



ATCO Gas and ATCO Pipelines

SCADA Project

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ALBERTA ENERGY AND UTILITIES BOARD
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SCADA Project
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640 – 5 Avenue SW
Calgary, Alberta
T2P 3G4

Telephone: (403) 297-8311
Fax: (403) 297-7040

Web site: www.eub.gov.ab.ca

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1 INTRODUCTION

The Alberta Energy and Utilities Board (Board) received a joint application (Application) from ATCO Gas and ATCO Pipelines, (collectively, ATCO), dated April 1, 2004, for approval of a Supervisory Control and Data Acquisition (SCADA) project facilitating the separation of the ATCO Pipelines transmission system from the ATCO Gas distribution system.

The Application was filed in response to a Board direction in Decision 2003-102, which related to Phase I of an ATCO Gas application for Retailer Service and Gas Utilities Act Compliance. In that decision, the Board understood ATCO Gas' position to be that it would not be able to implement its proposed Retailer Service in the form contemplated in its Retailer Service and Gas Utilities Act Compliance application (the Retailer Service Application), given the Board's previous disallowance of the ATCO Pipelines SCADA project costs in Decision 2003-100, which addressed the ATCO Pipelines 2003/2004 General Rate Application (GRA) Phase I. Consequently, Decision 2003-102 provided direction to ATCO Gas to co-ordinate a joint approach with ATCO Pipelines to provide a more complete justification for the SCADA project associated with metering facilities between ATCO Pipelines and ATCO Gas.

ATCO Pipelines provided a technical workshop on March 17, 2004, to provide interested parties with a background overview related to pipeline load balancing utilizing SCADA.

After reviewing the Application, in a letter of April 13, 2004, the Board finalized a schedule and confirmed its intention to deal with the Application using a written process.

Final comments from parties were submitted on July 7, 2004. Accordingly, for purposes of this Decision, the Board considers that the record closed on July 7, 2004.

2 THE APPLICATION

In its Application, ATCO Pipelines requested approval of the SCADA project and approval to incorporate the SCADA project costs, as forecast in its 2003/2004 Phase 1, into the ATCO Pipelines 2003/2004 revenue requirements. ATCO considered that these costs could be incorporated into the 2003/2004 revenue requirements via the ATCO Pipelines 2003/2004 GRA Phase II process.

The SCADA equipment is proposed to capture measurement information collected from Unaccounted for Gas (UFG) Custody Transfer meters that measure flow between the ATCO Pipelines system into the ATCO Gas system and transmit this information on a real time basis to ATCO Pipelines. The measurement information would be used by both ATCO Gas and

ATCO Pipelines for daily load forecasting and the independent balancing of the ATCO Gas distribution system and the ATCO Pipelines transmission system.

ATCO indicated that based on installing SCADA at sites with peak flows greater than 35,000 scf/hr, 87% of the throughput for the North and 90% of the throughput for the South would be measured and reported on a daily basis. The remainder of the flow would be forecast by ATCO Gas' Daily Forecasting and Settlement System (DFSS). The combined accuracy of the SCADA and DFSS reported flows is expected to be well within a tolerance of $\pm 2\%$ of the actual daily measurement.

ATCO indicated the estimated capital cost for the SCADA project as \$5.442 million. The proposed installation threshold, resultant measurement coverage and number of installations are summarized below.

SCF/Hour	South Measured	North Measured	New Sites
35,000	90%	87%	188

ATCO considered that the Application deals with load balancing, which is part of the physical operation of the gas system, whereby gas supplies are adjusted to maintain the correct operating pressure in the gas system. ATCO proposed that customer account balancing, or the process to keep the account-holder's gas receipts and gas deliveries, net of adjustments, within an accepted tolerance range, will be dealt with in a subsequent process incorporating workshops and discussions with interested parties.

ATCO indicated that the ATCO Gas and ATCO Pipelines systems operate in real time and are subjected to the normal operational load balancing swings, which result from the physical movement of natural gas to consumers from suppliers. Currently, ATCO Gas and ATCO Pipelines do not have the ability to separate these normal operational load balancing swings into their distribution and transmission component parts. ATCO considered that in conjunction with the UFG meters previously approved, the SCADA equipment identified in the Application is necessary in order to accomplish the required separation.

ATCO requested that the Board approve the Application as filed and recommended that the full revenue requirement be allowed to be recovered as an adjustment to the rates as part of the ATCO Pipelines Phase II compliance filing.

3 ISSUES

Certain interveners questioned the need for the SCADA project and proposed alternative approaches. Accordingly, the Board considers that the key issues, which need to be considered in the Application process, include the following items:

- SCADA project need
- Alternatives
- Project costs
- Cost allocation

The Board will address each of these items in the subsequent sections.

4 SCADA PROJECT NEED

Views of interested parties regarding the need for the SCADA project are discussed in this section.

4.1 Views of the Parties

ATCO

ATCO indicated that the Application seeks approval for the installation of SCADA equipment at approximately 160 sites in the North and 30 sites in the South at transmission/distribution interconnections between the ATCO Gas and ATCO Pipelines respective pipes systems and the inclusion of associated costs in ATCO Pipelines' revenue requirements.

ATCO stated that the purpose of the SCADA project is to separate the load balancing requirements of the transmission pipes system from the distribution pipes system, and to establish a level playing field for sales and transportation customers on ATCO Pipelines' system.

ATCO considered that without the separation of these load balancing swings into their respective distribution and transmission component parts, ATCO Gas cannot proceed with its Retailer Service Application which was intended to bring ATCO Gas into compliance with the Gas Utilities Act (GUA) and Regulations. Without the separation of these load balancing swings into their respective distribution and transmission component parts, ATCO suggested that the ongoing debate on load balancing issues will continue as load balancing will be forced to be administered through means that involve incomplete information and allocation methodologies.

ATCO clarified that load balancing relates to the physical operation of the gas system wherein gas supplies are adjusted in order to maintain appropriate operating pressures in the system.¹

ATCO noted that the Board had indicated in Decision 2001-75, that the utilities, as operators of the gas delivery network, are ultimately responsible for load balancing. ATCO suggested that the Alberta government took the same view and identified load balancing as a responsibility of the gas distributor in the Roles, Relationships and Responsibilities Regulation (RRR Regulation).

ATCO stated that currently, the daily load balancing requirement of ATCO Gas' distribution system and ATCO Pipelines' transmission system is met by ATCO Gas. This adjustment is embedded in the purchase gas and/or excess sales components of the Deferred Gas Account (DGA), with the net financial impact (benefit or cost) being applied to the sales customers through the Gas Cost Recovery Rate.

ATCO indicated that a related issue of customer account balancing tolerances, previously identified within Phase II of the 2003-2004 ATCO Pipelines GRA, has been approved by the Board for negotiation discussions in the fall of 2004, and is not an issue to be resolved in this Application. For clarity, however, ATCO explained that customer account balancing is a process to keep the account-holder's gas receipts and gas deliveries, net of adjustments, within an accepted tolerance range. ATCO considered that in an ideal world where all customer business is recorded in accounts, the aggregation of all customer account imbalances would equal the

¹ Also reference Decision 2001-075, page 108 respecting the need for appropriate operating pressures.

pipeline system load imbalance and would, therefore, quantify the load balancing requirement at any point in time. ATCO indicated that in the real world, however, this is not the case. In addition to customer account imbalances and the load imbalances of sales customers, system balancing can be affected by such factors as:

- i. prior period adjustments being worked off in the current period;
- ii. differences between the actual UFG on a day and the approved recovery rate being used;
- iii. the effect of adjustments to line pack; and
- iv. the accuracy of the real time measurement/allocation system being used to calculate the account balances.

ATCO stated that while the rules for customer account balancing would impact the magnitude of the daily load balancing adjustment, the purpose of this Application is not to debate the relative merits of various customer account balance tolerances; rather, it is to establish the foundation for load balancing each of the transmission and distribution systems independently of each other.

ATCO discussed the benefits of the SCADA project including the following perspectives.

Removal of Cross-subsidization Potential Between Sales and Transportation Customers

ATCO submitted that it considered it likely that sales customers are bearing costs arising from pack and draft circumstances arising from transportation customer actions during periods of price volatility on ATCO Pipelines. ATCO suggested that the cross-subsidization potential is enhanced during circumstances of volatile and high-priced gas markets, such as those observed since the year 2000.

