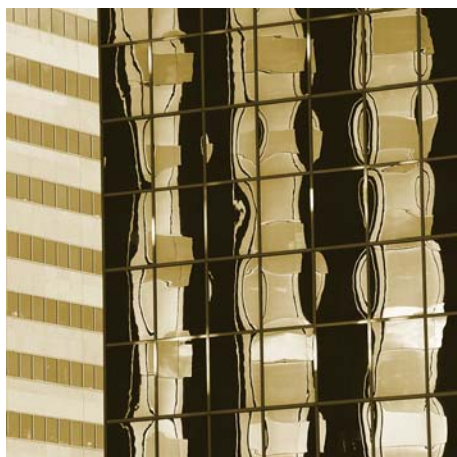


Economic analysis of revised Aurizon DAAU for electric infrastructure—FINAL REPORT

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Sapere Research Group is one of the largest expert consulting firms in Australasia and a leader in provision of independent economic, forensic accounting and public policy services. Sapere provides independent expert testimony, strategic advisory services, data analytics and other advice to Australasia's private sector corporate clients, major law firms, government agencies, and regulatory bodies.

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1 Background

1.1 Process to date

Aurizon Network’s Electric Traction Draft Amending Access Undertaking (DAAU) was submitted in December 2011 (**2011 DAAU**). Following the QCA’s Draft Decision in July 2012 and subsequent discussion with stakeholders, Aurizon Network withdrew the 2011 DAAU on 22 January 2013. Aurizon Network indicated that it was motivated to withdraw the DAAU to facilitate a QCA-led workshop process on this issue.

The problems that motivated the 2011 DAAU remain pressing and commercially significant. In order to address them in a timely fashion, Aurizon Network has proposed a revised DAAU. This report presents an economic analysis of the revised DAAU’s pricing elements and demonstrates that it is consistent with the requirements of the QCA Act.

1.2 Anticipated process going forward

I understand that Aurizon Network proposes that the new pricing rules discussed here would:

- be proposed for inclusion in Aurizon Network’s next undertaking periods (UT4 and UT5); and
- subject to further consultation with the QCA, potentially be incorporated into a binding ruling to achieve revenue adequacy across multiple regulatory periods.

1.3 Motivations for revised DAAU

The current method of determining AT5 involves average cost pricing: the pool of electric system costs each year is divided by the actual total electric gross tonne kilometres (“egtk”) on the system. This pricing scheme has the unintended consequence of making electric traction artificially less competitive against diesel traction when the diesel mode share increases. I refer to this shift in competitiveness as artificial because it is unrelated to the relative marginal costs of the two modes, which are not affected by the modal shares.

Clearly, the further the electric modal share drops, the less attractive electric traction will be to customers. This tipping phenomenon has the potential to strand the substantial investments that Aurizon Network has made in the Blackwater electric power system. In this respect, I note that Aurizon Network earns a

regulatory WACC on those assets that does not compensate it for non-systematic risks of this kind.

My December 2012 letter to the QCA (Aurizon Network Addendum, Dec 2012), identifies a Prisoner's Dilemma situation that is caused by the average cost pricing rule. The rule itself creates an incentive for all parties to choose diesel over electric traction under certain conditions, despite the fact that electricity represents a lower cost fuel type.

In both my earlier report (Sapere, Sep 2012) and letter, I recommended a modified rule for determining AT5: the pool of electric system costs should be divided by a fixed level of egtk corresponding to a large proportion of the maximum feasible egtk on the system. This rule would overcome the tipping problem noted before and would ensure that electric traction is not artificially disadvantaged relative to diesel traction. A variant of this rule is a central part of the revised DAAU.¹

A pricing rule of this type places the electric utilisation risk with Aurizon Network. There are three reasons why electric utilisation may fail to reach a cost-recovering level in any given year:

1. Mines on electrified lines may opt for diesel traction;
2. Some mines may be unable to use electric traction because they are situated on non-electrified lines; or
3. The aggregate volume of coal in the system may be insufficient despite electric traction holding a high modal share.

In section 2 I explain how the revised DAAU deals with each of these sources of risk.

¹ The revised DAAU rule selects a constant real AT5 price that equalises the present value of electric system revenues and costs over the 8-year period from 2013/14 – 2020/21, assuming billable egtk corresponds to 85% of the maximum feasible egtk in each of those years.

