

2.0/ HISTORY OF CIS

Union and Centra have, in the past, separately evaluated and initiated steps to replace their existing CIS prior to the integration of Union and Centra through shared services. The following is a brief overview of the chronology that preceded the current plans to develop and implement a new CIS.

In E.B.R.O. 476, Union filed evidence respecting a decision to enter into a joint venture with Canadian Utilities and B.C. Gas to develop the basic elements of a new customer information system. This joint venture was commonly referred to as "Theseus". At that time, Union stated that the existing CIS was "effective, but had limited flexibility and was expensive to maintain". (E.B.R.O. 476, Exhibit B1, Tab 3, Pages 4-6) This evidence also stated that the existing CIS could not be modified in a cost effective manner in order to meet changing business and market requirements.

At this time, Centra was also pursuing plans to develop a new CIS. Centra filed evidence on these plans in the E.B.R.O. 467 and E.B.R.O. 483/484 rates cases which called for implementation of a new CIS in four phases. In E.B.R.O. 489, Centra received Board approval to include the costs associated with the first phase of their CIS (ie. CIS-1) in rate base.

In 1994, Union and Centra submitted separate rate applications under docket numbers E.B.R.O. 486 and E.B.R.O. 489 respectively. Since both companies were now owned by, Westcoast Energy Inc., Union and Centra filed a joint application requesting approval of affiliate transactions relating to combining functions and sharing certain administrative services. This application was assigned docket number E.B.O. 177-07. Union's evidence in E.B.R.O. 486 addressed a decision to dissolve the Theseus partnership because the project was projected to be delayed at least 12 months and to cost an additional \$30 million beyond the original cost estimate. Centra's evidence in E.B.R.O. 489 indicated that, while having already implemented Phase I (ie. CIS-1) of their CIS system, they would postpone (and eventually cancel) any further implementation of the remaining phases of their CIS until a more detailed review of the benefits of developing an integrated CIS between Union and Centra was conducted. The CIS strategy described in the E.B.O. 177-07 shared services proceeding involved "cloning" Union's CICS and combining this with Centra's existing CIS-1 system. The objective of this option was to transfer Union's CICS functionality to Centra as quickly as possible to provide Centra with the ability to drive out additional productivity resulting from this functionality. The "cloning" option was recognized to be a short term solution because in the longer term, a new modular CIS would be required for both Union and Centra in order to meet their business needs and ensure sufficient flexibility to meet future business and market changes. Subsequent to the shared services proceeding, a detailed review and analysis demonstrated that the "cloning" option was not viable because it required substantial development costs, resulted in unacceptable high risks associated with multiple conversions for Centra, and required excessive employee training. (E.B.R.O. 493/494, Exhibit B1, Tab 2)

As a result, the companies decided to explore other options for acquiring a common CIS in a manner that would capture synergies with the other Westcoast distribution companies. Union and Centra, in conjunction with the other Westcoast distribution companies, decided that the purchase and modification of a CIS software package was the best option to achieve their objectives. This decision was confirmed by an opinion received from the Wilson Group Inc. A copy of this opinion is provided in Appendix A. An important factor in the decision to pursue a CIS package was that the market had evolved substantially from the time of the Theseus project and there were now several viable CIS packages available in the marketplace. Steps were taken to evaluate the various CIS packages available during 1995/1996. In E.B.R.O. 493/494, Union and Centra originally proposed that the companies share of the package CIS solution would be treated as a utility asset and therefore be part of utility cost of service. On June 28, 1996, the companies updated their evidence to remove the capital and operating costs attributable to CIS from 1997 test year cost of service. Specifically, the evidence stated:

“Because of the joint nature of the project and the potential for providing CIS services to third parties in the future, it was decided that CIS should ultimately be provided to Union, Centra Gas and other Westcoast distribution companies through an affiliated company within the Westcoast group.” (E.B.R.O. 493/494, Exhibit B1, Tab 2, Revised)

The decision to develop CIS through an non-subsiadiary affiliate was consistent with the evidence on Union and Centra’s strategic direction filed in E.B.R.O. 493/494 (Exhibit A,

Tab 9). This evidence stated that Union and Centra believed that products and services that were subject to competition should function outside regulation. The development of a number of CIS packages in a relatively short period of time supported the conclusion that CIS services were becoming increasingly competitive and should therefore function outside of regulation.