With respect to gas price volatility, ATCO suggested that Calgary had incorrectly concluded that gas pricing is no more volatile since 2000 than it was in the period 1997 to 1999 by using NGX price data for “next day gas”. Instead, ATCO suggested it is readily apparent from BR-ATCO-7 that price swings have been much more volatile since 2000 than they were in the period 1997-1999. ATCO submitted that sophisticated transportation customers find sufficient incentive in intra-day and day-to-day price changes to modify their account balancing behavior.

ATCO disagreed with Calgary’s claim that ATCO did not disclose the imbalance cross-subsidization issue prior to the spring of 2004. ATCO suggested that this directly ignores the evidence filed in the ATCO Pipelines’ 2003/2004 General Rate Application proceeding, which referred to cross-subsidization and unfairness.

ATCO indicated that in order to maintain appropriate pressures in the pipes systems to ensure safe and reliable utility service to customers, load balancing swings must be offset in real time. The long-standing mechanism used to provide this offset is through the advancement or delay of gas procurement on behalf of sales customers.

ATCO explained that the volumes nominated to be shipped and those volumes actually shipped by ATCO Pipelines’ shippers can vary every day.

ATCO further indicated that during the past 4 years, the daily imbalance for ATCO Pipelines shippers has exceeded 50,000 GJ on 427 occasions, and the potential monthly cross-

subsidization, with positive and negative balances being netted, has been as high as \$7.7 million. The value of imbalance transactions relating to ATCO Pipelines shippers was \$22.7 million and \$8.5 million per month in the months of December 2000 and January 2001 respectively. The resultant financial impacts have not been matched to the corresponding actions of the shippers.

ATCO stated that system imbalance costs may not be offset due to the changing gas prices which are independent of the daily load imbalance volumes. Given the highly dynamic nature of gas prices and imbalance volumes, it is not possible to definitively forecast either the cost or benefits associated with imbalances. ATCO concluded that the cross-subsidization potential is significant and SCADA provides an efficient means to mitigate the potential for cross-subsidization between transmission and distribution customers.

ATCO clarified that while it has provided evidence to show the economic impact of daily transportation imbalances, this economic impact should not be interpreted to mean that sales customers bore this impact directly. As ATCO stated in BR-ATCO-1(d,e), as long as sales customers are not represented in an account each day, any direct comparison with daily transportation imbalances cannot appropriately be made. ATCO submitted it believes that in the current volatile environment for gas prices, it is likely that sales customers are no longer economically neutral. Without the data afforded by the SCADA, ATCO believes an explicit determination of potential cross-subsidization is not possible.

ATCO stated it believes that Calgary and CAPP have completely ignored the real time nature of pipeline system load balancing and transportation account balancing in suggesting an after the fact monthly allocation of imbalance costs using information from the UFG meters. This would do nothing to resolve the current inequity whereby many industrial and producer shippers can make informed gas sale and purchase decisions based on real time information while the rest of the shippers must blindly accept the impact of those decisions without having the opportunity to manage their own gas supply costs.

ATCO stated that CAPP has a vested interest in maintaining the status quo where system-wide load balancing mitigation rests with sales customers on a day-to-day basis. In effect, CAPP members who hold transportation service on ATCO Pipelines' system are free to take advantage of any day-to-day pricing opportunities afforded by the transportation account imbalance window without fear that any resulting costs associated with maintaining sufficient pressures in the system will accrue to them.

ATCO suggested that CAPP fails to recognize the impact of daily line pack adjustments, measurement errors and other factors related to the movement of natural gas through the pipeline system which are not captured in transportation account balances. If CAPP's position were adopted, ATCO Gas would be 100% accountable for all measurement errors and line pack adjustments on the ATCO Pipelines system instead of being shared by all transportation customers equally. This would clearly be to the benefit of transportation customers and at the expense of ATCO Gas' sales customers.

ATCO believes that there is no dispute that sales customers mitigate system-wide load balancing today by the advancement or delay of gas procurement.

ATCO stated that both FGA and CAPP have an interest in maintaining the status quo. In the case of the FGA with a similar load characteristic to ATCO Gas, ATCO submitted that the FGA may

not be prepared to match the same level of daily balancing accountability as ATCO Gas and may wish to be sheltered from the load balancing impacts created by their own daily account imbalances.

ATCO considered that it was significant that AUMA/EDM/PICA did not oppose this Application. ATCO did note, however, that AUMA/EDM/PICA incorrectly asserted that the only alternative to the installation of the SCADA equipment considered by ATCO Pipelines was a system wide load balancing deferral account. This is contrary to the evidence provided by ATCO in the Application. ATCO has stated that any form of partial read or other non-real time methods would not take into account intra-day temperature fluctuations and would be more costly than the SCADA equipment.

ATCO further stated that AUMA/EDM/PICA suggested that ATCO failed to consider as an alternative tightening imbalance provisions for transportation accounts. ATCO noted that by letter dated April 28, 2004 the Board approved ATCO Pipelines' request to withdraw changes to daily customer account balancing from its 2003/2004 GRA Phase II and granted ATCO Pipelines permission to negotiate issues related to daily customer balancing, commencing in September 2004.

Establishment of a Framework for Sales Customers to be Represented Within an Account and Subject to the Same Terms and Conditions as Other Transportation Customers

ATCO stated that the purpose of the SCADA project is to provide the means by which an account for sales customers could be established.

ATCO submitted that while Calgary agreed that accounts may have a degree of imbalances daily and monthly, Calgary's position on account balancing amounts to the removal of the account imbalance window, a situation that ATCO considered transmission transportation customers would not agree to and which would be prejudicial to the customer account balancing negotiation process approved by the Board. ATCO believed that the appropriate solution would not be to remove the imbalance window for other transmission transportation customers, but would be to place ATCO Gas on the same footing. In that way, the economic incentive provided by the account imbalance window is identical for all transmission customers.

Separation of Load Balancing into the Applicable Transmission and Distribution Components

ATCO stated that subsequent to the amendments to the GUA and the new RRR Regulation, the DGA can no longer be used to balance the system and there needs to be a link between each shippers' actions and the financial impacts of load balancing.² With the proposed SCADA equipment operating, load balancing requirements originating from ATCO Gas' system operations will be separated from the load balancing requirements originating from ATCO Pipelines' system. This will provide the basis for determining the source of daily imbalances to better assign responsibility for corrective action and improve cost accountability as well as overall system efficiency.

ATCO Gas and ATCO Pipelines do not have the ability to separate normal operational load balancing swings into their distribution and transmission component parts on a real time basis.

² Roles, Relationships and Responsibilities Regulations, section 4(1)(i).

ATCO stated that in conjunction with the UFG Meters previously approved by the Board, the SCADA equipment identified in the Application is necessary in order to accomplish the required separation.

ATCO submitted that without this separation, ATCO Gas cannot proceed with its Retailer Service Application which was intended to bring ATCO Gas into compliance with the GUA and Regulations. Real time SCADA data was required to provide accurate flow data into the distribution system. Without the information provided by the SCADA equipment, the ongoing debate on load balancing issues will continue as load balancing will have to be administered with incomplete information and retrospective allocation methodologies. Absent SCADA, ATCO Gas' distribution business could not be administered under the same account balance tolerances as other ATCO Pipelines transmission transportation customers.

ATCO disagreed with Calgary's position that the amendments to the GUA and the RRR Regulation do not prevent a gas distributor from load balancing a transmission pipes system. ATCO did not agree with Calgary's interpretation and submitted that if the RRR Regulation contemplated this function it would be explicitly stated in the RRR Regulation.³ Accordingly, ATCO submitted that the debate should not be on whether distribution load balancing is to be done, rather it should center on the most effective way to carry out distribution load balancing. ATCO believes the evidence is clear that the SCADA project provides the most effective way.

ATCO stated that the benefit that customers would realize is that each customer of ATCO Pipelines and of ATCO Gas would be treated equitably with respect to load balancing. Customers of each system will be responsible for only the load balancing costs and benefits for the system they are served from. Sales customers will no longer be in the role of the residual shipper of both systems and as a result will no longer be responsible for all daily supply adjustments to balance both systems.

Alignment of Transportation Account Imbalances with the Associated Load Balancing Costs to Maintain Reliable Utility Service

ATCO stated that having delineated load balancing between the distribution system and the transmission system, a further benefit is that the administration of load balancing costs or benefits can be addressed through independent daily account balancing procedures and/or rate design tailored to the specific characteristics of each of the systems. Contrary to the current situation, there would be no effect on regulated sales customers as a result of any changes to transportation account balancing practices.

Benefits are Achieved at Reasonable Cost

With the separation of transmission and distribution systems through the installation of UFG meters, SCADA equipment provides an economically efficient means to track daily load balancing at sites with peak flows greater than 35,000 scf/hr.

