



**Energex Application for Capital
Expenditure Cost Pass-through**

Draft Decision

February 2007

SUBMISSIONS

The Queensland Competition Authority considers public involvement to be an important element of its decision making processes. It therefore invites submissions from interested parties on its Draft Decision regarding the application by Energex for the pass-through of costs associated with proposed additional capital expenditure to be incurred in the 2005-06 to 2009-10 regulatory period.

To facilitate the publication of submissions on the QCA's website, it is preferred if submissions are provided electronically by disk or email. Where this is not possible, written submissions are acceptable and should be sent to the address below. **Submissions, comments or inquiries regarding this paper should be directed to:**

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Submissions are due by no later than 8 March 2007.

Confidentiality

In the interests of transparency and to promote informed discussion, the Authority would prefer submissions to be made publicly available wherever this is reasonable. However, if a person making a submission does not want that submission to be public, that person should claim confidentiality in respect of the document (or any part of the document). Claims for confidentiality should be clearly noted on the front page of the submission and the relevant sections of the submission should be marked as confidential, so that the remainder of the document can be made publicly available. Again, it would also be appreciated if each version (that is, the complete version and another with confidential information removed) could be provided electronically (whether or not with a printed copy). Where it is unclear why a submission has been marked 'confidential', the status of the submission will be discussed with the person making the submission.

While the Authority will endeavor to identify and protect material claimed as confidential as well as exempt documents (within the meaning of the *Freedom of Information (FOI) Act 1989*), it cannot guarantee that submissions will not be made publicly available. As stated in s187 of the *Queensland Competition Authority Act 1997*, the Authority must take all reasonable steps to ensure the information is not disclosed without the person's consent, provided the Authority is satisfied that the person's belief is justified and that the disclosure of the information would not be in the public interest.

Public access to submissions

Subject to the above, submissions will normally be made available for public inspection at the Brisbane office of the Authority (see below), or on its website at www.qca.org.au.

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1. OVERVIEW

In its 2005 *Final Determination: Regulation of Electricity Distribution*, the Authority included forecast capital expenditure of \$2.7 billion rather than the \$3.4 billion proposed by Energex. At that time, Energex was unable to provide sufficient detail to support its proposed capital expenditure program of \$3.4 billion. The Authority was also advised by its technical consultant that it was not clear that Energex had the capacity to undertake its proposed capital expenditure program and that the most that could be delivered with certainty was a lesser amount of \$2.7 billion (in itself a significant step up from Energex's historic capital expenditure).

At the same time, the Authority did not want a situation to develop where Energex was lacking the financial capacity to undertake necessary expenditure during the regulatory period. To avoid such an outcome, the Authority provided scope for Energex to seek to pass-through the costs associated with additional capital expenditure during the current regulatory period, up to its original forecast of \$3.4 billion, provided that expenditure met certain criteria, as set out in the 2005 Final Determination.

On 11 October 2006, Energex submitted an application to the Authority for the pass-through of costs associated with an additional \$720 million of capital expenditure. Should the Authority approve this application, forecast capital expenditure would increase to \$3.4 billion over the current regulatory period, equal to the amount initially proposed by Energex as part of the regulatory reset in 2005.

The Authority's consultant, WorleyParsons, assessed Energex's application and was of the view that all of Energex's proposed system capital expenditure was justified and deliverable in terms of the criteria established by the Authority in its Final Determination. However, WorleyParsons was of the view that only \$3.1 million of the proposed non-system capital expenditure met the set criteria.

In preparing its cost pass-through application, Energex had not provided an exhaustive list of projects that it believed were eligible to be considered under the cost pass-through criteria. Rather, it had limited its total application to the maximum amount (\$720 million) that the Authority had established it would consider for pass-through. WorleyParsons identified that Energex had additional system capital expenditure projects that had not been initially included in its pass-through application more than sufficient to replace the non-conforming non-system expenditure. Rather than delay consideration while Energex submitted a revised application, the Authority had WorleyParsons assess that additional system capital expenditure on the same basis it had assessed all other expenditure and accepted the replacement of all but \$3.1 million of non-system capital expenditure with new system capital expenditure that met the established criteria for pass-through consideration.

On this basis, WorleyParsons verified that Energex had identified \$720 million in additional capital expenditure that was consistent with the Authority's criteria for cost pass-through as set out in the 2005 Final Determination and that Energex was capable of delivering the identified projects and expenditure in the time frames proposed.

Accordingly, the Authority proposes to accept Energex's proposed additional capital expenditure (as revised during the WorleyParsons assessment) as meeting the criteria established in the 2005 Final Determination as forming the basis for consideration for the pass-through of the cost associated with that expenditure during the current regulatory period.

Based on the same assumptions and parameters used in the Authority's 2005 Final Determination, the Authority has determined the total potential revenue impact associated with the increase in capital expenditure to be \$108.1 million (nominal) over the regulatory period.

However, under the revenue cap form of regulation applying to Energex, the Authority makes annual adjustments to Energex's aggregate annual revenue requirement (AARR) for the forthcoming year in order to correct (primarily) for any over- or under-recovery of revenue in previous years. In this regard, Energex over-raised revenue in 2004-05 and 2005-06 and the Authority would normally be seeking to reduce its future AARRs to return this revenue over-recovery to customers in future prices.

When combined, the increase in revenue required to pass-through the costs associated with Energex's proposed additional capital expenditure and the reduction in revenue which was to have been made to return previous over-recoveries of revenue, the net effect on Energex's future revenue is a requirement for an additional \$80.7 million over the remaining three years of the current regulatory period. This equates to an additional \$54.8 million of revenue in net present value terms.