A chart summarizing this chronology is found in Appendix B.

4.0/ NEED FOR NEW CIS

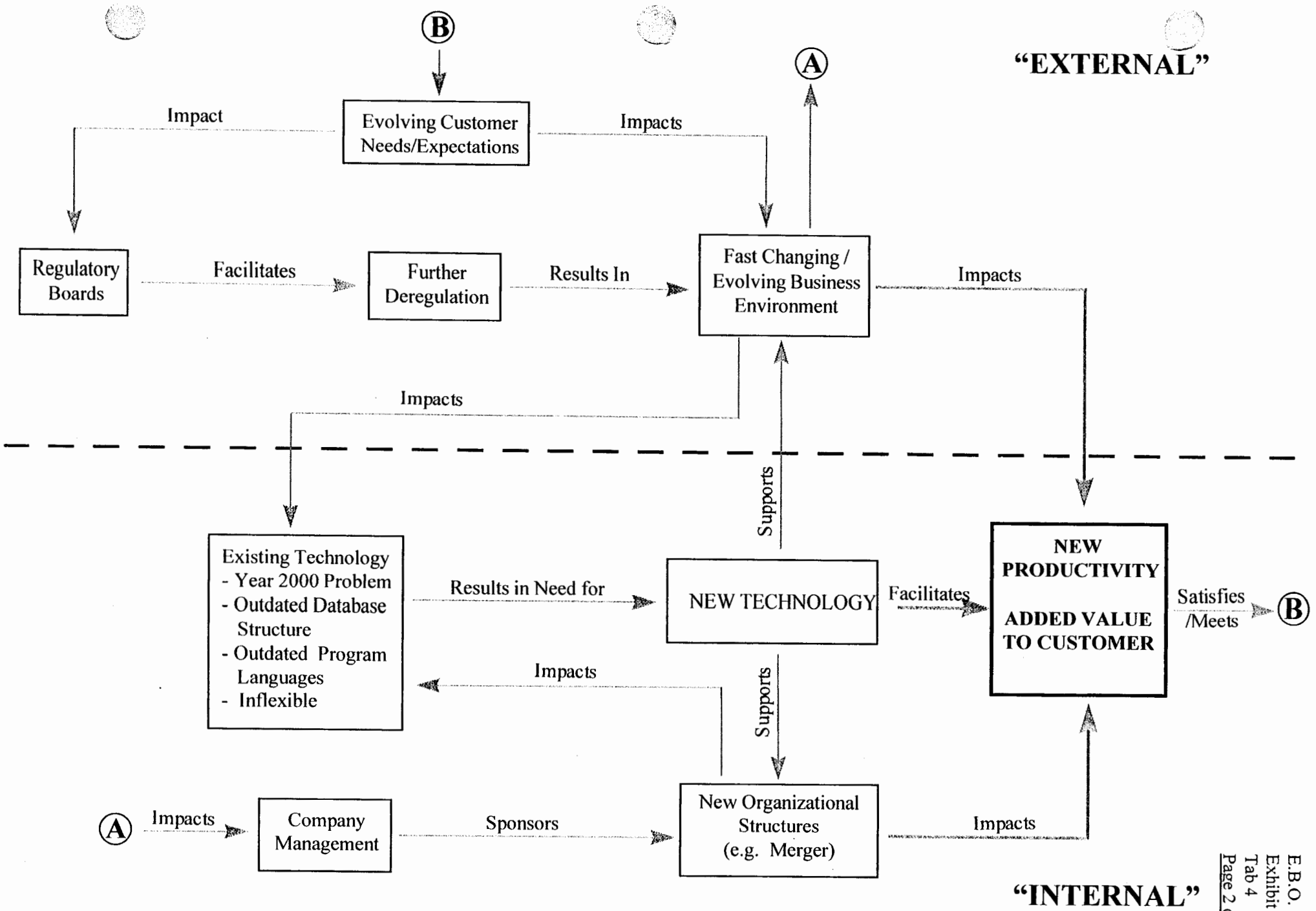
Union and Centra have separately addressed the need for a new CIS for a number of years and various projects in respect of a new CIS have been previously examined by the Board. The need for a new CIS has been relatively constant since the early 1990's for both Union and Centra. The key business drivers for a new common CIS for Union and Centra are listed below along with a diagram depicting the relationship of these factors.