³ The RRR states at section 4(1) that "A gas distributor must do the following: . . . (i) perform load balancing for the gas distribution system". [Emphasis added].

Alberta Urban Municipalities Association, the City of Edmonton and the Public Institutional Consumers of Alberta (AUMA/EDM/PICA)

AUMA/EDM/PICA did not oppose the principle of the SCADA project and recommended that the Board approve the project. However, AUMA/EDM/PICA considered that ATCO Gas and Pipelines' justification of its chosen option using the business case approach, was less than complete. AUMA/EDM/PICA recommended that the Board direct ATCO Gas and Pipelines to have a more complete business case for all future expenditures filed with an application, rather than having time spent in the information request process extracting further detail on the chosen option, the economics and the other alternatives.

AUMA/EDM/PICA stated that based on the amount of incremental capital expenditures and operating expense required for the SCADA project and the potential “worst case” cost of the entire amount of revenue requirement associated with the additional capital plus the incremental O&M, the additional costs are likely small compared to the potential benefits.

AUMA/EDM/PICA stated that if the Application were approved, the core customers would now be accountable for their imbalance amounts. The ability and incentive for any transportation customers to “game” the ATCO Pipeline system will be significantly reduced and thus the amount of imbalance incurred by each of the respective customer groups will be clearer.

Further, the core customers will also have the ability to discuss with their respective retailers, default supplier or ATCO Gas any concerns with respect to the core imbalances and the core customers will have a greater ability to back up their concerns with better evidence, not residual calculations, of the amount of the imbalance in the utilities account. While there will still be an issue about which of the retailers and/or default supplier are in or out of balance, one less uncontrollable variable will have been taken out of the equation.

AUMA/EDM/PICA indicated that it cannot say with certainty whether more accurate imbalance readings for core customers will result in savings to core customers. However, it indicated that approval of the Application should result in better cost accountability for all customers and that ATCO Pipelines will better be able to meet one of its objectives of cost accountability.

AUMA/EDM/PICA stated that while the specific benefit has not been and likely cannot be absolutely quantified in a dynamic environment on a before or even after the fact basis, given the minimal amount of incremental revenue requirement relative to the potential benefits, there would likely only need to be small amounts of imbalances incorrectly attributed to core customers in order for the installation of the SCADA equipment to pay for itself.

AUMA/EDM/PICA further argued that given the Board has already approved the installation of UFG meters at the principal interconnects between ATCO Gas and ATCO Pipelines on both the South and North systems, a significant annual owning and operating cost for these meters is already a sunk cost. While these meters can perform the function of determining a more accurate basis for the allocation of UFG between Gas and Pipelines without SCADA, it is the position of the AUMA/EDM/PICA that the additional incremental costs to be able to read these meters on a real time basis is justified by the contribution that this additional data can make to improved cost accountability for balancing.

AUMA/EDM/PICA disagreed with the FGA comment that currently, ATCO Gas successfully balances its transportation account daily without the benefit of the SCADA project. Instead AUMA/EDM/PICA considered that the issue is whether the SCADA costs are justified in terms of providing real time information that would support a more fair and reasonable basis for ATCO Gas to balance its transportation account. The AUMA/EDM/PICA concluded that the SCADA costs will provide fairer and more reasonable balancing for ATCO Gas customers and the likelihood is that, without SCADA, ATCO Gas customers will continue to unfairly bear additional costs of balancing that are greater than the SCADA costs.

Calgary

Calgary disagreed with ATCO's perspective that SCADA was essential to determine the responsibility for load balancing between ATCO Pipelines and ATCO Gas. Instead, Calgary's evidence indicated that monthly information from the currently installed UFG meters between ATCO Pipelines and ATCO Gas could be utilized to determine who is responsible for load balancing costs between ATCO Pipelines and ATCO Gas.

Calgary indicated that they could not understand why ATCO Pipelines could not currently separate load balancing costs between ATCO Gas and other ATCO Pipelines customers. Calgary envisioned that the difference between the volume bought and sold for load balancing on ATCO Gas, and the daily industrial/producer transportation imbalance, would reflect the ATCO Gas volumetric portion of the load balancing requirement on ATCO Pipelines. Calgary considered the associated cost could then be determined either daily or monthly.

Calgary's evidence suggested that separate deferred accounts could be established for ATCO Gas and ATCO Pipelines and that ATCO could then determine the aggregate amount of any load balancing cross-subsidy between industrial/producer customers and ATCO Gas customers.

Calgary argued that the Application is at best premature and that the Board should deny or at least suspend the Application at this time and direct ATCO to address the need for SCADA facilities in the context of Phase 2 of the Retailer Service Application, which will consider ATCO Gas' proposed Load and Account Balancing mechanisms.

Calgary did not consider that the legislative requirements in the amended GUA required a separation between ATCO Gas and ATCO Pipelines using the SCADA facilities although the Application for SCADA facilities makes this assertion. The purpose of the RRR Regulation is to distinguish the role of the gas distributor from the role of the default gas provider. It has no bearing on the roles of the gas distribution division and gas transmission division of ATCO Gas and Pipelines Ltd.

Calgary indicated that ATCO asserted, without basis or support, that Section 4(1)(i) of the RRR Regulation requires the distributor to load balance the gas distribution system, and, that it therefore needs SCADA equipment to be in compliance with the regulation. Calgary submitted that there is no basis for this assertion. Calgary considered that the RRR Regulation by itself does not provide the basis for ATCO to invest millions of dollars in SCADA equipment to allow it to load balance the distribution system separately from the transmission system or to discontinue using the DGA to load balance the system; even if the DGA will be managed by the default gas provider, Direct Energy Regulated Services. Calgary indicated that Section 4(1)(i) of the RRR Regulation states that the gas distributor, rather than the default gas supply provider, is responsible for load balancing on the gas distribution system. However, the RRR Regulation

does not prevent other parties from performing this role. Section 2(1) of the Regulation allows a gas distributor to authorize other parties such as the default supply provider to perform functions of the gas distributor such as load balancing. Therefore, Calgary stated if the most efficient mechanism to balance the transmission/distribution system continues to be through Direct Energy's Regulated Service DGA, then the Regulation is flexible enough to allow this. Calgary concluded that until ATCO has a mandate from the Board to separate system-wide load balancing into the respective distribution and transmission components and it has demonstrated that using the DGA may no longer be the most appropriate mechanism to balance the system, the Application is premature and there is no basis for the Application.

Calgary urged the Board to withhold its decision on the Application, until it has had an opportunity to consider its decision in the context of its decision on Phase 2 of the Retailer Service Application.

In information response CAPP-Calgary-1, Calgary indicated that it is not advocating preferential balancing rules for ATCO Gas at the expense of transportation customers. Under the current balancing regime, ATCO balances its system through the DGA. Calgary has accepted this regime based on the understanding and assurances provided by ATCO that sales customers are not negatively affected. Calgary's concern is that ATCO's evidence in its Application and its IR Responses seems to indicate that over the past three to four years, transportation customers may have benefited at the expense of sales customers under ATCO's account and load balancing mechanisms.

Calgary considered that daily producer/industrial transportation imbalance data provided by ATCO highlighted that the industrial/producer transportation customers have not been balancing. Calgary indicated that such imbalances may have given rise to additional costs to sales customers, but may have been obscured in the DGA. Calgary stated that the issue was whether industrial/producer transportation customers were in balance and, if not, what was being used to provide the load balancing as a result of their imbalance. Calgary suggested that industrial/producer transportation customers should be charged for the cost of their failure to balance, as Calgary had proposed in the 1998 ATCO Pipelines GRA Phase II.

Calgary considered that ATCO had rationalized the potential failure of transportation customers to balance during the current environment of significant gas price volatility to be a significant factor supporting the need for installing the SCADA equipment. Calgary suggested that gas price volatility had been a factor even during periods of significantly lower gas prices and consequently disagreed that gas price volatility was a valid new reason to support the Application.

Calgary concluded that the data would suggest that the economic opportunities associated with packing and drafting have not changed significantly since 1997. Hence, in the absence of more concrete evidence of shipper abuse of the system than ATCO's simple assertions, price volatility is not a valid argument to justify the proposed SCADA facilities. Further, Calgary considered that if ATCO has observed ATCO Pipelines shippers packing and drafting its system in response to price volatility at the expense of core market customers over the past four years, then ATCO must explain why it is only raising this concern now.