Consistent with the stated intention in its 2005 Final Determination, the Authority proposes that Energex be permitted to recover this additional revenue over the remainder of the current regulatory period to 2009-10. This approach is also consistent with the EDSD Review recommendation that the Authority seek to provide greater investment certainty to distributors and ensure that they have sufficient funds available to enable them to undertake necessary investment in future years.

The revised revenue requirements for Energex over the remainder of the regulatory period are shown in Table 1. To reduce year to year volatility in the revenue requirement whilst maintaining its value in real terms, the Authority has smoothed the proposed AARRs.

Table 1: Current and Smoothed AARRs – 2005-06 to 2009-10 (\$m nominal)

	2005-06	2006-07	2007-08	2008-09	2009-10	Total	NPV
Current AARR	626.8	692.1	779.9	870.0	916.3	3,885.1	3,013.2
Smoothed Final AARR	626.8	692.1	779.7	878.5	989.8	3,966.9	3,068.0
Per cent change		10.4	12.7	12.7	12.7		

Based on the forecast consumption growth used for the 2005 Final Determination, the Authority estimates that the smoothed AARR will result in Energex's prices growing by 8.2 per cent each year on average (in nominal terms) over the remaining three years of the regulatory period. This compares with the current forecasts of annual growth in prices in the remaining three years of 5.4 per cent.

While there will be an impact on prices over the remainder of the regulatory period, the benefits of this additional expenditure will also start to accrue in this same time frame as Energex's network delivers improved reliability levels to all customers. The Authority therefore considers it appropriate that the costs associated with the additional capital expenditure should be passed through to customers over the remaining three years of the regulatory period. Had Energex been able to provide the information it has now produced in support of its capital expenditure program at the time of the Authority's 2005 review, this capital expenditure would have been included in the 2005 Determination from the start and prices would have been somewhat higher throughout the entire regulatory

period. The Authority provided Energex with this pass-through option in recognition of the considerable uncertainty that surrounded Energex's capital expenditure requirements at the time. Allowing the costs to be passed through now is consistent with that concern and the purpose of providing the pass-through mechanism.

While the current side constraint of CPI + 4.5% will continue to apply to underlying network prices for Energex's contestable customers, it is proposed that price increases resulting from the pass-through of the costs associated with the additional capital expenditure will not be subject to the side constraints. The additional expenditure has been deemed necessary to ensure acceptable network security and all customers should bear their fair share of the associated costs.

The Authority invites submissions from interested parties on this Draft Decision, to be submitted by no later than 8 March 2007.

2. INTRODUCTION

2.1 EDSD Review and the Authority's 2005 Final Determination

Following serious power outages in early 2004, the Government appointed an independent panel to review the state of both the Energex and Ergon Energy distribution networks [Electricity Distribution and Service Delivery (EDSD) Review].

The EDSD Review found that, inter alia, the Energex network was operating at an unacceptably high utilisation level and was unable to absorb the pressures created by severe weather events.

The EDSD Review put forward a number of recommendations to address the situation. The Government accepted all EDSD Review recommendations.

Preparation of the Authority's 2005 Final Determination coincided with the EDSD Review.

2.2 The Authority's 2005 Final Determination

At the time of preparing its 2005 Final Determination, the Authority recognised that there was significant uncertainty surrounding likely future costs, particularly in relation to the costs of implementing the Government's response to the EDSD Review.

The difference between the forecast capital expenditure included in the Final Determination (\$2.7 billion) and that which Energex believed may be needed (\$3.4 billion) was significant. At that time, the Authority considered that Energex had not provided sufficient detail in support of its proposed \$3.4 billion in capital expenditure. In addition, Energex was only able to demonstrate that it could adequately resource the \$2.7 billion of expenditure proposed by the Authority's consultant rather than the \$3.4 billion in capital expenditure Energex had proposed. To ensure that customers did not suffer a shortfall in service quality due to a lack of financial capacity within Energex, the Authority included a specific pass-through mechanism in the Final Determination which applied to the gap of \$720 million between the amount of capital expenditure included for Energex and that which Energex proposed.

By including this pass-through mechanism, the Authority recognised the EDSD Review recommendation that the Authority provide greater investment certainty to the distributors and consider approaches to introduce a greater degree of flexibility into the next regulatory arrangements.

The terms of the pass-through mechanism require Energex to clearly establish that:

- it needed to spend more in total on capital expenditure than included in the 2005 Final Determination (up to its total original forecast of \$3.4 billion);
- it was able to undertake this investment wisely;
- the proposed expenditure had not already been included in Energex's capital expenditure forecasts for the period and was either new expenditure necessary to meet its EDSD obligations or a reinstatement of capital expenditure specifically excluded in the 2005 Final Determination; and
- that cost pass-through during the regulatory period, rather than including the assets in the asset base at the end of the regulatory period, was reasonable and justified.

The Authority also indicated at the time that it would seek public comment on any pass-through application under this mechanism.

3. ENERGEX COST PASS-THROUGH APPLICATION

3.1 Energen's proposed additional capital expenditure

On 11 October 2006, Energen submitted an application for the Authority to approve the pass-through of costs associated with an additional \$720 million of capital expenditure during the regulatory period. Such an amount of capital expenditure would increase the existing \$2.7 billion already included in the 2005 Final Determination to Energen's original forecast of \$3.4 billion. Details of these costs are provided in Table 2 below.

Energen's application for the pass-through of costs associated with the additional capital expenditure was released on the Authority's website. Submissions from stakeholders and interested parties were sought by 24 November 2006. Five submissions were received. Copies of these are also available on the Authority's website.