2 Main pricing features of revised DAAU

The proposed pricing for the revised electric traction system DAAU has three components:

1. A constant real AT5 price maintained for eight years, subject to review under specified circumstances;
2. An additional component to AT4 that compensates Aurizon Network for certain specific events that lead to electric power cost under-recovery; and
3. A requirement that, over the terms of UT4 and UT5 combined, the present value of electric system revenues and costs are equalised.²

Each of these components is considered in detail below.

2.1 Determination of AT5 for Blackwater

AT5 must be set in such a way that three requirements are satisfied:

1. It is stable over time;
2. The level should not be so high that electric traction becomes uncompetitive with diesel; and
3. The CRIMP-approved electric system investments do not become stranded.

The first requirement will be met if a constant real AT5 is specified. The third requirement will be met if the constant real AT5 is determined by solving for the value that equalises the present value of electric system revenues and costs over an appropriate time frame.

The revised DAAU proposes this approach to determining AT5. The present value calculations are proposed to be done using Aurizon Network's regulatory WACC as the discount rate and an eight year time frame (the combined terms of UT4 and UT5).

The electric system revenues in this present value calculation are forecast on the following basis. The constant real AT5 is multiplied by a hypothetical egtk figure for each year that is set at 85% of the maximum feasible volumes for that year. The

² This requirement is subject to system volume and cost forecasts being approximately accurate. If system volume forecasts are too high or cost forecasts too low, then there is a possibility that the present value of costs will not be recovered by the end of UT5 under this pricing scheme.

maximum feasible volume in a given year is the number of gtk forecast to be shipped from all mines that are on electrified lines. Obviously it is not feasible to derive egtk from mines on non-electrified lines. Table 1 below summarises the definitions of the different measures of usage.

Table 1: definitions of usage metrics

Usage metric	Explanation
gtk	gross tonne-kilometres
Contract gtk	gtk specified in access contract
Actual gtk	gtk for trains that actually run
Actual egtk	Actual gtk hauled by electric locomotives
Maximum feasible egtk	gtk to and from mines on electrified lines
Hypothetical target egtk	85% of maximum feasible egtk

In the event that less than 85% of the gtk from mines on electrified lines uses electric traction, the forecast revenue will not materialise. This shortfall is proposed to be recouped from an Under-Utilisation Payment (“UUP”) that is described in section 2.2 below.

Aurizon Network has undertaken some preliminary modelling of the approximate level of Blackwater system AT5 that would result from the present value calculation just described. This modelling indicates that AT5 would be \$3.05/ ‘000 egtk (in \$2013/14) if the Rolleston branch line is electrified from 2015/16 onward.

I am advised by Aurizon Network that it understands from stakeholders that an AT5 of approximately \$3/ ‘000 egtk (or less) in 2013/14 would permit electric traction to be competitive with diesel traction on a total cost of ownership basis. Assuming that this advice is correct, this pricing approach would meet the second requirement outlined at the beginning of this section.

2.2 Under-utilisation payment

My September 2012 report proposed that the under-recovery of electric costs from AT5 when electric utilisation is below target be met through a lump sum electric traction availability charge payable by all mines. Subsequently, Aurizon Network has

advised me that, while the lump sum approach is understood, it believes stakeholders are concerned about its complexity. As a consequence, Aurizon Network has determined to take an alternate approach in this DAAU.

The revised DAAU implements a somewhat different method for recouping the AT5 shortfall. A UUP payable by access customers is calculated to make up the shortfall caused by the difference between actual egtk and the benchmark 85% of feasible egtk.

This amount is allocated among access customers at the end of each undertaking period in proportion to their actual net tonnes. In effect, it is an additional component to the AT4 tariff element that they would otherwise pay. This UUP would ensure *partial* recovery of Aurizon Network's electric power system costs not recouped through AT5 in the early years of UT4 and UT5.

The proposal to allocate this UUP according to net tonnes instead of a lump sum has economic consequences that will be discussed in section 3 below. Given the need to recover these costs, the difficulties with the lump sum approach, and the unattractive features of the alternative allocation methods, this aspect of the revised DAAU is likely to create the least distortion to pricing signals.

The UUP amount at the end of each undertaking period shall not permit Network to exceed allowable revenue that includes any deferred revenue (i.e. if sufficient revenue is recovered from electric trains to cover target revenue and any accumulated capitalised shortfall then there is no requirement for a UUP).

Section 3 below will consider the distributional and efficiency consequences of that rule.