Calgary considered that ATCO's Transmission Transportation Service Regulations (ATCO Regulations) give it the capability to limit the ability of its shippers to pack or draft the system if

the ATCO Regulations are enforced. Calgary stated that if ATCO Pipelines shippers have been packing and drafting at the expense of other customers, ATCO must also explain why it has not required shippers to maintain their accounts in balance.

Calgary considered that ATCO Pipelines already has both the authority and the SCADA facilities necessary to control the level of packing and drafting by industrials and producers on its system. Virtually all industrial and producer customers (by number and volume) served by ATCO Pipelines have SCADA facilities attached to their gas meters that allow ATCO Pipelines to monitor packing and drafting activity in real time. Secondly, Calgary stated that Sections 6.3 and 6.4 of the ATCO Regulations give ATCO Pipelines the full authority to require a customer to balance its Customer Account Daily Imbalance Quantity to zero or trend the Cumulative Imbalance Quantity towards zero. Furthermore, if the customer does not take action, ATCO Pipelines also has the authority to take action to restrict customer receipts or deliveries and to trend a customer's account to zero.

Calgary suggested that ATCO continues to fail to make an adequate business case for the proposed SCADA facilities and that a key flaw in ATCO's business case is that it does not address the root of the problem, that is transportation customers that pack and draft for economic gain. Calgary stated that the proposed SCADA facilities do nothing more than allow ATCO to assign responsibility for packs and drafts between ATCO Pipelines and ATCO Gas in real time.

CAPP

CAPP stated that it considered the proposed SCADA project, at minimum, premature and possibly unnecessary for ATCO Pipelines. CAPP recommended that the Board not approve the SCADA project until ATCO has quantified the economic justification through analysis of flow data that could be collected, for prior periods up to 180 days in duration, from the meters at the sites that are proposed for the SCADA installations.

CAPP noted that ATCO's evidence indicated that the SCADA project was required so that ATCO Pipelines could load balance. Conversely, CAPP suggested that ATCO Pipelines has the ability to load balance its system under current circumstances without the proposed SCADA facilities.

CAPP suggested that the total load imbalance on the ATCO Pipelines system is made up of the imbalances attributable to or allocated to Firm Service Receipt (FSR) accounts, Firm Service Delivery (FSD) accounts and ATCO Gas; and that any imbalance not attributable to the FSR and FSD accounts must, therefore, be attributable to ATCO Gas.

CAPP considered that the concept of transportation customers gaming the system to be a "red herring" and that ATCO is premature in suggesting that shippers might be gaming the system within an imbalance window and exaggerates the potential for such gaming. CAPP suggested that any such behaviour could only be addressed through proper account balancing procedures. CAPP indicated that it will be participating in negotiations this fall to establish proper account balancing procedures for ATCO Pipelines, but considered that the proposed SCADA would not have any impact at all on the ability of current transportation service shippers to manage their account balances. CAPP suggested that the size of imbalance window on ATCO Pipelines is yet to be decided, but on NGTL the size of window is not large enough for any shipper to bother "gaming the system".

CAPP indicated that it has assumed, based upon comments from ATCO and others, that account balancing issues constitute the largest part of the load balancing issue. CAPP suggested it was not convinced that the load balancing issues, excluding the account balancing component, were of sufficient magnitude to justify the SCADA project. In that regard, CAPP suggested that implementation of appropriate account balancing procedures and collection of hard, historical data using recently approved custody transfer meters between ATCO Gas and ATCO Pipelines would greatly assist in determining whether the SCADA project is justified.

Federation of Alberta Gas Co-ops Ltd. and Gas Alberta Inc. (FGA)

FGA indicated it represents distributing companies that take transportation service from ATCO Pipelines under Rate 5, Rate 7 and the Gas Alberta MOU rate and that these are core customers that are not customers of ATCO Gas.

FGA considered that while ATCO Pipelines has added some anecdotal information concerning the costs of transportation customers packing and drafting and otherwise gaming the system, it was unable to quantify, even on a best-guess basis, the going-forward cost of system gaming. FGA stated that if system gaming is a problem, ATCO Pipelines could solve the problem by enforcing its current transportation regulations by requiring daily balancing of accounts to solve the problem, or by initiating financial penalties for imbalances. FGA submitted that ATCO Pipelines has failed to demonstrate how real-time measuring equipment on ATCO Gas delivery stations will resolve system gaming by transportation customers other than ATCO Gas.

FGA considered that the need for the SCADA project remains unproven based on the evidence provided by ATCO Gas and ATCO Pipelines in these proceedings. Notwithstanding this, FGA considered that there is evidence that ATCO Gas and its customers may benefit from the project. However, FGA suggested that the core customers of Gas Alberta will not benefit since Gas Alberta balances its account separately from ATCO Gas. FGA considered that neither ATCO Pipelines nor ATCO Gas have provided any evidence that Gas Alberta's account has been out of balance to such a degree that it would significantly affect DGA costs.

FGA suggested that there are no current legislative requirements for this project specifically in relation to transmission systems.

4.2 Views of the Board

The Board notes that ATCO has emphasized that amendments to the GUA and the associated new regulations require ATCO Gas to load balance its distribution system.

This requirement is provided in the RRR Regulation, which states:

4(1) A gas distributor must do the following:

...

(i) perform load balancing for the gas distribution system;

...

In the context of this Application, the Board considers that the requirement associated with this clause of the RRR Regulation is for ATCO Gas to make certain that it has processes in place to match the supply of gas into the distribution system with the demand, thereby continuing to

ensure the safe and reliable operation of the distribution pipeline system. Although the RRR Regulation does not specifically mention load balancing on the transmission system, the Board notes one effect of implementing the SCADA project will be to facilitate adequate load balancing on the transmission system, as well as the distribution system.

The Board notes that the historic process with respect to load balancing on the ATCO system has been for the DGA to provide load balancing for the entire distribution and transmission system.

Since load balancing is required for both the transmission and distribution systems, the Board considers that it is important to address issues of accountability respecting load balancing for the transmission system in this Application. ATCO has indicated that historically the sales gas customers have provided the quantities of gas required to load balance both the transmission and distribution systems. This has been achieved by maintaining distribution and transmission operating pressures within an appropriate band through purchasing, or at times selling, gas quantities through the DGA process.

In the past, the Board has accepted this administrative procedure with a general philosophy that there was insufficient evidence to establish that any parties were materially disadvantaged as a result. For example, in Decision 2000-16 the Board indicated:⁴

The Board has, in the absence of evidence to indicate that costs resulting from these imbalances are significant, continued to accept the existing imbalance provisions. The Board notes that no evidence has been presented in this proceeding to provide further clarification in this regard. In fact, the Board notes that some parties believe that any costs to sales customers that may be occurring would be minimal, due, in part to the offsetting effect of situations where transportation customers' gas is being used to meet sales customers' imbalances.

In an environment of price stability where the gas price today is the same as the gas price tomorrow or next week, this administration would be practical and effective. However, ATCO's evidence in relation to this Application indicates that ATCO considers that price volatility, especially in the current environment of higher gas prices, is potentially providing a financial disadvantage to sales customers.

ATCO submitted that the opportunity for cross-subsidization could arise in circumstances where industrial/producer transportation customers might pursue an opportunity to either pack or draft the ATCO Pipelines transmission system during periods of fluctuating gas market prices. The resultant outcome could be that DGA customers would either be unable to purchase lower cost gas (during a pack situation) or would need to purchase higher cost gas than their demand requirement (during a draft situation) on any given day. ATCO indicated that the potential for this cross-subsidization occurrence is frequent and could exceed \$100,000 per day and up to \$7 million per year.

The Board concurs with ATCO that the potential for cross-subsidization between industrial/producer transportation customers and sales customers may well exist in an environment where industrial/producer transportation customers are not required to balance their accounts in a fashion where they load balance the transmission system at all times.

⁴ Decision 2000-16, page 85

The Board considers that this ability to potentially game the system arises to a significant extent from the industrial/producer transportation contract account balancing provisions. The Board considers that these provisions essentially provide for monthly balancing, with notional provision for the customers to trend to zero or to balance in extreme circumstances where safety or security of supply may be jeopardized. While the Board notes Calgary's recommendation that more strict enforcement of industrial/producer balancing administration by ATCO Pipelines would assist in controlling daily account balancing, the Board is of the view that, from a practical perspective, ATCO Pipelines has been administering the account balancing provisions in the most practical manner.

The Board concurs with AUMA/EDM/PICA that if the Application is approved, the ability and incentive for any transportation customers to "game" the ATCO Pipelines transmission system would be significantly reduced.