Table 2: Energen's Additional Capital Expenditure – 2005-06 to 2009-10 (\$m)

<i>Type of expenditure</i>	<i>2005-06</i>	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>Total</i>
Asset replacement	9.5	2.3	15.1	20.7	17.6	65.2
Demand related	23.4	53.5	84.3	108.3	145.4	414.8
Reliability improvement	0.9	14.7	19.8	4.6	0.1	40.1
Other system	0.5	0.4	28.2	48.5	46.4	124.0
Total System	34.3	70.9	147.4	182.1	209.5	644.1
Non-system	36.5	39.5	-9.6*	-0.1*	11.9	78.1
Total	70.8	110.4	137.8	182.0	221.3	722.3**

Note: All figures are in June 2004 dollars.

** A negative number indicates that Energen is forecasting an expenditure lower than that contained in the Authority's 2005 Final Determination.*

*** While Energen identified capital expenditure marginally in excess of the maximum \$720 million provided for in the pass-through mechanism, the actual amount requested was limited to the \$720 million.*

Energen argued that the additional capital expenditure was necessary to implement the EDSD recommendations, particularly in terms of having a more reasonable technical base to achieve "N-1"¹ security within the next regulatory period. While Energen argued that capital expenditure in excess of its original request of \$3.4 billion would deliver EDSD outcomes to customers more rapidly, it conceded that capital expenditure beyond the original \$3.4 billion was not provided for as part of the Authority's 2005 Final Determination.

3.2 Stakeholder comments in response to Energen's application

In response to Energen's application for additional capital expenditure, submissions were received from Queensland Treasury, the Queensland Consumer's Association, the Griffith University Centre for Credit and Consumer Law (CCCL), the Energy Users Association of Australia (EUAA) and TRU Energy.

¹ "N-1" is the accepted industry planning policy for major system assets. This means, when assets fail, there is spare capacity in the system to switch load to maintain customers' supply

Queensland Treasury expressed its strong view that the regulatory framework should provide Energen with sufficient capital expenditure to enable it to meet its EDSD obligations.

The Queensland Consumer's Association recommended that, given the complexity of Energen's application and the magnitude of the pass-through, the Authority should issue a Draft Decision for public consultation. The Association also recommended that the consultation process include a stakeholder workshop.

The CCCL did not comment directly on Energen's application, but rather endorsed the Queensland Consumer's Association submission.

The EUAA expressed concern at the amount of capital expenditure required by Energen and argued that customers should not be subjected to piecemeal increases in network charges throughout a regulatory period.

The EUAA also questioned whether the pass-through provisions in the 2005 Final Determination applied only to system-related capital expenditure and thus excluded the non-system capital expenditure proposed in Energen's application.

Further, based on past expenditure, the EUAA questioned Energen's ability to deliver the proposed capital expenditure program in a timely fashion. The EUAA suggested that an assessment of the timely delivery of Energen's capital expenditure projects and service delivery performance to date was required, as forecast service improvement gains could not be delivered if projects were not completed on time.

The EUAA suggested that there should be no pass-through of costs associated with additional capital expenditure unless Energen could demonstrate that it was delivering its current capital expenditure program in a timely and efficient manner.

The EUAA expressed its disappointment that no operating expenditure efficiencies were identified by Energen to offset DUOS price increases resulting from the proposed additional capital expenditure.

TRU Energy suggested that the price impacts proposed by Energen were unreasonable. TRU Energy also noted that the Authority's decision was not designed to provide an opportunity for a revisit of the 2005 Final Determination and, therefore, TRU Energy concluded that it was unreasonable to include the non-system component of Energen's application. Finally, TRU Energy considered that, to mitigate the impact on network customers including retailers, it would be reasonable to extend the pass-through into the next regulatory period.

3.3 WorleyParsons assessment of Energen's additional capital expenditure

Following receipt of Energen's pass-through application the Authority commissioned WorleyParsons (formerly Burns Roe Worley (BRW)²) to provide an independent assessment of whether the \$720 million capital expenditure proposed was consistent with the pass-through conditions set out in the Authority's 2005 Final Determination. The terms of reference for the consultancy required WorleyParsons to:

- fully reconcile forecast capital expenditure accepted as part of the Authority's 2005 Final Determination with Energen's proposed capital expenditure to determine whether any previously accepted projects have been included in the \$720 million

² The Authority had commissioned Burns Roe Worley to provide an assessment of the DNSPs capital and operating expenditure as part of the 2005 Final Determination.

capital expenditure program or if there has been any reconfiguration of previously accepted capital expenditure away from EDSD-related capital expenditure to allow for its inclusion in this proposal;

- assess the extent to which the proposed capital expenditure is necessary to meet Energex's EDSD-related obligations having regard to best practice standards for efficient maintenance and utilisation of network assets, the existing network infrastructure in terms of current and projected capacity, current condition and renewal requirements and asset utilisation or is a reinstatement of capital expenditure specifically excluded in the 2005 Final Determination;
- assess whether Energex has demonstrated that it has the capacity to resource its proposed additional capital expenditure having regard to capital expenditure levels already accepted for the current regulatory period;
- assess the reasonableness of linkages between proposed projects, timing, the prudence of the project and identifiable EDSD-related outcomes;
- where expenditure meets the pass-through requirements, provide an opinion on the efficiency of that capital expenditure over its life-cycle; and
- assess the proposed capital expenditure on the basis of the demand growth accepted by the Authority as part of its 2005 Final Determination.

During the course of its review, WorleyParsons identified some concerns with the information initially provided by Energex, particularly in regard to the inflation factors applied. Energex had used a constant inflation rate of 2.76 per cent to convert costs to real 2004 dollars, instead of the rates used by the Authority in the 2005 Final Determination. Energex subsequently provided a revised capital expenditure program as summarised in Table 3. The quantum of the requested capital expenditure was unchanged by the revision.