2.3 Potential deferral of revenue to UT5

Preliminary modelling by Aurizon Network suggests that Blackwater electric system revenue deferrals in the early years of UT4 and UT5 will be significant. These deferrals represent under-recoveries of electric system costs that arise because some mines are not (initially) on electrified lines and because overall system coal volumes are (initially) too low for full cost recovery even at high electric utilisation. Back-ending cost recovery in this way would present an unreasonable stranding risk for Aurizon Network unless recoupment is ensured by a binding regulatory ruling.

I say this stranding risk is unreasonable for two reasons. First, Aurizon Network undertook this investment after receiving QCA and customer approval through the

CRIMP process. Second, even mines that do not currently use electric traction receive a benefit from the availability of electric traction infrastructure on the system. This benefit is an option to switch³ from diesel to electric at low cost when relative fuel prices change.⁴

A third reason has been highlighted by the QCA: Aurizon Network's regulatory WACC is insufficient to compensate it for asset stranding risk. The QCA said,

“The weighted average cost of capital for Aurizon Network is currently set on the assumption that assets will only be optimised once, at the time the asset enters the asset base. ... If the current approach is changed to allow for subsequent optimisation of the asset base, the WACC may have to be reviewed (upward).”⁵

The accumulated revenue shortfall will not be recovered within the UT4 period if actual volumes are consistent with forecasts, necessitating a binding ruling to ensure revenue recovery in UT5.

³ It is recognised that switching is difficult within the term of a haulage contract. The idea is that switching would occur at the point of renewal of haulage contracts. The option should be viewed with a long-term perspective, reflecting the long economic life of the electric system infrastructure.

⁴ Fuel price hedging might conceivably offer an alternative method of dealing with relative fuel price change. Unfortunately there is a mismatch of time scales. Fuel price hedges tend to be fairly short-term. The option to switch that is considered here would be taken up over a multiple year time frame corresponding to the expiry of haulage contracts. Fuel price hedges of such long duration would likely be difficult to source and prohibitively expensive.

⁵ QCA (Jan 2013), p. 3.

3 Economic evaluation

The proposed Blackwater pricing in Aurizon's revised DAAU addresses most of the key shortcomings of the December 2011 ETS DAAU that were noted in the QCA's July 2012 Draft Decision.

- It does not charge diesel trains the AT5 price.
- It provides appropriate price signals for the use of electric infrastructure:
 - the proposed AT5 corresponds to an efficient long run marginal cost for the Blackwater electric power system.
 - Efficiency is interpreted as the assumption of high utilisation of the electric infrastructure.
- It maintains traction mode neutrality by aligning prices with long run marginal costs:
 - it does not distort the competition between diesel and electric train operators since prices are cost-reflective; and
 - it does not distort the competition between makers of diesel and electric locomotives since prices are cost-reflective.

The revised DAAU also addresses the problems that motivated the submission of the December 2011 ETS DAAU:

- it avoids stranding of the Blackwater electric power system investments;
- it avoids the perverse incentives created by an average cost pricing rule for AT5; and
- it ensures that electric traction remains competitive with diesel traction when efficient electric long run marginal costs are no higher than diesel.

The remainder of section 3 considers in detail how the revised DAAU satisfies the statutory requirements.

3.1 Object of Part 5

Before turning to the specific objects of Part 5 of the QCA Act, it is important to establish two propositions that will be relied on throughout this analysis. The first proposition is that the pricing proposed in the revised DAAU corresponds to an efficient long run marginal cost for the electric infrastructure. The second proposition is that electric traction represents the least cost transport option, provided that electric infrastructure utilisation is sufficiently high.

Concerning the first proposition, section 2 set out the pricing rules in detail. The prime consideration in determining the constant real AT5 value was to equalise the

present value of revenues and costs over an eight year period. Accepting the appropriateness of the time frame,⁶ this AT5 level is therefore cost-reflective. The costs thus reflected are efficient in the sense that they assume electric utilisation is high: 85% of the maximum feasible. In my view, this method of establishing AT5 represents the best available estimate of an efficient LRMC for the electric infrastructure.

The existence of the UUP does not really alter this conclusion. Where electric utilisation is 85% or more of the maximum feasible, there would be no UUP. Where electric utilisation is below 85% of feasible in an electrified area, it is the cost of this inefficiency that is recovered through the UUP.