INTERNAL FACTORS

- Aging technology
- Year 2000
- Integration of Union/Centra

EXTERNAL FACTORS

- Customer Needs
- Competition
- Regulatory Change



INTERNAL FACTORS

Aging Technology

Aging Systems

Tab 3 presented a table of the components (i.e. computer applications) of the Union and Centra CIS systems. The average age of the key components are:

	<u>Centra</u>	<u>Union</u>
Core Billing System	23 years	16 years
Data Management System	23 years	28 years
Overall CIS System	13 years	12 years

Research conducted by the Gartner Group has indicated that computer applications generally have useful lives of less than 8 years. The Union and Centra CIS applications have far exceeded this average. Age is an indicator that costs of maintenance and enhancements are often becoming disproportionately high. A new CIS would be built on newer technologies, resulting in lower maintenance and enhancement costs.

Freeze on Maintaining Systems

Currently, there are approximately nine employees supporting the CIS at Union and two at Centra. These levels have been kept to a minimum and reflect a reduction from

previous staffing levels since both Centra and Union have been working towards a replacement CIS for several years. Consequently, both companies have enforced a limited maintenance policy for the last three to four years. As a result of this three to four year freeze on enhancements, both companies CIS systems have stagnated with only the highest priority changes being permitted. Changes and enhancements have therefore been deferred or cancelled pending the new CIS (e.g. off cycle billing, and flexible due dates for seniors). Should the new CIS for Union and Centra not be pursued, the staffing levels would need to increase from their existing levels and in addition, resources to address the new millennium issue would need to be added.

Obsolete Technology

The IBM tool Generalized Architecture has served Union well for many years in terms of providing consistency in design, program structure, and productivity. However, it has not been supported by IBM for a number of years. Furthermore, computer code generated using the Generalized Architecture tool cannot be converted to another computer programming language. This has resulted in Union bearing two kinds of risk. First, there is scarcity of staff who know how to use this tool and second, if the system "breaks", there may be no way to fix it. While these risks have to date been managed, there are no alternatives except to replace the Union CIS system.

Quality Assurance

The primary risk associated with making large scale changes to the existing CIS is that modification to one part of the computer code can cause serious ramifications to completely unrelated areas extending the testing required to ensure system integrity. To counteract this risk, significant resources have been dedicated to quality assurance (i.e. testing and change validation). Part of this is reflected in the amount of time/resources required of the Information Technology personnel to validate their changes, but also is evidenced by the presence of a 8 member 'testing' team in the Customer Accounting department which provide the needed quality assurance prior to any system change going 'live' or into production. A new CIS will be more modular in design, resulting in the need for less "testers" and a shorter time to implement changes, while delivering a higher level of quality assurance.

Data Management

The current Union CIS data storage files are linked together by keys such as the customer account number, service addresses, meter number and service order number. Maintaining the linkages between the files is accomplished through computer programs. Trying to maintain these linkages, while responding to the needs to add more functions and

information is becoming increasingly difficult, time consuming and expensive. New technologies are now available which would automatically maintain these linkages without the need for the computer programs to do so. These technologies are commonly referred to as database systems. Some of the more popular products are ORACLE and IBM's DB2. Replacing the current data management technologies with a database system will substantially improve the flexibility, maintainability and cost effectiveness of storing CIS data.