Table 3: Energex's Revised Additional Capital Expenditure – 2005-06 to 2009-10 (\$m)

<i>Type of expenditure</i>	<i>2005-06</i>	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>Total</i>
Asset replacement	7.8	2.3	15.3	21.8	18.6	65.7
Demand related	15.2	35.4	94.0	114.5	153.4	412.6
Reliability improvement	1.5	14.8	19.9	4.6	0.1	40.9
Other system	0.5	0.4	28.4	48.9	46.8	125.0
Total System	25.0	53.0	157.7	189.7	218.9	644.2
Non-system	37.0	39.1	-10.2*	0.8	12.9	79.7
Total	62.0	92.1	147.5	190.6	231.8	723.9**

Note: All figures are in June 2004 dollars.

** A negative number indicates that Energex is forecasting an expenditure lower than that contained in the Authority's 2005 Final Determination.*

*** While Energex identified capital expenditure marginally in excess of the maximum \$720 million provided for in the pass-through mechanism, the actual amount requested was limited to the \$720 million.*

The results of WorleyParsons' assessment of Energex's revised additional capital expenditure against the pass-through criteria are provided in Table 4.

Table 4: WorleyParsons' Additional Capital Expenditure – 2005-06 to 2009-10 (\$m)

<i>Type of expenditure</i>	<i>2005-06</i>	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>Total</i>
Asset replacement	7.8	2.3	21.6	21.8	18.6	72.1
Demand related	17.0	42.0	103.7	123.7	180.9	467.3
Reliability improvement	1.5	15.0	20.1	4.7	0.1	41.4
Other system	0.5	0.4	28.5	52.3	54.5	136.1
Total System	26.7	59.8	173.8	202.5	254.1	716.9
Non-system	3.1					3.1
Total (WP)	29.9	59.8	173.8	202.5	254.1	720.0
Total (Energen)	62.0	92.1	147.5	190.6	231.8	720.0*

Note: All figures are in June 2004 dollars.

** Actual amount requested is less than the sum of the annual capital expenditure amounts.*

WorleyParsons indicated that the Energen network currently falls far short of meeting the standards detailed in the EDSR Review and that considerable capital expenditure was required to restore the Energen system to a basic level of system performance. WorleyParsons noted that Energen had more EDSR compliant and necessary capital expenditure projects than those included in its pass-through application, but that Energen had limited its application to the \$720 million maximum value that the Authority had set in its Final Determination.

System capital expenditure

WorleyParsons conducted a detailed audit of the individual system capital expenditure projects comprising the Energen pass-through application. The projects were compared against those originally submitted by Energen as part of the 2005 Final Determination. WorleyParsons concluded that the Energen application did not include any projects previously included by the Authority in the 2005 Final Determination and that there had been no reconfiguration of previously accepted capital expenditure away from EDSR-related capital expenditure (thereby providing Energen with more EDSR-related capital expenditure to include in the pass-through application).

In reviewing the proposed system expenditure, WorleyParsons examined Energen's maintenance practices and concluded that none of the additional capital expenditure requested by Energen was a result of inefficient maintenance practices. WorleyParsons indicated that, since the 2004 review by BRW, Energen had taken steps to improve its maintenance practices and, in particular, Energen had established a Maintenance Standards Group which applied failure mode analysis to update Energen's maintenance policies. This approach involved life cycle risk analysis which WorleyParsons considered represented best industry practice.

WorleyParsons cross-referenced the proposed system capital expenditure against Energen's EDSR obligations and concluded that the proposed capital expenditure was necessary to meet these EDSR obligations. Further, WorleyParsons indicated that, in developing its proposed capital expenditure program, Energen had given appropriate planning consideration to the existing network infrastructure in terms of current and projected capacity, current condition and renewal requirements and asset utilisation.

WorleyParsons assessed the efficiency of Energen's proposed system capital expenditure program and concluded that:

- the labour rate estimates used by Energex to derive capital expenditure forecasts was reasonable and Energex's material costs were at or lower than market prices;
- Energex's approach to preparing cost estimates was consistent with that applied by other electricity utilities and that the accuracy of Energex's estimates was reasonable;
- Energex had appropriately considered the life-cycle of its assets and was not taking only a short-term view (which could result in inefficient capital expenditure forecasts);
- Energex had adequately considered non-network solutions and had not proposed capital expenditure in lieu of more cost-effective non-network solutions. While non-network alternatives, such as the potential to contract for distributed (embedded) generation and demand management to defer or reduce network capital expenditure, were not considered by Energex at the individual project level, they were considered as part of the Summer Preparedness Plan;
- Energex had given appropriate consideration to demographic circumstances in preparing its capital expenditure submission. Although the demographic circumstances were not considered for individual projects in most cases, they were taken into account at a high level in network planning studies; and
- Energex had appropriately considered the existing infrastructure and renewals requirements and asset utilisation in assessing and approving capital projects.

In its review undertaken in 2004 for the 2005 Final Determination, BRW concluded that Energex's approach to system planning had not been effective due to inappropriate planning criteria and insufficient planning resources. In 2006, WorleyParsons found that Energex had addressed both of these issues. The system planning guidelines had been amended and the system planning resources had been significantly increased, in line with the recommendations made by the EDSR Review.

Consistent with EDSR Review requirements, Energex's revised general security standard was now based upon the deterministic "N-1" planning. This "N-1" planning criteria was applied to all bulk supply substations, zone substations and subtransmission feeders. In applying this standard, Energex had specified planning criteria for the various components of the network. WorleyParsons concluded that Energex's approach to system planning was consistent with the recommendations of the EDSR Review.