ATCO Gas indicated in its Retailer Service Application that if the Board does not approve the SCADA project, ATCO Gas would need to consider another approach to load balancing, might not be able to offer Retailer Service and might not be able to fully comply with the provisions of the GUA. However, the Board notes that the implementation of the SCADA project will increase the throughput measured on the South from 88% to 90%, and that the throughput measured on the North system will increase to 87%. The Board is therefore not persuaded that ATCO might not be able to offer Retailer Service or that it might not be able to fully comply with the provisions of the GUA in the absence of the SCADA project. The Board will put little weight on this aspect of ATCO's evidence.

After considering the factors discussed previously, the Board believes that there is a potential for negative financial cross-subsidization from sales customers to industrial/producer transportation customers that could effectively be mitigated through information obtained using the proposed SCADA facilities. While it is difficult to quantify the magnitude of the actual extent of cross-subsidization between sales and transportation customers, the Board considers that the availability of SCADA would assist in providing a tracking mechanism as well as a deterrent to parties who might otherwise attempt to game the system. The Board is of the view that there is a need to either implement the SCADA project as proposed by ATCO, or some form of alternative that will deliver similar provisions.

Alternatives to the SCADA project are discussed in the following section.

5 ALTERNATIVES

5.1 Views of the Parties

ATCO

ATCO suggested that the only alternative to match the functionality of the SCADA equipment would be to have meter readings obtained manually on a daily basis. Attempting to accomplish load balancing through other than SCADA is more costly and inefficient since obtaining daily meter readings through manual means would increase annual O&M costs by \$3.3 million, while providing fewer daily readings than possible through the use of SCADA equipment. This cost is based on needing measurement readings at 5:30 a.m. and 8:00 a.m. each day at the 188 sites for 365 days a year. ATCO Pipelines would contract with 90 contractors at \$100 a day to carry out

this activity. ATCO Pipelines currently utilizes SCADA equipment in other areas of its system operations and possesses in depth knowledge about the capabilities and maintenance requirements of this equipment.

ATCO stated that without the information provided by the SCADA system, the separation of system-wide load balancing into its respective transmission and distribution components is not possible. However, system-wide load balancing could still be undertaken in a manner similar to the function carried out by ATCO Gas' DGA today. A system-wide load balancing deferral account could be established, wherein the costs and benefits of load balancing purchases and sales would be recorded.

However, ATCO indicated that absent SCADA it is clear that ATCO Gas' distribution business cannot be administered under the same account balance tolerances as other ATCO Pipelines transmission transportation customers. In addition, ATCO Gas' transmission account on ATCO Pipelines system would necessarily be based on estimates of daily delivery to ATCO Gas' distribution system. The combination of wider account balance tolerance and delivery estimates applicable to all of ATCO Gas' distribution business has the potential to increase the daily magnitude of transmission load balancing quantities.

ATCO indicated that while system-wide load balancing is possible, this solution does not establish a cost causation relationship between transmission and distribution customers account balancing practices and the load balancing costs/benefits that result. Further, it does nothing to resolve the on-going contention surrounding load balancing or the potential for cross-subsidization between transmission and distribution customers. This would necessarily be administered as a formula-based cost/benefit recovery applied to all customers irrespective of their actions and would remain highly contentious.

Additionally, in response to an information request from the Board, ATCO addressed the alternative of utilizing automatic meter reading (AMR) devices to acquire flow data as an alternative to SCADA. ATCO indicated that the AMR option would have a capital cost of approximately \$17,000 per site but has limitations and disadvantages. AMR data would only be transmitted once each day and would not provide the required instantaneous data that SCADA provides. SCADA installations allow for updating of any calculation factors to occur remotely, AMR sites require a site visit for any calculation update. Operating costs for each AMR site are higher as they require more frequent site visits and have a monthly charge associated with the phone service.

AUMA/EDM/PICA

AUMA/EDM/PICA considered that ATCO had presented a business case that was less than complete. While AUMA/EDM/PICA agreed that there was more information contained in this Application and the corresponding information responses than was provided in the original business case presented in the 2003 – 2004 ATCO Pipelines GRA, they considered there were additional alternatives that ought to have been more fully explored by ATCO.

In addition, AUMA/EDM/PICA stated that it was not clear whether there would be any additional incremental capital or O&M costs beyond 2005 that have not been identified by ATCO. AUMA/EDM/PICA considered that a properly prepared business case, filed with the Application, would have addressed all of these issues.

With respect to the flow rate threshold for the installation of SCADA equipment, AUMA/EDM/PICA accepted the ATCO Pipelines engineering recommendation of 35,000 scf/hr. The flow rate threshold decision is based on ATCO Gas and Pipelines viewpoint of the required measurement. In this case, AUMA/EDM/PICA accept ATCO Pipelines engineering recommendation. A higher threshold level will simply mean more unknowns and estimates that are required for the balancing.

However, as a final check on the appropriate flow rate threshold, AUMA/EDM/PICA recommended that the Board direct ATCO Gas and Pipelines to continue to keep records on the percentage of gas flows that are estimated versus measured and in future rate applications be prepared to address whether the threshold level that they have chosen is appropriate or needs to be adjusted, upwards or downwards.

Calgary

Calgary suggested that a further weakness in ATCO's business case is that it fails to adequately assess the alternatives. Calgary considered that ATCO already has the equipment and systems necessary to allocate its load balancing costs among its customers. ATCO has not articulated the benefits in terms of cost saving to customers that would be realized by allocating load balancing costs between ATCO Pipelines and ATCO Gas in real time using the proposed SCADA facilities compared to reducing load balancing costs using existing SCADA equipment and regulatory authority.

Calgary elaborated that it understands that the currently installed UFG meters can provide ATCO Pipelines South and ATCO Gas South with the information to determine who is responsible for load balancing costs on a monthly basis. Furthermore, Calgary considered that ATCO Pipelines has the information necessary for virtually all customers of ATCO Pipelines South other than ATCO Gas South to enable ATCO Pipelines South and ATCO Gas South to determine the responsibility for load balancing costs on a monthly basis between the two entities. Calgary therefore suggested that before further expenditures are made, the existing equipment should be used to determine the imbalance and related cost responsibility.

Given the existence of the information provided in the response to BR-ATCO-7, Calgary does not understand why ATCO Pipelines claims that it cannot separate those costs between ATCO Pipelines South and ATCO Pipelines North and why cost determination of the load balancing costs between ATCO Gas and other ATCO Pipelines customers cannot be made currently. The difference between the volume bought or received (to the extent volumes from storage or company owned production are used) and sold or delivered for load balancing and the amounts shown as the daily imbalance would be the AG portion of the volume and the associated cost could then be determined either daily or monthly.

Calgary stated there would appear to be no reason why the amounts need to be dealt with through the DGA. Separate deferral accounts for either each of ATCO Gas South, ATCO Gas North, ATCO Pipelines South and ATCO Pipelines North or each of ATCO Gas and ATCO Pipelines could be established which could then be further broken down between ATCO Pipelines South and ATCO Pipelines North and ATCO Gas South and ATCO Gas North. ATCO should be able to determine who has cross-subsidized whom, Industrial/Producers in aggregate or ATCO Gas, as well as determine the amount of such subsidy.

Additionally, Calgary questioned if ATCO had overstated the number of SCADA sites that warranted installations. Calgary stated that ATCO has failed to demonstrate that it has done adequate sensitivity analysis around key assumptions and parameters. For example, in its Application ATCO has proposed to add SCADA facilities to meters that have gas flows of 35,000 scf/hr. This would involve 188 sites, and would mean that 87% of the throughput on the ATCO Pipelines North system and 90% of the throughput on the ATCO Pipelines South system would be monitored by SCADA facilities. However, by raising the criteria to 60,000 scf/hr, SCADA facilities would only be required at 104 sites. For ATCO Pipelines South, SCADA coverage would only drop from 90% to 88% of throughput and for ATCO Pipelines North the coverage would drop from 87% to 82%, but the cost savings would be \$2.3 million, almost a 50% reduction from the proposed cost. Similarly, other types of equipment have not been adequately assessed. For instance, AMR facilities would give ATCO daily as opposed to real time access to information, but it could save \$1.9 million. No justification was provided by ATCO for the need for real time vs. daily information. Calgary noted that ATCO proposes to balance on a daily basis, not hourly or in real time.

Calgary stated that the fact that ATCO has not provided any sensitivity analysis around any of the parameters or assumptions, upon which its Application is based, draws into serious question the quality of analysis behind its business case for the new facilities.

CAPP

In CAPP's view, what is currently lacking is any mechanism or process within ATCO Pipelines that uses the existing data to apportion load balancing responsibility to the respective shipper groups, which would then allow collection of any imbalances from those groups.

