incremental costs. On reviewing this, we are satisfied JGN’s approach to allocating revenue and costs between reference services and non-reference services complies with the NGR for the following reasons:

- We are satisfied JGN's proposed costs relating to its reference services do not include costs incurred (and recovered) from the provision of its non–reference services.
- JGN has not allocated non–reference service revenue to a reference service because the underlying costs have not been included in JGNs building block revenues.

9.4.2 Establishment of tariff classes

Haulage reference tariffs

JGN groups customers into tariff classes according to throughput, location and metering type. Smaller customers — those consuming 10 terajoules or under per year (volume customers) — pay tariff structures comprising a fixed charge and declining block volumetric charges. Larger customers — those consuming more than 10 terajoules per year (demand customers) — pay more complicated tariffs, which include demand charges and capacity charges; both of which have declining block structures.[16]

We consider these characteristics are likely to link costs within JGN's gas distribution network to the revenue it receives for services giving rise to costs. Therefore, using them to group customers into tariff classes is appropriate. We are satisfied the proposed tariff classes are consistent with the requirements of the NGR.[17]

Ancillary reference services

JGN proposes to make several minor changes to its ancillary services. We are satisfied these changes comply with the NGR requirements. We discuss our consideration of these changes in Attachment 1 of this draft decision.

JGN proposes to change how the disconnection/reconnection ancillary service is structured. During the 2015–20 period, this service applies to both volume customers and demand customers. JGN proposes for the 2020–25period that this applies only to volume customers. JGN states disconnection for demand customer delivery points will be individually priced.[18]

We requested JGN to explain how it intends to calculate the price for disconnecting a demand customer in the 2020–25 period. In its response, JGN noted that demand customer disconnections have highly variable costs, which are dependent on factors such as retailer or site requirements, meter size and the type of gas main connected.

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16 JGN, *2020–25 Access Arrangement Proposal, Attachment 4.1 Our reference service and tariffs*, 30 June 2019, p. 21.

17 NGR, r. 94(4).

18 JGN, *Access arrangement: JGN's NSW gas distribution network 1 July 2020 – 30 June 2025*, June 2019, Schedule 2, clauses 3(d), 3(e) and 4.1(j), pp. 45, 46 and 51.

With unit rates applying to these activities being in line with any contract rates in place to recover costs.

We are satisfied with JGN's proposal to modify the disconnection/reconnection ancillary service charges. JGN has applied the relevant contracted unit rates to this service. By doing so, this means costs are being directly attributed to the services provided and this, therefore, is consistent with the NGR.[19]

9.4.3 Tariff classes and revenue limits

We have assessed JGN's tariff classes and revenue limits against the requirements in the NGR.[20] Specifically:

(a) the expected average revenue of a tariff class compares with the standalone cost and avoidable cost of providing the reference service to that tariff class

(b) whether the tariff takes into account transaction costs associated with developing and applying the tariff

(c) whether the tariffs take into account the long run marginal costs of reference services

(d) whether customers belonging to the relevant tariff class are able, or likely, to respond to price signals.

Standalone and avoidable costs

We are satisfied that JGN's proposed reference tariffs are consistent with the NGR requirement that the expected revenue to be recovered lie on or between:

- an upper bound representing the standalone cost of providing the reference service to customers who belong to that tariff class
- a lower bound representing the avoidable cost of not providing the reference service to those customers.[21]

JGN's proposal includes detailed appendices discussing how it estimates standalone and avoidable costs. We reviewed JGN's definitions of avoidable and standalone costs for the volume and demand tariff classes, and consider these definitions comply with the NGR.

We have also reviewed the methodology applied by JGN to demonstrate that, for each tariff, the expected tariff revenue lies on or between the avoidable and standalone

19 NGR r. 93(2).
20 NGR r. 94.
21 NGR r. 94(3).

costs.[22] In doing so, we had regard to the underlying calculations of avoidable and standalone costs JGN provided subsequent to submitting its 2020–25 proposal.[23]

Transaction costs

We are satisfied JGN's proposed reference tariffs take into account transaction costs associated with the tariff and the need to avoid them where possible.[24] We consider the continuation of the current access arrangement tariff classes and tariff structures will minimise any additional transaction costs across the 2015–20 and 2020–25 access arrangement periods. As we discuss below, we are also satisfied that JGN's approach to estimating long run marginal costs appropriately accounts for transaction costs.

Long run marginal cost

The NGR requires that JGN must take into account the long run marginal cost (LRMC) when determining its tariffs.[25]

LRMC is equivalent to forward looking variable costs—more specifically, as measured over a period of time sufficient for all factors of production to be varied. When tariffs accurately reflect the marginal, or forward-looking, cost of increasing (or decreasing) demand, consumers can make informed choices about their gas usage. Under such tariffs, customers would increase their use of the network only when they value it more than the costs. This, in turn, signals to distributors to invest in additional capacity to the extent that customers value it.[26]

JGN's LRMC estimation involves the following steps:[27]

- choice of the 'average incremental cost' (AIC) approach to calculating LRMC
- identifying growth–related capex and opex as 'marginal' costs to include in the AIC calculation
- adopting a 13 year forecast period as the 'long run' timescale.