In order to assess the reasonableness of the timing of proposed projects, WorleyParsons reviewed 25 individual capital expenditure projects to confirm that the proposed timing was consistent with loading limitations. WorleyParsons found that, in all cases, the proposed project timing was consistent with the loading limitations (in many cases, earlier project completion could be justified in order to comply with EDSR recommendations but was restricted by the backlog of works). WorleyParsons concluded that Energex had appropriately prioritised the proposed projects within the program of works.

The Terms of Reference required WorleyParsons to assess the proposed capital expenditure on the basis of the demand growth accepted by the Authority as part of its Final Determination. WorleyParsons found that Energex had based its program of works on demand estimates that were slightly higher than those implicit in the 2005 Final Determination. At WorleyParsons' request, Energex subsequently prepared load forecasts based on the lower demand estimates consistent with the 2005 Final

Determination. WorleyParsons compared the load forecasts and concluded that there were no projects that needed to have their commissioning dates altered as a result of the slightly lower forecasts required under the 2005 Final Determination.

Non-system capital expenditure

WorleyParsons did not accept the majority of Energex's proposed non-system capital expenditure as being consistent with the cost pass-through requirements set out in the 2005 Final Determination.

At the time of the 2005 Final Determination, the Authority accepted the majority of Energex's forecast non-system capital expenditure. In particular, the Authority provided for the levels of expenditure requested by Energex in the areas of vehicles and tools and equipment. Energex had based its 2004 submission on the equivalent level of spending as that now requested (\$3.4 billion). In requesting additional funding for both these categories of non-system expenditure, Energex was implicitly arguing that it had significantly under-estimated the requirement for non-system capital expenditure in its 2004 submission.

The Authority's 2005 Final Determination states that any request for additional expenditure is limited to "*reinstatement of those matters specifically rejected by BRW and new projects required to implement the EDSD recommendations*". WorleyParsons concluded that the under-estimation of expenditure for vehicles and tools and equipment was not consistent with this requirement and that it was therefore not able to recommend the proposed additional expenditure on these items.

In its 2005 Final Determination, the Authority allowed \$25.7 million for property works, a reduction of \$3.1million from that originally requested by Energex. That expenditure was disallowed on the basis of the lower total capital spend (and therefore a smaller workforce) than that proposed by Energex. WorleyParsons proposed that this amount (\$3.1 million) should now be reinstated given the present expansion of Energex's workforce.

In view of the above, WorleyParsons assessed that all but \$3.1 million of the \$77 million claimed by Energex for additional non-system capital expenditure was outside the Authority's pass-through guidelines and was therefore not recommended.

Additional system capital expenditure

During WorleyParsons' assessment of Energex's proposed non-system capital expenditure, it became apparent that the expenditure may not be consistent with the pass-through criteria set out in the 2005 Final Determination. Consequently, Energex submitted information on 45 additional system capital expenditure projects that could be substituted for the non-system capital expenditure were it not accepted by the Authority. WorleyParsons assessed all of these additional projects to determine whether they were consistent with the capital expenditure pass-through requirements set out in the 2005 Final Determination. WorleyParsons determined that:

- the projects were needed, were capable of being delivered and were linked to achieving identified EDSD recommendations;
- none of the additional projects were previously accepted in the 2005 Final Determination; and

- none of the projects represented a reconfiguration of previously accepted capital expenditure away from EDSO-related capital expenditure.

Accordingly, WorleyParsons concluded that all of the additional projects proposed by Energex in lieu of non-system works would meet the Authority's pass-through requirements.

Resourcing

The Authority's Terms of Reference also required WorleyParsons to assess Energex's capacity to resource its proposed additional capital expenditure, not just from a technical feasibility perspective, but also whether the programs could be effectively delivered having regard to the capital expenditure levels already included for the current regulatory period.

At the time of the Authority's 2005 Final Determination, Energex was able to demonstrate that it could resource forecast total capital expenditure of \$2.7 billion to 2009-10. Since that time, Energex has further expanded its workforce and updated its annual Workforce Plan consistent with its proposed increased program of work out to 2010. The plan takes into account factors such as the need for support for the regulated business by other parts of the organisation, retention of staff, skill sets required to deliver the program of work, recruitment strategies, use of contractors, apprentice intakes, and the training and development of staff.

More specifically, Energex has recently instituted a number of key changes to its workforce, including:

- in accordance with the EDSO Review, increasing its planning resources by 150 per cent, from 16 staff in July 2004 to 40 in 2005-06. This has provided the resources necessary to prepare the detailed capital expenditure program included as part of its submission; and
- preparing a detailed resource plan in conjunction with the capital expenditure plan. Since July 2004, Energex has recruited more than 450 field staff (including trades people and power workers). In 2005-06, an additional 84 apprentices were recruited, taking the total number of apprentices to 218 (as at May 2006). These internal resources were supplemented by a significantly expanded contractor base.

WorleyParsons reviewed the linkages between the labour requirements to deliver the proposed program of work and the projected resource increases proposed in the Workforce Plan and concluded that the Workforce Plan, together with an achievable increase in external contract resources, would be sufficient to deliver the proposed program of work. Further, WorleyParsons suggested that this view was supported by Energex's recent increase in system capital expenditure from \$526 million in 2004-05 to \$645 million in 2005-06.

4. QCA ANALYSIS

4.1 Expenditure

The Authority agrees with WorleyParsons (and a number of stakeholders) that the majority of the non-system capital expenditure proposed by Energex does not meet the pass-through criteria set out in the 2005 Final Determination.