CAPP recommended that the load imbalance of the sales customers group could, by deduction, be determined just as the producer and industrial customer groups' imbalance can be determined by measurement.

CAPP proposed in its evidence that ATCO should collect historical daily flow information from the existing and future custody transfer meters between ATCO Pipelines and ATCO Gas to determine if ATCO Pipelines can supply ATCO Gas with a daily flow estimate, calculated by deduction, which is sufficiently accurate that ATCO Gas can manage its load imbalance on ATCO Pipelines.

CAPP recommended that ATCO Pipelines be instructed to begin immediately to collect the historical daily flow data from the UFG Custody Transfer meters and to track the load imbalances on its system, using the data collected to analyze alternatives to SCADA installation, before it gets approval to recover approximately \$1.7 million of incremental annual revenue requirement.

5.2 Views of the Board

The Board considers that options to the SCADA project included:

- Using manual meter reads as a substitute for SCADA
- Using AMR as a substitute for SCADA
- Using existing SCADA and UFG meter data to impute a load balancing amount for ATCO Gas

- Implementing the SCADA project on a reduced scale using a modified threshold for installation site selection

The Board agrees with ATCO that the option of manual twice-daily reads would not be cost effective.

The Board notes ATCO's evidence that while that the AMR option would have lower capital costs than the SCADA option, the AMR option has limitations and disadvantages. ATCO indicated that AMR data would only be transmitted once each day and would not provide the required instantaneous data that SCADA provides; that AMR sites require a site visit for any calculation update; and that operating costs for each AMR site are higher as they require more frequent site visits and have a monthly charge associated with the phone service.

The Board does not consider that ATCO examined the AMR option in sufficient detail. The Board does not understand why ATCO would only transmit AMR data once each day. The Board notes that ATCO's manual meter read alternative required two reads per day. ATCO did not provide any evidence as to why AMR data could not be transmitted twice per day. Furthermore, ATCO describes the instantaneous data provided by SCADA as "required", but provides no evidence as to why instantaneous SCADA data is "required" when twice-daily manual meter reads would suffice. Similarly, the Board finds it difficult to accept that AMR sites require a site visit for any calculation update. Finally, the Board does not consider that ATCO completed a fair and complete assessment of the relative capital and operating costs of the SCADA and AMR options, including for example the costs associated with ATCO's microwave network.

However, while the Board considers that ATCO's analysis differentiating the merits of SCADA versus AMR should have been more complete, the Board is prepared to accept that the increased flexibility associated with SCADA would warrant its selection over AMR.

The Board considers that the use of existing SCADA and UFG meter data to "back into" the load balancing amount on ATCO Pipelines associated with ATCO Gas would, by default, allocate all system related costs such as measurement inaccuracies or line pack variations to ATCO Gas. The Board considers that this alternative could create inequities and could result in subsequent disagreements and complaints that would require further adjudication.

The Board notes that Calgary identified that by raising the criteria to 60,000 scf/hour, in ATCO Pipelines South SCADA coverage would only drop from 90% to 88% of throughput and in ATCO Pipelines North the coverage would drop from 87% to 82%, but the cost savings would be \$2.3 million, almost a 50% reduction from the proposed cost. However, the Board notes that AUMA/EDM/PICA accepted ATCO's recommendation of a threshold of 35,000 scf/hour. After assessing these submissions, the Board considers the value of 35,000 scf/hour to be a reasonable threshold for the installation of SCADA equipment.

After assessing the alternatives, the Board considers that the SCADA proposal is appropriate for fair and effective load balancing of the ATCO distribution and transmission systems.

Accordingly the Board approves the SCADA project and directs ATCO Pipelines to proceed with the project as soon as practical in 2004, for completion in 2005.

6 PROJECT COSTS

6.1 Views of the Parties

ATCO

The original capital and operating cost proposals for the SCADA project are shown in Table 1. For reference, these costs were disallowed in Decision 2003-100, as the Board was not satisfied that a proper business case analysis had been presented to justify the forecast costs. ATCO subsequently suspended the SCADA installations.

Table 1. Original SCADA Project Cost Estimates

SCADA Project	2003 CAPP-AP-25	2004 CAPP-AP-25
Capital Expenditures		
North – SCADA	\$ 2,200,000	\$ 2,200,000
North - Process Control	\$ 58,000	\$
South – SCADA	\$ 500,000	\$
South - Process Control	\$ 58,000	\$
	\$ 2,816,000	\$ 2,200,000
Operating Expenses		
North -	\$ 338,300	\$ 412,000
South -	\$ 205,700	\$ 242,000
	\$ 544,000	\$ 654,000

ATCO indicated that delays in the project commencement date, as well as updates to the scope of the project, resulted in revised SCADA project costs carrying into 2005, as shown in Table 2. In the Application, the installation of the SCADA equipment at all the proposed sites was forecast to commence September 1, 2004 and be completed by October 1, 2005, if the project were to be approved by the Board.

With respect to operating costs, ATCO indicated that even though the costs were not approved, ATCO Pipelines had already hired some of the additional resources required to improve load balancing practices. The costs incurred in 2003 for these positions were \$106,000. The full year costs in 2004 for these positions are \$229,000. ATCO Pipelines has developed a revised forecast for the project based on a start date of September 2004. These revised costs are based on two more positions being required in 2004 to set up and administer daily load balancing gas purchase, sale and settlement transactions. ATCO assumed that these positions would be hired commencing October 1, assuming Board approval of the Application by September 1, 2004. Also, ATCO stated that two positions would need to be hired to maintain the SCADA equipment in January 2005 in order to train and commence with the maintenance program development and delivery thereafter. The 2004 costs associated with these four positions are \$38,000 and the 2005 costs are \$338,000.

ATCO stated that the capital costs have been revised using updated information. For locations with peak flows in excess of 35,000 scf/hr; the North has changed from 160 sites to 158 and the South has changed from 21 sites to 30 sites. The costs per site have been updated and also include a 3% inflation factor based on the projected timing of costs assuming Board approval to proceed by September 1, 2004, resulting in an updated cost of \$28,325 per site.

Table 2. Revised SCADA Project Cost Estimates

SCADA Project	2003 Revised	2004 Revised	2005 Revised
Capital Expenditures			
North – SCADA	\$	\$ 2,238,000	\$ 2,238,000
North - Process Control	\$	\$ 58,000	\$
South – SCADA	\$	\$ 425,000	\$ 425,000
South - Process Control	\$	\$ 58,000	\$
	\$	\$ 2,779,000	\$ 2,663,000
Operating Expenses			
North -	\$ 71,000	\$ 179,000	\$ 353,000
South -	\$ 35,000	\$ 88,000	\$ 214,000
	\$ 106,000	\$ 267,000	\$ 567,000

ATCO considered that another approach to incorporation of the original costs as per Table 1, would be to adjust the 2003 and 2004 revenue requirements, including consideration of the 2005 costs. ATCO proposed that this approach would result in net revenue requirement adjustments as shown in Table 3. ATCO considered that these revenue requirement adjustments would not be greatly different from when the costs would be incurred by ATCO, and that they could be incorporated into the GRA Phase II process.

Table 3. Alternative Revenue Requirement Adjustments ATCO Proposal

	2003	2004
Operating costs	\$106,000	\$567,000
Capital Expenditures \$5,442,000		
Return @ 8.25%		\$449,000
Income tax @ 32.5%		\$108,000
Depreciation @ 9.83%		\$553,000
Revenue requirement adjustment	\$106,000	\$1,677,000

ATCO stated that while the AUMA/EDM/PICA recognized the need for and benefit of the SCADA equipment, it did not agree with ATCO's recommendation as to when the costs should be collected. ATCO indicated that no Allowance for Funds Used During Construction (AFUDC) has been included in the project costs and therefore there is no compensation for delaying the required revenue requirement to a future period. ATCO stated that consistent with prospective ratemaking, ATCO is prepared to live with the forecast costs from the 2003/2004 GRA application. This results in an annual revenue requirement of \$1,647,000, which is lower than the \$1,677,000 annual revenue requirement based on the revised project costs. ATCO submitted that this Application provides the basis for approval of revenue requirement and that no further review of proposed costs can appropriately be deferred to a subsequent proceeding. ATCO stated that it should not have to apply for the same project twice. ATCO stated that the incremental revenue requirement can be included in a final true up and be incorporated into rates on a go forward basis.