We are satisfied JGN's reference tariffs take LRMC into account after having regard to the transaction costs and whether customers are likely to be able to respond to these price signals.[28] We consider JGN's approach is generally consistent with that applied by other gas distribution networks.

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22 JGN, *2020–25 Access Arrangement Proposal, Attachment 4.1 Our reference service and tariffs*, June 2019, p. 31–33.

23 JGN, *Response to AER information request #014,* 20 August 2019.

24 NGR, 94(2) and 94(4).

25 NGR, r. 94(4)(a).

26 Alternatively, customers may reduce their use of the network if the benefit they derive is less than the costs. This in turn signals to distributors the potential to reduce capacity in the network.

27 JGN, *2020–25 Access Arrangement Proposal, Attachment 4.1 Our reference service and tariffs*, June 2019, p.35.

28 NGR, r. 94(4).

Estimation method balances accuracy with implementation costs

JGN considered both the AIC and Turvey[29] approaches to estimating LRMC, ultimately adopting the AIC approach because it is more readily applied.[30]

The AIC approach is broadly considered to be a less costly estimation method compared to other more sophisticated approaches, such as the Turvey approach. While Turvey is perceived to produce more accurate estimates than AIC, it is a higher cost method.[31] In recent electricity decisions, we have accepted the use of the AIC approach by electricity distributors.[32]

We consider it is important to balance the benefits and costs of more accurate estimates of LRMC, and this will depend on the circumstance of each business. In JGN's case, a gas distributor is required to have regard to LRMC when setting its tariffs, as distinct from electricity distributors which must base tariffs on LRMC. With this in mind, we are satisfied with JGN's proposal to rely on the AIC approach.

In terms of how JGN applies this method, the estimation is undertaken for each tariff class by dividing the present value of the expected costs of the optimal network by the present value of additional demand supplied.[33] We requested JGN to explain the relationship between the optimal network and the actual network and how reliance of an optimal network assumption influences the LRMC calculation.[34] JGN clarified that its use of the term optimal network is interchangeable with the actual network recognising that, when applying the AIC method, the "cost minimising quantity" is estimated using actual and forecast capex and opex.[35] Noting the above considerations, we are satisfied with JGN's proposal to rely on an AIC method to estimate LRMC.

Definition of marginal costs satisfactory with future enhancement available

JGN is only including forward looking growth related capex and opex in its LRMC estimation. That is, JGN is only including market expansion and capacity development costs as marginal costs and is not including any reinforcement or renewal related expenditure.

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29 The "Turvey approach" to estimating LRMC is an approach that considers the change in forecast future system costs arising from a permanent increment or decrement in the forecast pattern of future demand. For a description of these approaches and their relative merits, see NERA, *Economic Concepts for Pricing Electricity Network Services: A Report for the Australian Energy Market Commission*, 21 July 2014, pp. 14–16.

30 JGN, *2020–25 Access Arrangement Proposal, Attachment 4.1 Our reference service and tariffs*, June 2019, p. 34.

31 For a discussion on the relative merits of these approaches, see NERA, *Economic Concepts for Pricing Electricity Network Services: A Report for the Australian Energy Market Commission*, 21 July 2014, pp. 14–16.

32 For example, see *AER, Final decision, Endeavour Energy Distribution Determination 2019 to 2024, Attachment 18 Tariff structure statement*, April 2019.

33 JGN, *2020–25 Access Arrangement Proposal, Attachment 4.1 Our reference service and tariffs*, June 2019, p. 34.

34 AER, *Information request 014*, 7 August 2019.

35 JGN, *Response to AER information request #014,* 20 August 2019.

We consider that in the long run, when assets come to the end of their useful life, distributors have a choice of maintaining their current level of capacity, increasing capacity or decreasing capacity. Distributors should not adopt a default position of maintaining existing capacity levels, especially where existing networks have spare capacity and where there are changing patterns of use.

We requested JGN to explain the consideration it gave to extending its LRMC estimation method to include other drivers of expenditure.[36] In response, JGN simply reiterated its approach to only include growth–related capex.[37]

We consider to promote network capacity in the long run being at a level which consumers value, replacement capital expenditure (and associated operating expenditure) should be included within LRMC estimates. While we are satisfied with JGN's approach at this stage, we encourage JGN to refine and improve its method and consider including these other drivers of expenditure in its 2020–25 revised proposal.

Long run timescale appropriate

We consider there is no ideal, or correct, timescale on which to base LRMC estimates and we accept a range of timeframes may be compliant with the NGR. However, the timescale must be sufficient to allow a significant number of factors of production to change—and a key factor of production is the level of capacity in the network.

Ultimately, the level of capacity in a distribution network is variable meaning the 'long run' would match the life of the assets. Some distribution network assets have very long lives (in excess of 60 years). However, it would be impractical to produce accurate forecasts over such a long horizon. The longer the estimation period, the more difficult it becomes to estimate and forecast long run costs. We consider a minimum forecast horizon of 10 years captures the essence of 'long run'. JGN's proposal for a 13 year forecast period exceeds this. As a result, we are satisfied with this approach.