Data Design

The fundamental data design of both the Union and Centra CIS systems is approximately 25 years old. At that time, customer data was coupled to a premise and meter. An account could only be created when all three pieces of information were present and linked together. The account, or customers file of data, became the computer record in early billing systems and was very workable at the time. As the utility industry matured and began to require separate information on customers and premises, this design became a handicap. One of the early requirements in this regard came from the Sales and Marketing areas where information on potential customers (sales leads) was needed. The systems could not readily accommodate this since a premise or service address was required before an 'account' could be established. The government COSP and DSEP programs presented the reverse circumstance where potential service locations needed to

be tracked before customers were identified. To get around these limits in the system, data was stored twice. This increased the costs of the system and the risk of corrupt data. In addition, it constrained how the customer and premise data could be used. A new CIS that can deal with information on customers, premises and meters independently and will provide the flexibility that the business requires. Modern databases of the kind used in the new CIS will provide this capability.

Changing Business Processes

The Union and Centra CIS's were custom built to match the business processes in place at the time the systems were built. The business rules are woven into the underlying computer code, and as a result, if the business processes change, the computer programs need to change. In addition, data is defined to support specific business processes, and is constrained from other uses. For example, a meter work order contains a specific set of data, and a corresponding computer file has the identical data. Computer programs for creating and capturing data from the work order are based on the specific contents of the work order. If the process were to change, and more data was required regarding the equipment on the customer site, for example, a file conversion would be necessary to expand the data retained. All computer programs processing the old format would require modification and the complete system tested. In this relatively simple example of a minor process change, extensive and costly reprogramming would be necessary.

With the program logic and data custom tailored to specific business processes, the time and cost to re-engineer or change the business processes becomes prohibitive. Newer technologies are modular in design and more adaptive to change, resulting in the ability to support business process changes without having to extensively re-write computer programs.

User Interface

Staff access the current systems through the use of text on the computer screen. The current system uses cryptic action codes to initiate customer transactions. The screen format results in significantly greater time for users to become proficient with the system. A new CIS would utilize a graphical user interface, quite similar to those found on a personal computers. The graphical user interface reduces training costs and improves productivity. Appendix A contrasts the current screen to a new graphical user interface.

Need for More Information

Increasing customer expectations, changing government requirements, and regulatory changes clearly demand the ability and flexibility to capture additional information in a cost effective and efficient manner. The current technology is severely limited in this area. A new CIS will utilize modern technologies that allow for addition of capacity to satisfy new information requirements in a timely and cost effective manner.

Limited Support Staff

Staff turnover is now a much more significant issue in the information technology area than it has been in the past. As the technology on which these systems are built ages or becomes obsolete, the skills of the supporting personnel are increasingly difficult to acquire or develop, causing further escalation in terms of the time and cost of enhancements. Supporting a CIS developed using modern technologies, will be easier and most cost effective, as the required skills are more readily available and consequently less expensive.

Centra CIS

The current Centra CIS system relies heavily on paper and manual processes to complete virtually all customer requests. Examples of such requests include rental equipment changes, finance contract changes, payment arrangements and monetary transactions and adjustments. These transactions originate across Centra's franchise area with documents being manually completed, batched, and mailed to the Head Office in North York. These documents are then converted to electronic media for overnight batch update of the ACAP application. Exception and other management reports are then distributed back to the various field offices.

Subsequent to the updates, ACAP makes customer information available on-line to support customer inquiry. However, the system does not provide on-line update capability. Centra field staff typically experience a delay of approximately 3-8 days in completing customer changes and many opportunities for productivity improvements in the customer accounting area are lost. It is estimated that customer accounting savings at Centra of approximately \$600,000 per year are achievable. In addition, field staff are unable to respond to customer inquiries in an efficient and timely manner.

Many of the activities in the area of bad debt credit and collection also require extensive manual intervention and follow-up. The absence of on-line update capability result in

field staff constantly reviewing and manually recording any current activity on customer accounts before specific action can be taken with the customer.

A new CIS would eliminate the paper and manual processes and provide on-line customer support capability. These would result in increased customer service, improved turnaround time and productivity enhancements.