The pass-through facility is not meant to provide an opportunity for Energex to revisit forecasts accepted as part of the 2005 Final Determination. Forecasts accepted in the 2005 Final Determination are effectively locked in place for the entire regulatory period. This is common practice in infrastructure regulation as it provides a degree of certainty during the regulatory period to both customers and distributors. To be considered for pass-through, proposed capital expenditure must represent a reinstatement of those matters specifically rejected in the 2005 Final Determination and new projects required to implement the EDSR Review recommendation.

While the Authority acknowledges stakeholders concerns regarding the amount of additional capital expenditure required, the Authority is obliged to consider the obligations imposed on Energex by the EDSR Review. The Authority agrees with Queensland Treasury that Energex should be provided with sufficient capital expenditure to enable it to meet its EDSR Review obligations.

The WorleyParsons assessment highlighted the poor state of the current Energex network and the significant additional expenditure required to address Energex's EDSR Review obligations. In particular, WorleyParsons found that "...considerable capital expenditure is required to restore the Energex system to a basic level of system performance" and concluded that "...the list of EDSR compliant and necessary capital projects is much longer than the total of the \$720 million" requested by Energex.

However, the Authority's 2005 Final Determination limits the amount of additional capital expenditure Energex can seek cost pass-through for during this regulatory period to \$720 million, taking total capital expenditure to the \$3.4 billion originally proposed by Energex. However, this in no way stops Energex from spending more than the \$3.4 billion during the regulatory period. Provided this expenditure was deemed prudent, Energex should expect that such capital expenditure would be rolled into the regulatory asset base at the next regulatory reset.

Given WorleyParsons' assessment of the Energex network and its finding that significantly more expenditure than currently proposed is required for Energex to meet its EDSR obligations, the Authority proposes to accept additional system capital expenditure in lieu of the non-system capital expenditure that was not accepted. In reality, Energex could revise its pass-through application to include the additional system capital expenditure and exclude its proposed non-system capital expenditure. By accepting this substitution now, the Authority is avoiding unnecessary delay. WorleyParsons subjected this additional system capital expenditure to the same assessment process as the originally proposed system capital expenditure and found that it met the Authority's criteria for cost pass-through.

A particular concern for the Authority and a number of stakeholders is Energex's capacity to resource the additional capital expenditure. The lack of an appropriate resource plan was a key consideration in the Authority's rejection of Energex's original capital expenditure forecasts in the 2005 Final Determination. The WorleyParsons' assessment specifically addressed Energex's ability to effectively resource the additional capital expenditure proposed, having regard to Energex's existing capital expenditure forecasts.

WorleyParsons concluded that, based on recent capital expenditure and Energex's improved resource planning, it was confident that Energex could resource the proposed program of work. The Authority accepts WorleyParsons assessment.

The Authority proposes to include the following additional capital expenditure.

Table 5: Energex Additional Capital Expenditure – 2005-06 to 2009-10 (\$m)

	2005-06	2006-07	2007-08	2008-09	2009-10	Total
Total (QCA)	29.9	59.8	173.8	202.5	254.1	720.0
Total (Energex)	62.0	92.1	147.5	190.6	231.8	720.0*

Note: All forecast figures are in June 2004 dollars.

** Actual amount requested is less than the sum of the annual capital expenditure amounts.*

4.2 Revenue

Having assessed Energex's capital expenditure application against the criteria set out in the 2005 Final Determination, the Authority needs to translate the additional capital expenditure into adjustments to Energex's Aggregate Annual Revenue Requirement (AARR) to determine the likely impact on revenue and hence prices. The revenue impact of the additional capital expenditure will reflect the required return on capital and return of capital associated with that additional capital expenditure. Based on the same parameters used in the 2005 Final Determination, the Authority has determined the total revenue impact associated with the increase in capital expenditure to be \$108.1 million (nominal) over the regulatory period.

The additions to Energex's AARRs resulting from the additional capital expenditure are provided in Table 6.

Table 6: Additional revenue and revised AARRs – 2005-06 to 2009-10 (\$m nominal)

	2005-06	2006-07	2007-08	2008-09	2009-10	Total	NPV
Current AARR	626.8	692.1	779.9	870.0	916.3	3,885.1	3,013.2
Additional revenue from pass-through	1.3	5.1	15.4	32.5	53.9	108.1	76.8
Revised AARR	628.0	697.2	795.4	902.5	970.2	3,993.3	3,090.1

Given the timing of this application, any recoupment of additional revenue is only able to be made over the remaining three years of this regulatory period. Accordingly, any additional revenue identified as occurring in 2005-06 and 2006-07 needs to be incorporated into the remaining three years. To maintain the time-value of this expenditure, the Authority has rolled forward these amounts by the weighted average cost of capital (WACC) and incorporated them into the additional revenue for 2007-08. The revised additional revenue is provided in Table 7.

Table 7: Additional revenue and revised AARRs – 2005-06 to 2009-10 (\$m nominal)

	2005-06	2006-07	2007-08	2008-09	2009-10	Total	NPV
Current AARR	626.8	692.1	779.9	870.0	916.3	3,885.1	3,013.2
Additional revenue from pass-through	0	0	22.4	32.5	53.9	108.8	76.8
Revised AARR	626.8	692.1	802.4	902.5	970.2	3,993.9	3,090.1

There are a number of adjustments to Energex's AARR that are made annually by the Authority to determine the AARR for the following year. These largely reflect any under- or over-raising of revenue in previous years. This is a feature of the revenue cap form of regulation applied to Energex. In 2004-05 and 2005-06, Energex exceeded its approved annual revenue caps and, under the existing revenue cap form of regulation, is required to return this revenue over-recovery to customers through reductions to future revenue caps.