AUMA/EDM/PICA

AUMA/EDM/PICA stated they did not have any objection to the amount of revised O&M and Capital Costs as submitted in the Application. However, AUMA/EDM/PICA did not consider

that the operating and capital costs should be “retroactively” included in revenue requirement. AUMA/EDM/PICA stated that this Application is a new application, not a review and variance application, and that the Board rejected ATCO Pipelines’ proposal to include this project in the 2003/2004 GRA.

AUMA/EDM/PICA considered that approval to include costs in rate base should only be based on a “going forward” basis. AUMA/EDM/PICA recommended that the revised capital and operating costs be included only to the extent that they are forecast to be incurred in 2004. Any costs beyond the 2004 test period will be examined as part of future Phase I GRA filings of ATCO Pipelines. AUMA/EDM/PICA stated that the Board should not grant approval to incur expenditures beyond the test period of the current GRA application as this could fetter the ability of a subsequent Board panel to determine appropriate costs for future test periods such as 2005 or 2006.

AUMA/EDM/PICA considered that approval of costs for a test period that has “expired” (i.e. 2003) is not the normal procedure of the Board, and therefore concluded that only the revised costs for 2004 should be used.

6.2 Views of the Board

The Board notes that no party took exception to the revised capital and operating cost estimates provided by ATCO Pipelines, as shown in Table 2 above.

With regard to the SCADA capital costs, the Board understands that ATCO intends to recommence the SCADA project installations in late 2004 and complete them in 2005. Hence, the Board anticipates that there will be no used and useful facilities for the SCADA project as of the end of 2004. Therefore, the Board considers that there should be no addition to rate base in respect of the SCADA project until 2005. Capital related costs incurred in 2004 or 2005 in respect of the SCADA project prior to the facilities going into service will be subject to the usual regulatory treatment accorded work in progress.

The Board approves a forecast capital cost for the SCADA project of \$5,442,000.

With regard to the SCADA O&M costs, the Board considers that the 2003 expenditure of \$106,000 for O&M associated with additional resources utilized to improve load balancing practices relates to prior period disallowed costs and will not be approved by the Board in this Decision. Similarly, the Board will not approve any 2004 O&M costs incurred prior to the issuance of this Decision. However, the Board considers that it is reasonable to approve the 2004 SCADA O&M costs forecast to be incurred from October through December 2004. In this respect, the Board calculates that applicable 2004 O&M costs would be 3/12 of \$229,000 for the two personnel ATCO indicated it hired in 2003, plus \$38,000 associated with the two additional forecast personnel commencing October 2004, for a total 2004 amount of \$95,000.

Accordingly, the Board approves 2004 SCADA O&M costs of \$95,000 to be added to the 2004 revenue requirement via the refiling anticipated for the ATCO Pipelines 2003/2004 GRA Phase II process.

7 COST ALLOCATION

7.1 Views of the Parties

ATCO

ATCO proposed to allocate load balancing O&M and capital costs to ATCO Pipelines customers on the same basis as the ATCO Pipelines 2003/2004 Phase II proposal for allocation of UFG custody transfer meters. The first 50% of load balancing costs would be allocated to all of ATCO Pipelines' customers based on throughput. The remaining 50% of load balancing costs would be allocated to the distributing companies to recognize that the distributing companies require real time measurement information to meet their obligation to load balance their systems. ATCO also proposed to collect the additional revenue requirement through an adjustment to the approved rates resulting from ATCO Pipelines' Phase II hearing.

ATCO submitted that the SCADA equipment is directly connected to, and captures measurement information collected from, the UFG custody transfer meters and transmits this information on a real-time basis to ATCO Pipelines. Due to this connection, they submitted, the cost should be allocated to ATCO Pipelines' five customer groups in the same manner as the UFG Custody Transfer Meters. ATCO considered that the 50% allocation to all customer groups based on throughput reflects the Board's ruling on UFG custody transfer meters⁵, that all customers benefit from the installation of these meters and that this cost should therefore be allocated to all customers.

ATCO also submitted that ATCO Pipelines' 50% direct allocation to Distributing Companies recognizes that Distributing Companies require real time measurement information to meet their obligation to load balance their systems and the fact that this SCADA equipment provides the same physical function and serves the same purpose as dedicated SCADA equipment that is directly assigned to Industrials and Producers.

ATCO further claimed that it would have been unfair to allocate these costs using the 2001/2002 GRA Board approved method of allocating 100% of UFG Custody Transfer Meter costs on a throughput basis given that the SCADA equipment provided the same physical function as dedicated SCADA equipment which was directly assigned to Producer and Industrial customers. In response to the conflict between the CAPP proposal that that SCADA equipment should be allocated 100% to Distributing Companies and the AUMA/EDM/PICA example of how the installation of SCADA Equipment benefits all customers on ATCO Pipelines, ATCO submitted that allocating SCADA equipment in a manner consistent with the allocation of UFG Custody Transfer Meters (50% directly to Distributing Companies and 50% to all customer groups based on throughput) provided a balance of interests on this issue.

ATCO further argued that Calgary and CAPP had provided no evidence on mechanisms for allocation of balancing costs but merely assumed that these issues could have been resolved in the absence of hard data on cost causation. They assumed that line pack and system operation imbalances did not need to be considered and that customers would have accepted a general allocation of these costs. Further, ATCO submitted that Calgary and CAPP appeared to have relied on not yet negotiated, or litigated, account balancing rules to ensure there is fairness,

⁵ Decision 2001-097, pages 25 and 130; Decision 2003-100, page 23.

without appropriate consideration of how fairness would be tested or cross-subsidization disputes resolved, absent the SCADA data.

In response to FGA's concerns that Gas Alberta and Rate 5:

1. should not be allocated both a share of the 50% of costs that are allocated to all customer groups and also a share of the 50% of the costs that are directly allocated to the Distributing Companies customer group,
2. are not served by the SCADA project and that ATCO Gas should not be asking other customers on the ATCO Pipelines system to bear the cost of ATCO Gas' internal decisions, and
3. will not benefit from the improvements in load balancing as a result of installing the SCADA system,

ATCO agreed with FGA that evidence in ATCO Pipelines 2004 GRA Phase II with respect to UFG Custody Transfer Meters is relevant in these proceedings. However, ATCO argued that if the Board were to decide that there should be separate rates for Gas Alberta and Rate 5, it would have to consider not only the allocation of UFG Custody Transfer Meters and SCADA Equipment within the Distributing Companies customer group, but also the two other specific examples ATCO provided in its Phase II GRA argument,⁶ which are based on ATCO Pipelines' net capital costs. ATCO suggested that together these adjustments would result in a substantial surcharge for Gas Alberta and Rate 5 customers. ATCO Pipelines submitted that one common rate for all Distributing Companies protects smaller Distributing Companies from unwarranted and unjustifiable variation in rates.⁷

ATCO further argued that Calgary's proposal that 100% of the costs of the SCADA equipment should be allocated to transportation customers was ill defined and should have been provided in Written Evidence so it could have been properly tested. They further argued that Calgary's proposal does not consider that Distributing Companies require real time measurement information to meet their obligation to load balance their systems and the fact that this SCADA equipment provides the same physical function and serves the same purpose as dedicated SCADA equipment that is directly assigned to Industrials and Producers.

AUMA/EDM/PICA

AUMA/EDM/PICA argued that they did not support ATCO Pipelines' proposal, but supported the concept that each customer class should "pay its way" and believed that this concept was even more applicable for the SCADA equipment. They further proposed that the incremental capital and operating costs for the SCADA project should be allocated to all customers on a peak demand basis, rather than the 50/50 split suggested by ATCO Gas and Pipelines Ltd.

AUMA/EDM/PICA submitted that the costs associated with each piece of SCADA equipment is not, nor, likely, cannot be, directly assigned to the specific customer or customer class that it serves. SCADA equipment measures flow at specific points on the ATCO Pipelines system. The flow can include gas that is owned by one or more than one of the customers of ATCO Pipelines. They further submitted that, only in the specific case where the flow at a SCADA measuring

⁶ ATCO Pipelines Phase II Application, Argument, page 58, line 6 to page 59, line 5.

⁷ ATCO Pipelines Phase II Application, Argument, page 57, lines 12-13.

point is specifically associated with one customer or customer class, could costs be directly assigned. Otherwise, costs must be allocated. ATCO Pipelines had allocated the SCADA costs to all customers. All customer classes have or require SCADA to allow real time measurement and balancing.

Finally, AUMA/EDM/PICA further argued that from a qualitative standpoint, the installation of SCADA equipment would take another unknown out of the potential areas of dispute between shippers. This will allow all shippers to focus on their business. This benefits all shippers and thus they should share the costs for this benefit.

