Significant price variation report

Short Term Trading Market Brisbane

MOS Service Payments 1 October 2020

14 December 2020

AUSTRALIAN ENERGY REGULATOR

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1 Introduction

In accordance with the National Gas Rules, the AER is required to publish a report whenever there is a significant price variation (SPV) in the Victorian gas market or Short Term Trading Markets (STTM).[1]

The AER has published guidelines setting out what constitutes a SPV event.[2]

Outcomes that constitute a SPV event include when the daily cost of Market Operator Services (MOS), at a STTM hub, exceeds $250,000. On 1 October 2020, MOS gas was required for the Brisbane hub. The MOS service payment ($916,366) was a record for the hub, breaching the AER's reporting threshold.

MOS is a balancing service used to balance the gas scheduled on a pipeline with the actual volumes of gas that have flowed on that pipeline.

In preparing this report the AER held meetings with AEMO and three participants in the Brisbane STTM, as part of monitoring the compliance of trading activity and also the operation of the market on the day in accordance with the Gas Rules.

1 The obligation is set out in the National Gas Rules. Rule 498(3)(b) relates to SPVs in the Short Term Trading Markets, and rule 355(1)(b) relates to SPVs in the Victorian market.

2 The AER has established thresholds that, when breached, trigger an SPV report. These thresholds are available on the AER website https://www.aer.gov.au/wholesale-markets/guidelines-reviews/significant-price-variations-in-the-sttm-reporting-triggers .

2 Summary

On 1 October 2020, insufficient supply was nominated to match demand in Brisbane as a result of a failure to nominate to the pipeline operator. This resulted in allocated gas deliveries being 38 TJ lower than the scheduled supply quantity, leading to an increase MOS requirement of 40.375 TJ to balance the Brisbane network, with costs for the balancing service paid to participants who provided MOS services.

Highlighting the significance of MOS on this day, daily volumes of MOS increase services provided in Brisbane have averaged 2.2 TJ per day across the first three quarters of 2020 at an average cost of $1551. This day reflected an unusual outcome where cost of MOS services was higher than the gas traded via ex ante offers and bids before the gas day. The primary market payment was $578,330 based on gross trade of 123 TJ, but only $48,288 when market participants' buy and sell positions were accounted for (reflecting that many participants scheduled their own supply to meet their own demand in the market).

MOS services are backed by contracts which Market Participants have with the pipeline operator to be able to provide extra gas. That is, gas above and beyond normal flows, which in the case of increase MOS typically reflects an ability to draw down that participant's share of line pack on the pipelines connecting to the market.

The total available offers in the MOS stack for October accumulated to 29 TJ, which was 11.375 TJ below the service requirement for the gas day. The additional MOS allocations for gas provided above the level available in the MOS stack were allocated as overrun MOS proportionate to volumes that Market Participants supplied to the hub through ex post supply in the primary gas market.

Overrun MOS was priced at the highest offer price in the MOS stack, which was $38. On 1 October, MOS service payments accrued to $916,366 of which $432,250 was attributable to overrun.

A participant who failed to nominate supply to the pipeline operator on this day incurred the majority of costs to pay for the MOS service payments under the causer pay mechanism.[3]