Concerning the second proposition, Aurizon advises me that electric traction is substantially less expensive per gtk than diesel traction, assuming moderately high utilisation of electric infrastructure. This conclusion is based on total cost of ownership modelling. I have examined this modelling and, on the assumption that the input data is accurate, I find it convincing.⁷

Supporting this view is the fact that electric utilisation on the Goonyella system is nearly 100%. That outcome has been achieved through the profit-maximising decisions of private firms. Presumably these decisions would have resulted in a diesel-dominated system had electric traction not been cheaper.

Further supporting this view is the fact that the combination of EC and an AT5 value for Blackwater based on high electric utilisation is less than the average cost of diesel fuel per gtk. Aurizon's total cost of ownership modelling demonstrates this point.

⁶ The choice of eight years as the period reflects concern about the stranding risk and the difficulty of guaranteeing regulatory decisions far into the future. The electric asset life assumed in the cost calculations is 30 years. By the end of the eight year period, regulatory depreciation would represent less than the full original investment.

⁷ Some aspects of Aurizon's total cost of ownership modelling were contested by submissions to the QCA. Among the most contentious of these points were the claims concerning network congestion and relative diesel and electric train operating speeds on the network. I have not relied on these points in my evaluation of relative costs of diesel versus electric traction. The differences in fuel costs and in locomotive capital and maintenance costs alone were sufficient to establish the cost superiority of electricity.

3.1.1 Economically efficient outcomes

S69E of the QCA Act contains the object of part 5, which is “to promote the economically efficient operation of, use of and investment in, significant infrastructure by which services are provided, with the effect of promoting effective competition in upstream and downstream markets.” The first part of s69E refers to economic efficiency.

The first proposition established above is that the proposed AT5 price represents an efficient LRMC. That being so, the proposed pricing is allocatively efficient: scarce investment funds will be allocated to their highest-value end-uses under long-run marginal cost pricing. This statement applies not only to investments in electric system infrastructure, but also to investments in locomotives and associated assets. Thus, the proposed pricing promotes efficient investment in significant infrastructure by which services are provided.

The second proposition established above is that electric traction is the least-cost transport option. Therefore, by incentivising higher utilisation of the lowest-cost technology, the proposed pricing is also productively efficient: a given coal transport task would be accomplished for least input cost. Thus, the proposed pricing promotes efficient operation and use of significant infrastructure by which services are provided.

3.1.2 The implications for competition

The second part of s69E refers to the promotion of effective competition upstream and downstream of the significant infrastructure. In general, a cost-reflective AT5 price (as is proposed—refer to the first proposition established above) is minimally distorting to competition in adjacent markets. Turning to consider each of these adjacent markets individually, I note the following.

Competition in locomotive supply markets

The traction choice would be made on the basis of a strict comparison of costs and benefits, encompassing comparative locomotive costs and the comparison between prices of diesel and electric energy plus AT5. There is considerably less distortion to the traction choice under the revised DAAU than there is under the prevailing average cost AT5 pricing rule. There is also less distortion to the traction choice under the revised DAAU than there would have been under the now withdrawn December 2011 ETS DAAU.

Competition in above-rail haulage markets

Under the revised DAAU, electric train operators pay AT5 and diesel train operators do not. AT5 is cost-reflective. These facts make the revised DAAU competitively neutral with respect to the above-rail haulage markets and the traction choices

these operators make. The DAAU would therefore seem to meet the QCA's objective of maintaining traction choice in the CQCR.

Competition in Blackwater rail haulage market

By overcoming the acknowledged distortions to electric traction pricing in UT3, the prospects for effective competition between Blackwater miners and between train operators in the Blackwater system would be improved.

3.2 Interests of Owner

S120(1) of the QCA Act contains a list of matters that must be considered by the QCA in making an access determination. S120(1)(b) refers to the access provider's legitimate business interests and investment in the facility.

On the proviso that the QCA issues a binding ruling to ensure recovery of capitalised losses from UT4 within the term of UT5, this pricing proposal would advance the interests of the infrastructure owner by preventing the stranding of the Blackwater electric power system assets.

3.3 Interests of Access Seekers

S120(1)(c) refers to the legitimate business interests of persons who have, or may acquire, rights to use the service. Such persons may include end customers and the above-rail operators that haul coal for them. Each is considered separately below.

3.3.1 End customers

Thanks to the incentives created by the proposed pricing in the revised DAAU, miners on the Blackwater system would have certainty of cost-reflective access to the lowest-cost transport option for at least the next two regulatory periods.