This previous revenue over-recovery will offset to some extent the impact of the revenue adjustment required under this cost pass-through decision. The net effect of these adjustments is shown in Table 8.

Table 8: Revised AARRs adjusted for previous revenue over-recovery (\$m nominal)

	2005-06	2006-07	2007-08	2008-09	2009-10	Total	NPV
Current AARR	626.8	692.1	779.9	870.0	916.3	3,885.1	3,013.2
Additional revenue from pass-through	0	0	22.4	32.5	53.9	108.8	76.8
Less adjustment for previous revenue over-recovery	0	0	28.1	0	0	28.1	22.0
Net additional revenue	0	0	-5.7	32.5	53.9	80.7	54.8
Final AARR	626.8	692.1	774.3	902.5	970.2	3,965.8	3,068.0
Per cent increase in Final AARR over previous year		10.4	11.9	16.6	7.5		

After adjustments for previous revenue over-recovery, the net additional revenue from the proposed capital expenditure pass-through is \$80.7 million (\$54.8 million in NPV terms).

4.3 Transitioning to the next regulatory period

In order to reduce volatility in annual revenues and resulting prices to customers, it has become common practice to smooth the AARRs over the regulatory period. The purpose of smoothing is to ease the transition in distribution prices from the current regulatory period to the next.

In considering any revenue smoothing, the Authority is faced with conflicting objectives. On the one hand, it is conscious of the requirements of the distributors for a reasonable rate of return on their investments and the necessity for them to have adequate resources

to undertake needed investment in their networks while at the same time having regard to the impact of price movements on customers.

Table 9 shows the effect on Energen's AARRs of smoothing the additional revenue over the last three years of the regulatory period (from Table 8) to eliminate year to year volatility while still returning the same net present value of additional revenue over the regulatory period.

Table 9: Smoothed AARRs – 2005-06 to 2009-10 (\$m nominal)

	<i>2005-06</i>	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>Total</i>	<i>NPV</i>
Current AARR	626.8	692.1	779.9	870.0	916.3	3,885.1	3,013.2
Final AARR (Table 8)	626.8	692.1	774.3	902.5	970.2	3,965.8	3,068.0
Smoothed Final AARR	626.8	692.1	779.7	878.5	989.8	3,966.9	3,068.0
Per cent increase in Smoothed AARR over previous year		10.4	12.7	12.7	12.7		

The smoothed AARRs result in annual revenue growth of 12.7 per cent per annum for each of the three remaining years of the current regulatory period, whilst maintaining the net present value of the revenue stream. While the resultant 2009-10 AARR of \$989.8 million is higher than the corresponding unsmoothed 2009-10 value, the difference is not significant and it is unlikely that costs would be declining significantly in the early years of the next regulatory period.

The implied price impact associated with the proposed smoothed AARR is provided in Table 10. The price path associated with the current AARR is also provided for comparison.

To determine price effects, the impact of demand growth and inflation needs to be removed from the AARRs to gain an understanding of the likely real price changes implied by the smoothed AARRs. The 'prices' in Table 10 are calculated by dividing each of the AARRs by the forecast level of electricity consumption to arrive at an average cent per kilowatt hour (c/kWh) price.

This is a notional price only and will mask significant differences across and within customer groups. As such, the prices presented in Table 10 provide a high level indication of aggregate price changes.

Table 10: Implied Average Nominal and Real Price Changes

	2005-06	2006-07	2007-08	2008-09	2009-10	Ave last 3 yrs
Forecast consumption (GWh)	20,480	21,305	22,250	23,170	24,085	
Current price paths						
Current AARR (\$m)	626.8	692.1	779.9	870.0	916.3	
Implied nominal price (c/kWh)	3.061	3.282	3.505	3.755	3.804	
Annual percentage change (%)	6.5	7.2	6.8	7.1	1.3	5.4
Implied real price (c/kWh)	2.978	3.108	3.230	3.368	3.320	
Annual percentage change (%)	3.7	4.4	3.9	4.2	-1.4	2.6
Price paths with additional capital expenditure						
Smoothed Final AARR (\$m)	626.8	692.1	779.7	878.5	989.8	
Implied nominal price (c/kWh)	3.061	3.248	3.504	3.792	4.109	
Annual percentage change (%)	6.5	6.1	7.9	8.2	8.4	8.2
Implied real price (c/kWh)	2.978	3.076	3.230	3.400	3.586	
Annual percentage change (%)	3.7	3.3	5.0	5.3	5.5	5.2

Table 10 indicates that the smoothed AARR incorporating the proposed capital expenditure pass-through results in Energen's prices growing in nominal terms by 8.2 per cent each year on average over the remaining three years of the regulatory period. This compares with forecast annual growth without the capital expenditure pass-through of 5.4 per cent.

Side constraints

In its 2005 Final Determination, the Authority adopted a side constraint on the annual movement in prices for individual contestable customers of CPI + 4.5% for Energen. To facilitate movement to cost reflective distribution prices, no side constraints were placed on franchise customers.

While this side constraint will continue to apply to underlying network prices for contestable customers, price increases resulting from the pass-through of the proposed additional capital expenditure will not be subject to the side constraints. The additional capital expenditure covered by this pass-through application will benefit all customers and has been deemed necessary to ensure acceptable network security. All customers should carry their fair share of these costs. The side constraints were not intended to protect some customers and disadvantage others.

4.4 Timing of revenue recovery

The final criteria set out in the 2005 Final Determination requires Energen to establish that cost pass-through during the regulatory period, rather than including the assets in the asset base at the end of the regulatory period, is reasonable and justified.