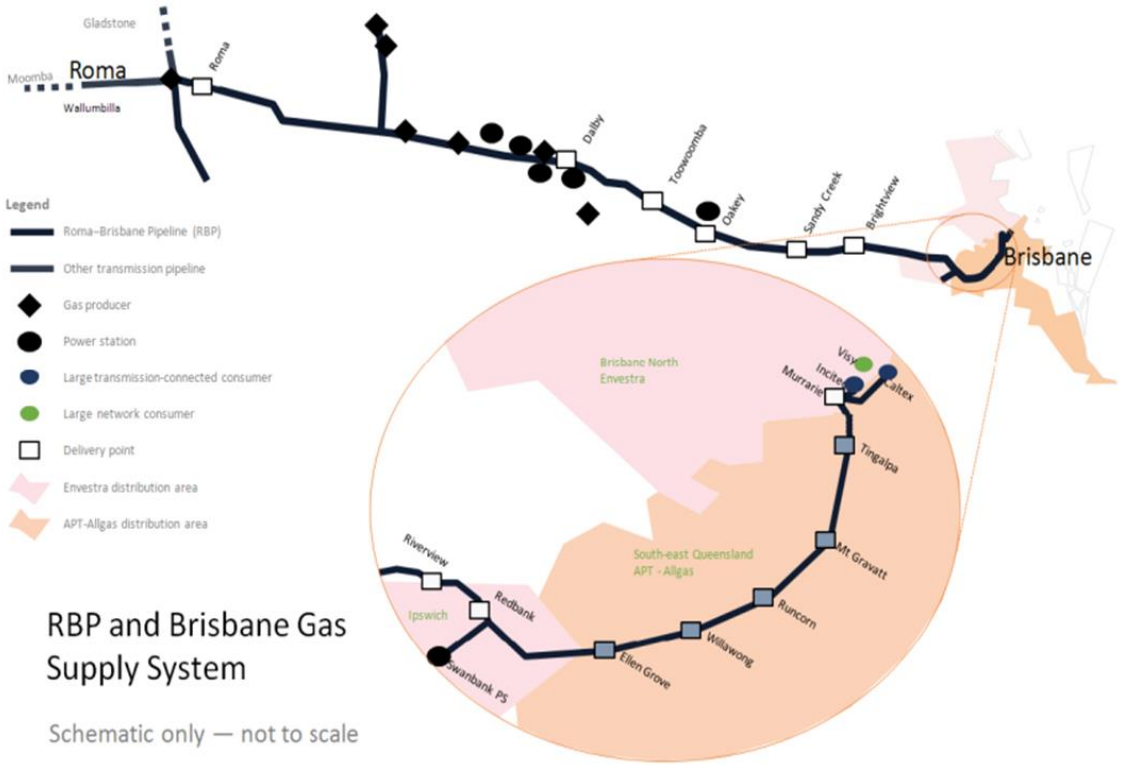
[3] The cost to the market was recouped through large deviation charges associated with the lower than scheduled supply quantity, in line with the causer pays mechanism introduced in 2014.

3 Background

The Brisbane hub commenced operation on 1 December 2011. The hub provides a market-based mechanism to deliver wholesale balancing gas to and from Brisbane via the Roma to Brisbane Pipeline (RBP). Users participate in the Brisbane hub by submitting bids or offers for the purchase or supply of gas.

As shown in Figure 1 below, major gas users in the hub include the Swanbank Power Station and Incitec Pivot (industrial load). The remainder of the load in the hub is comprised of smaller industrial loads and GPG Gentailers[4]. Users also regularly submit bids to withdraw gas from the hub such as for the use of power stations located along the RBP. Gas supplied largely originates from the Queensland coal seam gas facilities in the Roma region. In contrast to the Adelaide and Sydney hubs, which are serviced by two main pipelines, the Brisbane hub relies on gas delivered by the RBP. Accordingly, gas can only be scheduled by AEMO up to the capacity of the RBP as determined by APA, the pipeline operator.

Figure 1 – The Roma to Brisbane Pipeline, connected facilities and the Brisbane hub