While ATCO had suggested that there are similarities between the UFG Meters and SCADA equipment which would justify the allocations, AUMA/EDM/PICA stated that it has made a distinction between UFG Meters and SCADA equipment in its Argument and recommended an allocation based on demand. As noted by ATCO, the response to CAPP-AUMA/EDM/PICA-5 provided an example of the benefits provided to all customers from the installation of SCADA equipment.

AUMA/EDM/PICA noted that FGA's primary position is that it should not bear any of the SCADA costs. However, AUMA/EDM/PICA considered that the FGA's discussion as to the unfairness of the ATCO Pipelines proposed cost sharing (i.e., 50% allocation to all classes and again through the 50% allocation to the distribution class) appears to contradict this position and results in an implicit acknowledgement that the FGA may be required to bear some costs, but that they should not bear an unfair share. However, AUMA/EDM/PICA saw merit in the FGA Argument that they should not be allocated costs through both categories, but should be responsible for some share of the SCADA costs. AUMA/EDM/PICA claimed that its proposal for allocation of costs on a peak demand basis would accomplish this result fairly and reasonably for all customers.

Calgary

Calgary submitted that the SCADA equipment proposed by ATCO should be considered a "nice to have" and that ATCO had not demonstrated that the equipment would have provided any value in terms of reduced costs to ratepayers. Because of this, Calgary further submitted that the cost of the facilities should be a shareholder cost and ATCO should not be allowed to recover the capital and operating costs from ratepayers.

Calgary disagreed with CAPP's position that if the Board allowed ATCO to install the proposed SCADA facilities, 100% of the cost should be allocated to ATCO Gas and its sales customers.

Calgary further submitted that ATCO Gas had never taken any action to reduce the cost of sales gas to consumers, such as deliberately packing or drafting for economic gain and Direct Energy Regulated Service has indicated that it will manage gas supplies for sales customers on the same passive basis as ATCO Gas has in the past. They argued that this contradicted ATCO's argument that the SCADA facilities would have enabled ATCO to identify and allocate any negative or positive impact to sales customers, of packing or drafting by transportation customers. Calgary stated that if the Board finds that packing and drafting by transportation customers, other than AG, negatively impacts sales customers, as suggested by ATCO, and that SCADA facilities are the most appropriate means of ensuring that the impacts of packing and drafting are allocated to

those that cause them, (i.e., transportation customers), then Calgary submitted that 100% of the cost of the SCADA facilities should be allocated to transportation customers, not to ATCO Gas.

CAPP

CAPP submitted that should the Board approve the SCADA project on the UFG Custody Transfer meters, the costs of the SCADA should be allocated solely to ATCO Gas. CAPP stated that ATCO had asserted that load balancing and hence SCADA are necessary for ATCO Gas to implement its proposed Retailer Service and for ATCO Gas to be in compliance with certain regulations under the Gas Utilities Act. CAPP considered that the SCADA project is being driven by the needs of a single and unique customer of ATCO Pipelines and not by the needs of all customers on ATCO Pipelines.

CAPP referenced ATCO's proposal that 50% of the costs of the SCADA project be allocated to distributing companies on the basis that distributing companies require real time measurement information to meet their obligation to load balance their systems. CAPP considered that this requirement was unique to ATCO Gas, and that 100% of the costs should be allocated to the distribution companies.

CAPP stated that under ATCO Pipelines' proposed Cost of Service Study in its current GRA application, the costs of producer and industrial custody transfer meter costs, including SCADA/AMR costs, are directly and fully allocated to only those customer groups. Therefore, CAPP considered that an allocation of costs from the SCADA project would unfairly impose extra costs on producer and industrial customer groups.

CAPP recommended that the Board treat any approved SCADA costs the same as Industrial and Producer SCADA costs are proposed to be treated in ATCO Pipelines 2004 GRA Phase II. That is, SCADA costs should be directly allocated to the customer group using the assets and specifically, in this case, ATCO Gas. In addition, CAPP asked the Board to explicitly recognize that reliable load balancing depends as much on Producer and Industrial custody transfer meter data as on "UFG Custody Transfer meter" data.

FGA

FGA opposed any costs of the project being placed on customers of ATCO Pipelines other than ATCO Gas. FGA disagreed that the SCADA project, as justified by ATCO Pipelines, "will add value to the ATCO Pipelines system" in the sense that ATCO Pipelines customers will benefit from the project expenditure.

FGA noted that, as with the UFG Custody Transfer Meters, the SCADA project solves a problem between ATCO Gas and ATCO Pipelines. No SCADA equipment will be installed at the delivery stations of Gas Alberta or Rate 5 customers. Similarly, no UFG meters were installed for Gas Alberta or for Rate 5. FGA stated that the SCADA project is of exactly the same ilk as the UFG Custody Transfer Meter project. FGA claimed that the evidence clearly demonstrated that ATCO Gas requires the SCADA equipment to balance its own system, not its ATCO Pipelines account.

FGA stated until the sale to Direct Energy, ATCO Gas successfully balanced its transportation account daily without the benefit of the SCADA project. The only thing that has now changed is the choice that ATCO Gas has made with respect to default gas supply. Having made its own

decisions without consultation, ATCO Gas should not be asking the other transportation customers on the ATCO Pipelines system to bear the cost of ATCO Gas' internal decisions. It is especially onerous to require the Other Distributing Companies to carry twice the burden of this project relative to the Industrial and Producer Customers, especially when the Other Distributing Companies have made their own decisions as to how best to operate in the deregulated world.

FGA noted that it appeared to them that ATCO Gas is building what Gas Alberta already has in place, a data acquisition system at its ATCO Pipeline delivery points. Gas Alberta has built this system for its own use and has not asked ATCO Pipelines or other users of the ATCO Pipelines system to fund this data acquisition system.

FGA submitted that Gas Alberta's account on ATCO Pipelines is balanced separately from ATCO Gas. There is no evidence that Gas Alberta's account has been out of balance or has contributed to transportation imbalances in the DGA. Therefore, Gas Alberta will not benefit from any improvements in load balancing as a result of installing the SCADA system. Yet ATCO Pipelines proposes that Gas Alberta and Rate 5 customers bear a disproportionate cost of a system that provides no benefit to these customers.

FGA agreed with CAPP that the cost of the project, if approved, should be borne by ATCO Gas.

7.2 Views of the Board

As noted in Section 6.2, the Board approved 2004 SCADA O&M costs that will increase the 2004 revenue requirements by \$95,000.

For 2004 only, and without prejudice to how SCADA costs may be allocated in future years, the Board considers that the increase of \$95,000 should be allocated among customers in the same manner as the allocation of the costs associated with the UFG meters, to be determined by the Board in the 2004 ATCO Pipelines Phase II decision.

The Board directs ATCO Pipelines to review the merits of alternative allocations of SCADA costs in its next GRA.

8 ORDER

IT IS HEREBY ORDERED THAT:

- (1) ATCO Pipelines proceed with the installation of the SCADA projects as proposed in this Application as soon as practical, commencing in 2004 with completion in 2005.
- (2) ATCO Pipelines include 2004 SCADA related O&M costs of \$95,000 in its 2004 revenue requirement, to be incorporated into the ATCO Pipelines GRA Phase II refiling process. The allocation of these costs in 2004 is to be the same as the allocation of costs associated with the UFG meters, to be determined by the Board in the 2004 ATCO Pipelines Phase II decision.

Dated in Calgary, Alberta on September 17, 2004.

ALBERTA ENERGY AND UTILITIES BOARD

(original signed by)

B. T. McManus, Q.C.
Presiding Member

(original signed by)

J. I. Douglas, FCA
Member

(original signed by)

W. K. Taylor
Acting Member

APPENDIX 1 – SUMMARY OF APPROVALS AND DIRECTIONS

1. Accordingly the Board approves the SCADA project and directs ATCO Pipelines to proceed with the project as soon as practical in 2004, for completion in 2005..... 18
2. The Board approves a forecast capital cost for the SCADA project of \$5,442,000. 21
3. Accordingly, the Board approves 2004 SCADA O&M costs of \$95,000 to be added to the 2004 revenue requirement via the refiling anticipated for the ATCO Pipelines 2003/2004 GRA Phase II process. 21
4. For 2004 only, and without prejudice to how SCADA costs may be allocated in future years, the Board considers that the increase of \$95,000 should be allocated among customers in the same manner as the allocation of the costs associated with the UFG meters, to be determined by the Board in the 2004 ATCO Pipelines Phase II decision. 26
5. The Board directs ATCO Pipelines to review the merits of alternative allocations of SCADA costs in its next GRA. 26