A future world in which the UT3 pricing rules were continued would be less advantageous to these miners for the following reasons:

- the option to move to electric traction would become increasingly unattractive over time and eventually, perhaps, unavailable;
- a least-cost system configuration in which electric traction infrastructure is widely available and highly utilised would become unattainable;
- transport costs would be higher than necessary and increasingly vulnerable to shocks in the world oil price.

Compared to the December 2011 DAAU proposal, which sought to apply the full AT5 charge to diesel trains operating from mines on electrified lines, the revised DAAU

maintains a significant price differential between electric trains (which pay AT5) and diesel trains (which do not). The impact of the UUP on end customers, if required, is significantly less than in the prior DAAU proposal.

3.3.2 Above rail operators

The revised DAAU proposes a pricing system that will result in greater certainty of the recovery of efficient electric system costs because it removes a perverse pricing anomaly intrinsic to the average cost pricing rule that is embedded in UT3. Blackwater diesel train operators, in particular, have benefitted from this pricing anomaly to date. The proposal is to close off that anomaly and restore pricing to efficient and sustainable levels.

In the medium to longer term, input price changes will ultimately filter through to end customers, even though haulage contracts that are on foot may not permit pass-through. This eventual ability to pass access price changes through (perhaps at renegotiation time for haulage contracts) will mitigate the longer-term impact on above rail operators.

More importantly, the relative competitive position of above rail operators will not be affected as long as input price changes affect all operators equally. The pricing proposal does not discriminate between operators based on their identity—only on the basis of the costs they impose on the infrastructure provider.

3.4 Pricing Principles

The relevant pricing principles are set out in s168A of the QCA Act. These pricing principles must be considered by the QCA in making an access determination (see s120(1)(l).)

Revenue adequacy

S168A (a) contains the principle that the price should generate expected revenue for the service that is at least enough to meet the efficient costs of providing access.

Subject to the QCA providing a binding ruling that ensures recovery in UT5 of capitalised losses in UT4, this proposal should provide Aurizon network with adequate revenue over the life cycle of the electric system assets.

Efficient price discrimination

S168A (b) contains the principle that the price should allow for multi-part pricing and price discrimination where it aids efficiency.

The revised DAAU only price differentiates between diesel and electric traction. As shown above, this differentiation is cost-reflective and therefore efficient.

Avoid related-party favouritism

S168A (c) contains the principle that the price should not allow an access provider to discriminate in favour of a related downstream entity, except to the extent the cost of providing access to other operators is higher.

Nothing in this proposal discriminates between above-rail operators based on their identity. Although there will be some differential pricing impacts on above-rail operators based on their mix of traction types, these differentials are cost reflective.

Improve productivity

S168A (d) contains the principle that the price should provide incentives to reduce costs or otherwise improve productivity.

The proposed AT5 pricing is cost-reflective, which will promote productivity by improving allocative efficiency within the coal chain.

3.5 Public interest

S120(1)(d) of the QCA Act notes that one of the matters that must be considered by the QCA in making an access determination is the public interest, including the benefit to the public in having competitive markets. The key public interest aspects are considered separately below.

Coal industry development

By reducing the average cost of coal transport in the short and long term, the revised DAAU would promote the development of the Queensland coal industry.

Competition in markets

The revised DAAU would improve competition in some markets and have no impact in others. There are no identifiable markets in which the revised DAAU would lessen competition. See section 3.1.2 above.

Environmental impact

Compared to a continuation of the UT3 pricing rules, the revised DAAU would lead to more widespread use of electric traction in the Blackwater system. The environmental impacts of this change are mixed.

On one hand, conventional air pollution along the routes of coal trains travelling between Blackwater mines and the port would be reduced by the shift to electricity. Near the port and in other built-up areas, this shift may have important health implications. Increased use of electric trains would also minimise noise in localised areas.

On the other hand, electric trains may create somewhat more carbon dioxide emissions per gtk than diesel trains. This situation occurs at the present time

because electric trains in Central Queensland rely on coal-fired electricity generation, which has a relatively high carbon intensity. Additionally, the fuel efficiency of this electricity source is relatively low because of the long-distance transmission losses.

3.6 Any other issues (Pricing Principles in 2010 Undertaking)

S120(2) of the QCA Act notes that the QCA may consider any other matter relating to the s120(1) matters that it considers appropriate. Below, I consider some of the matters that were discussed in connection with the 2010 Undertaking.