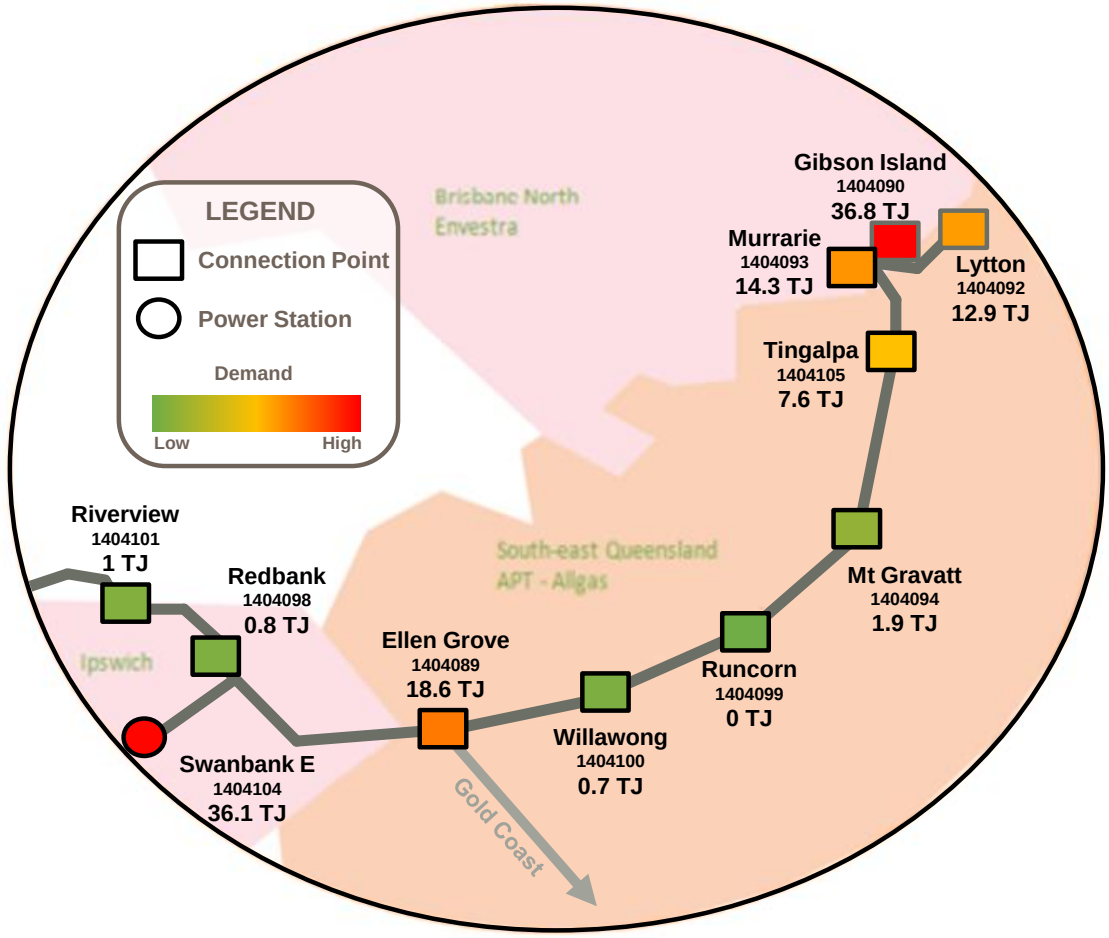
4 Retailers with generation assets.

4 Analysis

Demand on 1 October was relatively high at just over 130 TJ, largely driven by gas generation demand and industrial load. There were no pipeline constraints or network issues and gas was scheduled in sufficient quantities to supply the bulk of demand in the transmission and distribution system that comprises the Brisbane hub.

Figure 2 shows the distribution of actual demand inside the Brisbane hub, including a heat map to indicate where the bulk of the demand in the hub was distributed across the network on 1 October.

Figure 2 – The Brisbane hub and actual demand by connection point[5]



Source: Natural Gas Bulletin Board connection point data.

On the gas day, insufficient supply nominations resulted in a shortfall relative to the amount of gas that was scheduled, resulting in the remainder of the gas allocated to meet Brisbane demand being allocated as MOS.[6] This was due to a participant's supply nomination of 38 TJ not being received by the pipeline operator (APA) on the

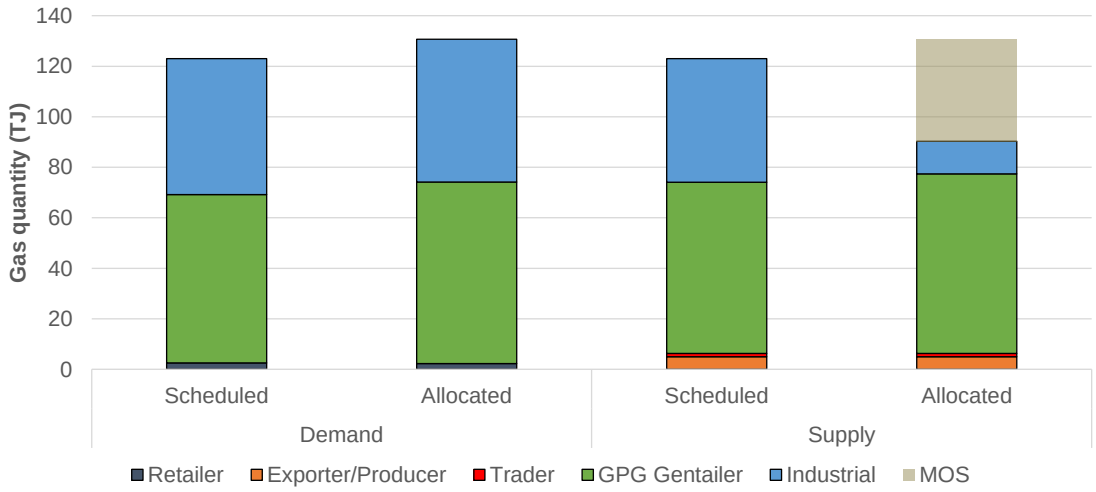
5 Connection point IDs are displayed below their names. Willawong connects via the Ritchie Road Delivery Stream BB connection point).