Prudent discounts

We consider that the prudent discounts[38] JGN proposes to offer are necessary to respond to competition from other providers of pipeline services or alternative energy sources and to ensure the ongoing efficient use of its pipeline. Further, JGN has demonstrated that the negotiated revenue from prudent discount services exceeds the estimate of the avoidable costs. Without a prudent discount, a customer may elect to bypass the network, with the consequence that tariffs may be higher for all remaining users on the network. Therefore, we are satisfied that JGN's proposed prudent discounts are consistent with the NGR.[39]

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36 AER, *Information request 014*, 7 August 2018.

37 JGN, *Response to AER information request #014,* 20 August 2019.

38 Service providers offer prudent discount to users in order to respond to competition from other providers of pipeline services or other services of energy. Alternatively, the service provider may offer prudent discounts in order to maintain the efficient use of the pipeline. These applications are made on a confidential basis to the AER.

39 NGR, r. 96.

We note that with respect to prudent discounts, our role is limited to assessing whether JGN's proposal is compliant with the NGR. Service providers (in this case, JGN) initially determine whether a prudent discount should apply to a particular user.

9.4.4 Tariff setting and pricing strategy objectives

JGN has a broader pricing strategy as part of its approach to setting tariff levels.[40] As part of this, JGN has established a series of objectives to promote pricing simplicity, efficiency and stability while also maintaining gas' competitiveness.[41]

JGN has taken practical steps to achieving these pricing objectives as part of setting its reference tariffs. As we discuss in the sections below, we consider the pricing objectives and tariff setting measures JGN is proposing are consistent with promoting the long term interests of consumers.

Efficiency objectives

We are satisfied JGN's pricing strategy promotes efficient network use and cost recovery by having regard to LRMC when setting tariff levels and also maintaining the current tariff variation side constraints. We consider these aspects of JGN's 2020–25 proposal will promote the long term interests of consumers.

With respect to LRMC, JGN's approach is consistent with the requirements in the NGR, as we discussed above in section 9.4.3. In regard to maintaining tariff variation side constraints, we are satisfied that a 10 per cent side constraint is sufficiently broad to balance different customer cohorts' priorities as they vary across years. In our draft decision on JGN's tariff variation mechanism (Attachment 10), we accepted JGN's proposal to retain the weighted average price cap form of control which included a 10 per cent side constraint.[42]

Maintaining gas competitiveness is in customers' interests

JGN proposes a number of measures with respect to tariff setting aiming to increase the utilisation of its network. We encourage distributors to pursue strategies to increase network utilisation.

We consider JGN's measures to promote boundary metering solutions and tariff structures with relatively lower fixed charges and declining block structures through the 2020–25 period is reasonable and accords with such strategies.

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40 JGN, *2020–25 Access Arrangement Proposal, Attachment 4.1 Our reference service and tariffs*, June 2019, p. 38.

41 Ibid.

42 AER, *Draft Decision JGN Access Arrangement 2020–25, Attachment 10 Reference Tariff Variation Mechanism,* November 2019.

Boundary versus individually metered tariff differential justified

JGN proposes a strategy that provides lower than average increases—or higher than average decreases—to boundary metered tariffs.[43] This creates a tariff differential between customers with an individually metered connection and those with a boundary metering solution. Further, JGN proposes to close access to individual metering for relevant new connections as part of the services covered by the 2020–25 access arrangement. While our draft decision requires JGN to maintain offering an individual metering service to new high rise buildings, we accept JGN's proposal to set a lower boundary tariff compared to the equivalent individual metered connections.[44]

We are satisfied that, where possible, providing incentives for new and refurbished developments to connect to the gas network will serve all customers' interests as this will likely lift overall network utilisation. Doing so will distribute JGN's costs across more customers and usage volume.

Current tariff structures encourage network utilisation

As part of JGN's pricing strategy to encourage new gas connections and gas use, it is important to maintain a relatively low fixed charge with declining block tariffs.[45] In its submission, Energy Consumers Australia (ECA) advocated for the AER to consider the balance between the costs and benefits of changing tariff structures.[46] We are satisfied the current declining block tariff structures will encourage greater utilisation of JGN's network, as the more gas a customer consumes, the lower the unit price they face. Further, with these tariff structures equivalent to those applying in the current access arrangement, this should promote simplicity for consumers and retailers. We are satisfied JGN's approach is in the long term interests of consumers.

9.5 Revisions

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

Table 9.3 JGN's reference tariff revisions

Revision	Amendment
Revision 9.1	Amend the quantum of reference tariffs to reflect our draft decision on total revenue.

[43] JGN, *2020–25 Access Arrangement Proposal, Attachment 4.1 Our reference service and tariffs*, June 2019, p. 40.

[44] AER, *Draft Decision JGN Access Arrangement 2020–25, Attachment 1 Services covered by the access arrangement,* November 2019.

[45] JGN, *2020–25 Access Arrangement Proposal, Attachment 4.1 Our reference service and tariffs*, June 2019, p. 4.

[46] ECA, *Submission on JGN 2020-25 AA Proposal, Attachment,* August 2019, p. 32.