Cost reflectivity

As noted in s3.1 above, the proposed AT5 pricing is reflective of efficient long run marginal costs.

Cost transfer between users and systems

In my September 2012 report, I recommended the allocation of the equivalent of the UUP on the basis of annuitized lump sums determined separately for each mine. My preference for a lump sum was based on the fact that lump sum charges are welfare-neutral because they do not affect a mine's decision to produce more or less coal at the margin.

Since the revised DAAU allocates the UUP based on mine output, there will be some impact on each mine's output decisions at the margin. The extent of any distortion to output decisions should not be overstated, however. Mine output decisions are based on total marginal costs, of which the UUP component of the electric traction infrastructure charge is a very small part. Overall, any such distortion would probably be immaterial.

Allocation by net tonnes is probably more efficient than allocation by any other transport usage metric (such as net tonne kilometres or gross tonne kilometres, for example) since it is better aligned to ability to pay. Mine income is determined by tonnes of coal shipped to customers. This consideration suggests the superiority of using AT4, rather than AT3, as the pricing element for recovery of this cost.

As noted in my September 2012 report, the principle of charging diesel-train operating mines for some part of the electric power system cost is sound because mines on electrified lines derive a benefit from the option to switch at short notice and at low cost from diesel to electric traction should fuel price changes make it worthwhile.

Under-Utilisation Payment

If the following points are accepted:

- the UUP is required,

- all mines in the system receive some present or future benefit from electrification,
- an output-based allocator must be used if lump-sum payments are not available, and
- making a mine's allocation dependent on the electrification of its line creates a perverse incentive to resist electrification,

then given that a simple, objective rule is required, the proposed allocation by net tonnes is the best option.

Pricing limits

The pricing limits of stand-alone and incremental cost would not be exceeded by the proposed AT5 pricing or the AT4 UUP. The revenue earned by both price components combined is equal, in present value terms, to the cost of the electric infrastructure.

4 Conclusions

In this report I have reviewed the mechanics of the proposed pricing in Aurizon Network's revised DAAU. Based upon the economic analysis presented here, I conclude that the revised DAAU pricing for the Blackwater system is consistent with the requirements of the QCA Act.

In particular, I note the following points:

- Observed market outcomes and cost modelling indicate that electric traction is a lower cost technology than diesel traction for Central Queensland coal mines, provided that the utilisation of electric infrastructure is roughly on the order of three quarters or more of the maximum feasible capacity.
- The revised DAAU method of calculating AT5 represents the best available approximation of the efficient long run marginal cost of the electric infrastructure.
- The proposed pricing is therefore cost reflective, and therefore least distorting to competition in upstream and downstream markets.
- The revised DAAU would lead to significantly better electric utilisation than a continuation of the current UT3 pricing rule for AT5. This would mean a promotion of the economically efficient operation of, use of and investment in electric system infrastructure, consistent with the objects of part 5 of the QCA Act, s69E.

- Given these points, the revised DAAU would better advance the interests of end customers than a continuation of UT3 pricing.
- The revised DAAU would remove a current pricing anomaly in UT3 that benefits Blackwater diesel train operators. The removal of that benefit is unavoidable if pricing is to be made more efficient and stranding of the electric system investments is to be prevented. The fact that any UUP would only be charged at the end of an undertaking period provides scope for these operators to mitigate these impacts in the medium term.
- The proposed pricing would be consistent with the interests of the access provider as long as the QCA makes a binding ruling to ensure recovery of capitalised losses in UT4 within the UT5 period.
- The revised DAAU overcomes the pressing problems that motivated the submission of the December 2011 ETS DAAU.
- The revised DAAU overcomes most of the objections that were raised against the now withdrawn December 2011 ETS DAAU.

References

Aurizon Network Addendum (Dec 12). <http://www.qca.org.au/files/R-Aurizon-Submission-ETSDAAU-Addendum-1212.pdf>

Queensland Competition Authority. Draft Decision: QR Network Electric Traction Services Draft Amending Access Undertaking. July 2012.

Queensland Competition Authority. “*Discussion Paper: Workshop on the Electric Infrastructure Tariff (AT5)*.” January 2013.

Sapere Research Group. “*Cost recovery options for electric infrastructure—Discussion Paper to QR Network*.” 25 September 2012. <http://www.qca.org.au/files/R-QR%20Network-Submission-QRNetworkETSDAAU-1012.pdf> (see pp. 97-116)