6 See appendix for a detailed description of MOS, and what the service cost represents. MOS is a balancing gas service, which provides additional gas to the hub in excess of delivered quantities/nominations (increase MOS), or stores gas oversupply on a pipeline (decrease MOS).

gas day to be included in the allocation submission to AEMO. This drove the MOS increase requirement to 40.375 TJ.

Figure 3 shows the scheduled supply allocation to the hub well in excess of the allocated supply (excluding MOS allocations).

Figure 3 – Scheduled and allocated supply and demand for 1 October



The increase MOS stack in Brisbane for the month of October had 29 TJ of gas offered in by participants with MOS enabled contracts at prices ranging between $0.63/GJ and $38/GJ. Insufficient MOS being available in the MOS stack resulted in the remaining requirement being allocated as overrun MOS. The overrun was priced at the maximum price in the MOS stack.[7]

The total cost of MOS services accrued to $916,366.[8] The cost of MOS sourced from the MOS stack accounted for $484,116 and the remaining $432,250 was attributed to overrun. Participants were paid overrun payments based on the proportion of gas they supplied to the hub.[9]

The causer-pays mechanism saw the cost to the market offset through deviation payments at a negative deviation price of $27.79/GJ.[10] Whilst the majority of market participants did not experience a significant financial impact resulting from this, those who required additional supply from the market on the day were subjected to negative deviation prices at a similar cost.

Figure 4 shows MOS allocations for the 1 October gas day, including a breakdown of the contribution of MOS prices to the total cost of MOS services.

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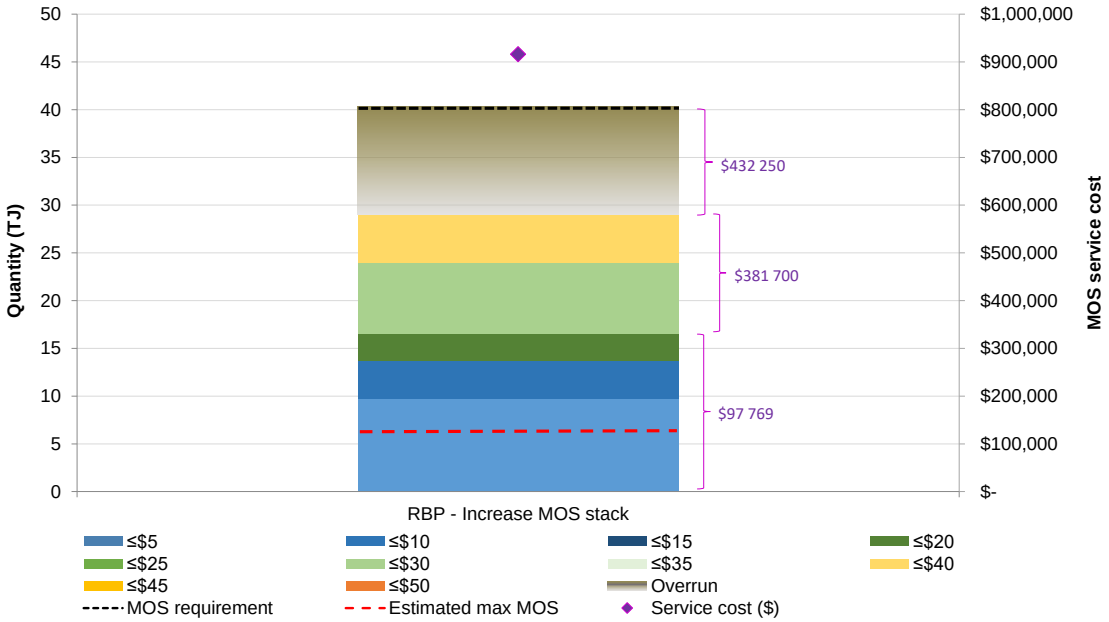
7 A more detailed description of the different MOS pricing mechanism is provided in the Appendix.