Clause 6.10.5 of the *National Electricity Rules* requires that a jurisdictional regulator must take into account each DNSP's revenue requirements during the regulatory period, having regard for issues such as:

- price stability; and
- provision of a fair and reasonable risk-adjusted cash flow rate of return on efficient investment.

Energen has argued that it is reasonable to recognise the additional capital expenditure in network tariffs in the current regulatory period, as this provides a balance between the interests of customers and Energen. Energen argue that recognising the capital program within the current regulatory period is consistent with the principle of investment certainty recommended by the EDSD Review, in addition to being consistent with a number of principles of the National Electricity Rules, including:

- prices to customers are reflective of true costs, thereby giving customers efficient pricing signals for the consumption of electricity; and
- providing an appropriate return on investment.

Stakeholder comments

Both the EUAA and TRU Energy raised concerns regarding the recovery of additional capital expenditure by Energen. The EUAA argued that customers should not be subjected to piecemeal increases in network charges throughout a regulatory period, while TRU Energy considered that, to mitigate the impact on network customers, it would be reasonable to extend the pass-through into the next regulatory period.

QCA assessment

At the time of the 2005 Determination, there was considerable uncertainty regarding Energen's capital expenditure requirements. The EDSD Review and the Authority's own consultants had expressed concern about Energen's maintenance program and planning capacity. Had this not been the case and had Energen been able to support its expenditure forecasts as it has now done, this additional expenditure would have been included in the 2005 Determination at the outset. The cost pass-through provision was designed to provide Energen with an opportunity to recover that lost opportunity during the current regulatory period should it be able to get its house in order.

While there will be an impact on prices over the remainder of the regulatory period, the benefits of this additional expenditure will also start to accrue in this same time frame as Energen's network delivers improved reliability levels to all customers. The Authority therefore considers it appropriate that the costs associated with the additional capital expenditure should be passed through to customers over the remaining three years of the regulatory period. This view is also consistent with:

- the EDSD Review recommendation that the Authority seek to provide greater investment certainty to distributors during the regulatory period;
- the Authority's general objective of promoting cost reflective pricing; and
- recognition of Energen's legislative obligation to implement a number of the EDSD Review recommendations by the end of the current regulatory period.

Furthermore, the impact on prices is reasonable given the circumstances.

In addition, having provided the cost pass-through mechanism in the 2005 Final Determination and now having assessed that there is indeed additional capital expenditure

which meets the criteria established in the Determination, to not allow the associated costs to be passed through to customers during the current regulatory period would be to treat this capital expenditure no differently to any other over expenditure which would be assessed in the next regulatory review.

5. DRAFT DECISION

The Authority's Draft Decision is to accept the pass-through of costs associated with an additional \$720 million in capital expenditure by Energex during the current regulatory period, as per Table 11.

Table 11: Additional Capital Expenditure – 2005-06 to 2009-10 (\$m)

	2005-06	2006-07	2007-08	2008-09	2009-10	Total
Additional capital expenditure	29.9	59.8	173.8	202.5	254.1	720.0

Note: All forecast figures are in June 2004 dollars.

Based on the same parameters used in the 2005 Final Determination, the Authority has determined the total revenue impact associated with the increase in capital expenditure to be \$108.1 million (nominal) over the regulatory period.

However, under the revenue cap form of regulation applying to Energex, the Authority makes annual adjustments to Energex's aggregate annual revenue requirement (AARR) for the forthcoming year in order to correct (primarily) for any over- or under-recovery of revenue in previous years. In 2004-05 and 2005-06, Energex over-recovered revenue and the Authority would normally be seeking to reduce future AARRs to return this revenue over-recovery to customers in lower future prices.

When combined, the increase in revenue required to pass-through the costs associated with Energex's proposed additional capital expenditure and the reduction in revenue needed to return previous over-recoveries of revenue, the net effect on Energex's future revenue is a requirement for an additional \$80.7 million to be raised over the remainder of this regulatory period. This equates to an additional \$54.8 million of revenue in net present value terms.

Consistent with the stated intention in its 2005 Final Determination, the Authority proposes that Energex be permitted to recover this additional revenue over the remainder of the current regulatory period to 2009-10.

The revised revenue requirements for Energex over the remainder of the regulatory period are shown in Table 12.

Table 12: AARRs – 2005-06 to 2009-10 (\$m nominal)

	2005-06	2006-07	2007-08	2008-09	2009-10	Total	NPV
AARR	626.8	692.1	774.3	902.5	970.2	3,965.8	3,068.0
Annual per cent change		10.4	11.9	16.6	7.5		

To reduce year to year volatility in the revenue requirement, whilst maintaining its value in real terms, the Authority has smoothed the proposed AARRs as shown in Table 13.

Table 13: Smoothed AARRs – 2005-06 to 2009-10 (\$m nominal)

	<i>2005-06</i>	<i>2006-07</i>	<i>2007-08</i>	<i>2008-09</i>	<i>2009-10</i>	<i>Total</i>	<i>NPV</i>
Smoothed AARR	626.8	692.1	779.7	878.5	989.8	3,966.9	3,068.0
Annual per cent change	-	10.4	12.7	12.7	12.7		

After allowing for forecast demand growth, the smoothed AARRs, incorporating the net revenue impacts discussed above, should result in Energex's prices growing in nominal terms by 8.2 per cent each year on average over the remaining three years of the regulatory period. This compares with currently forecast annual growth of 5.4 per cent.

While the current side constraint of CPI + 4.5% will continue to apply to underlying network prices for Energex's contestable customers, it is proposed that price increases resulting from the pass-through of the costs associated with the additional capital expenditure not be subject to the side constraints. The additional expenditure has been deemed necessary to ensure acceptable network security and all customers should bear their fair share of the associated costs.