8 The cost of services for 1 October accounted for close to 98 percent of the total cost of MOS services for the month of October, with the cost over the remainder of the month adding to $20,987.

9 This excludes quantities supplied to the hub as MOS stack allocations. Overrun allocations were made to the underlying contract holders.

10 The causer-pays mechanism was introduced into the STTM in late 2014 following market consultation, with a Rule change put into effect by the AEMC to facilitate the implementation of the new mechanism. The mechanism is designed to offset the impact of MOS costs on the monthly settlement surplus/shortfall.

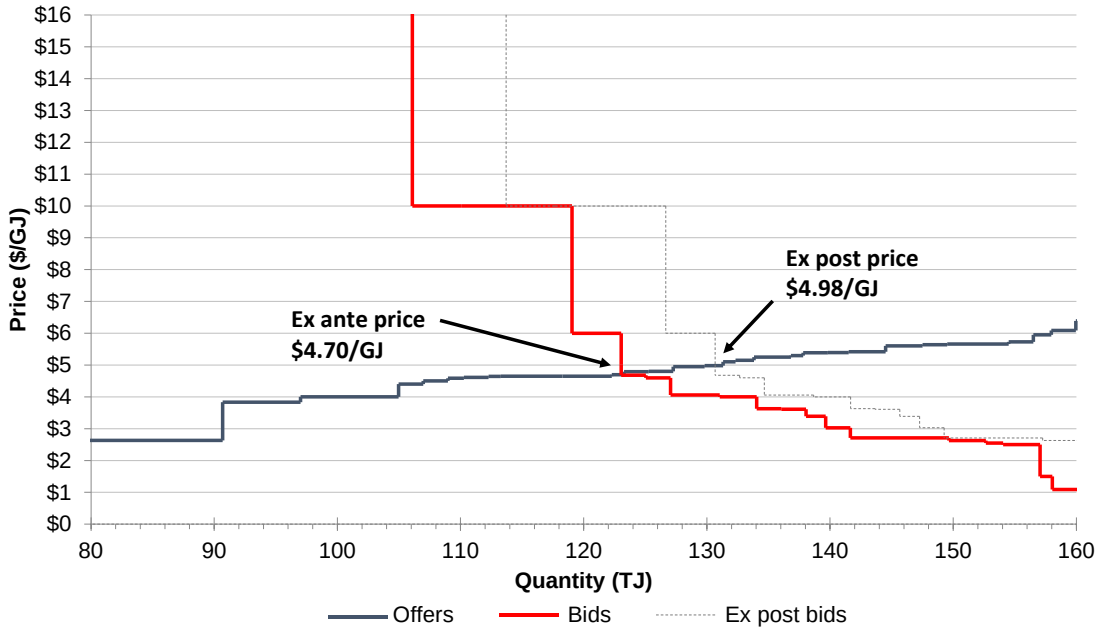
Figure 4 – Brisbane MOS allocations for 1 October



To reduced potential overrun requirements, participants expressed the view that volumes available in the MOS stack may be improved if bidding was enabled on a more frequent basis than the current monthly offer period.

Figure 5 shows there were minimal market price impacts despite a 7.6 TJ imbalance related to under forecasting, due to a relatively flat supply curve. The under forecasting was not related to the cause of the high MOS payments for 1 October, however the additional requirement did add a further $289,484 to the cost of MOS services than might otherwise have been the case.

Figure 5 – Ex ante offers and the ex post price for 1 October



Appendix – MOS payments and overrun

Participants are scheduled to inject by AEMO, and are required to "nominate" the volume of gas required by the pipeline to the pipeline operator. Changing circumstances throughout the day may result in re-nomination (different to scheduled quantities). The final quantities nominated are calculated and produce the ex post allocation quantities for each participant.

Quantities may not have actually been nominated to flow to supply for the physical demand in the hub (due to network constraints and demand profiling, etc). This does not change the quantities of gas allocated, as these quantities include MOS (Market Operator Service). MOS is a balancing gas service, which provides additional gas to the hub in excess of delivered quantities/nominations (increase MOS), or stores gas oversupply on a pipeline (decrease MOS).

Participants pay for both the service, and the commodity cost[11] of the gas.

- Increase MOS is provided to the hub from gas stored on the pipeline. Participants who own this gas are compensated for this service through commodity payments.
- Decrease MOS requires the use of capacity on the pipeline to store gas which could not be delivered to the hub. Participants who receive this commodity pay for the gas through commodity charges.
- For both increase and decrease MOS, participants are paid for providing the service through MOS service payments. Participants are paid as bid according to MOS offers they have available in each month's MOS stack (up to MCC).[12]

When market requirements lead to MOS being allocated in excess of the total quantity of MOS available in the MOS stack, the additional MOS is allocated as overrun MOS.

Overrun MOS is allocated on prearranged registered facility services above the level specified in the monthly MOS stack. Shippers and pipeline operators decide, independently of the STTM, which registered facility services will be used when MOS and overrun MOS are allocated.[13]

11 Commodity payments/charges are priced at the D+2 ex ante price for gas.

12 The MOS cost cap (MCC) is $50/GJ.

13 Allocations are performed according to rules agreed between pipeline operators and shippers and are outside the control of AEMO. However, these rules need to be applied in a manner that is consistent with the National Gas Rules (NGR). Specifically, allocations beyond the pipeline operator's final pipeline schedule, after accounting for intraday renominations, should, wherever possible, be allocated to MOS providers. Hence, if all shippers match their pipeline schedules, then any pipeline deviation will be represented by MOS allocations.
If all price steps available on the MOS stack have been allocated by the STTM pipeline operator (the total pipeline deviation exceeds the capacity of the MOS stack), then the remaining quantity (MOS overrun) is allocated by the facility operator (the pipeline) using normal allocation rules for that facility. These quantities are submitted to AEMO as overrun MOS in the operator's STTM facility allocation data.

The cost of overrun MOS is determined in two different ways.

- When the requirement exceeds the estimated maximum requirement[14], the cost of the service is set at the maximum price in the stack for either the increase or decrease service offered on that pipeline.
- When the estimated maximum is not exceeded, the overrun cost is settled at the weighted average cost of the service (capped at the MOS cost cap) determined by the cost of MOS in the stack.

On 1 October, 29 TJ of MOS was allocated using the available quantities in the MOS stack and 11.375 TJ was allocated as overrun, totalling 40.375 TJ. As this was in excess of AEMO's estimated maximum quantity of 6.281 TJ, the overrun was priced at $38/GJ.

MOS service costs accrued to $916,366 of which $432,250 was attributable to overrun.[15]

14 AEMO calculates the estimated maximum requirement for a give MOS service each month.

15 The cost to the market was recouped through large deviation charges associated with the lower than scheduled supply quantity, in line with the causer pays mechanism introduced in 2014.

Table 1 – Breakdown of MOS stack offers and costs including overrun

Participant	Step quantity (TJ)	Step price ($/GJ)	Cost ($)
AGL	0.5	$ 0.63	$ 315
Origin	1.4	$ 0.63	$ 887
Incitec Pivot	0.5	$ 0.65	$ 325
Alinta Energy	0.75	$ 0.67	$ 503
Alinta Energy	0.75	$ 0.99	$ 743
AGL	0.5	$ 1.11	$ 555
Alinta Energy	0.5	$ 1.20	$ 600
Alinta Energy	0.5	$ 1.44	$ 720
Incitec Pivot	1	$ 1.44	$ 1,440
AGL	0.5	$ 1.70	$ 850
Alinta Energy	0.5	$ 2.40	$ 1,200
AGL	1	$ 2.50	$ 2,500
Origin	0.8	$ 4.49	$ 3,596
Alinta Energy	0.5	$ 4.80	$ 2,401
AGL	1	$ 5.10	$ 5,100
AGL	1.5	$ 8.50	$ 12,750
Incitec Pivot	1.5	$ 8.80	$ 13,200
Origin	2.8	$ 19.55	$ 54,733
AGL	3	$ 25.00	$ 75,000
Incitec Pivot	1.5	$ 26.00	$ 39,000
Origin	3	$ 26.90	$ 80,700
AGL	3	$ 37.00	$ 111,000
Origin	2	$ 38.00	$ 76,000
Overrun	11.375	$ 38.00	$ 432,250
TOTAL	**40.375**	-	**$ 916,366**