Summary of Aging Technology Factors

The overall impact of the above noted aging technology factors is that the current Union and Centra CIS's may reach a point of becoming inoperable as well as requiring increased costs and time to make changes and a reduced ability to ensure the integrity of the systems. The end result is prolonged development time for new functions which inhibits the amount of change that can be introduced given limited time and resources. This constraint is becoming more difficult to manage because of the number and complexity of changes in the utility industry as deregulation and industry restructuring continues. In particular, if Union and Centra were to experience two or more large changes concurrently (ie. a legislated change such as a tax change plus a business related change), the ability to accommodate these changes concurrently would be severely limited.

A new CIS would substantially reduce the risk of system inoperability, reduce development time and costs and increase the ability to ensure system integrity.

Year 2000

The Information Technology industry faces a significant challenge to deal with the year 2000 change. This change affects anything from a system clock contained in computer hardware to a program or routine in a computer system which uses the date as a reference point in time. Dates are widely used and recorded in computer systems and are entered and recorded for basically every activity that occurs. System clocks used in stand-alone systems, are incorporated into data passed through interfaces and exchanged within integrated systems and are totally transparent to the user.

During the early period when computer systems were developed to run on the mainframe, the cost of computer disk storage and computer memory was at a premium. In order to conserve storage space and reduce cost, the two high order digits of the four digits representing the year were truncated. The year reference was then stored in the computer system as a two digit number (e.g. year "1974" became "74"). As the new century approaches, the year 2000 under the old construct will in many cases become "00". The current systems at Union and Centra will not accept '00" as a valid year and any arithmetic operation performed by the system to determine a period using the "00" as the starting point will produce a negative

number. Calculation performed in this manner will result in incorrect calculations and errors. This has serious ramifications given that all gas charge calculations depend on meter reading dates and usage period. All the computer programs at Union and Centra that rely on the date will fail or produce incorrect data in calculations when the first reference to Year 2000 is introduced. This problem is prevalent in all computer systems running not only at Union and Centra but within the industry at large.

In the past, Union, Centra, and ratepayers have benefited through lower hardware costs as a result of minimizing disk storage and computer memory requirements and this was the appropriate approach at that time. However, Union and Centra will need to invest significant resources to address the year 2000 problem across the company. In anticipation of a new CIS, Union and Centra has been able to refrain from making these changes to the current CIS.

Without a new CIS, it is projected to cost approximately \$7,900,000 to modify the Union and Centra CIS systems to ensure these systems are year 2000 compliant.

Integration Of Union/Centra

Through the shared services initiatives, Union and Centra have integrated operations and the actual legal merger will occur effective January 1, 1998. To fully "operationalize" the merger and truly move to a unified organization, the common CIS is required for the merged entity.

Neither the existing Union or Centra CIS systems are adequate to support the merged operations. As such, a new CIS is required. A common CIS allows the integration of operations, producing the following benefits:

- Common call handling - common call handling across the combined Union/Centra franchise cannot occur without a common CIS. The extensive call handling system in place at Unions four call centers cannot be shared with Centra customers. Specifically, consolidated call handling could not occur with the Union CIS as there would continue to be a separation or distinction between the Union and Centra franchises. In addition, Centra would have to organize its franchise into the same or similar geographic boundaries as Union given that geographic boundaries are hard coded into the Union system. As a result, productivity initiatives to increase customer service standards and reduce costs cannot be pursued.
- Employees - the current separate and different CIS system restricts employee mobility between the Union and Centra franchise.
- Management - franchise boundaries cannot be altered to allow the combination of operations or sharing of resources, as the number of computer codes used to identify this have already been used and new codes cannot be created. This is a particularly large constraint in the context of the Union/Centra merger.
- Communications - processes and procedures are currently duplicated to ensure both systems are current.

- Information Technology - duplicate effort is currently required to support two separate systems.

EXTERNAL FACTORS

Customer Needs

Customer needs are continually changing and their expectations for more customized services are increasing. For example, customers are asking for billing features as such consolidated billing and flexible due dates. The current Union and Centra CIS's do not allow these features to be incorporated in a cost effective manner. Union and Centra continue to see customer needs evolve and change in a matter consistent with changes and new service offerings in other sectors of the marketplace.

Customer research recently conducted has revealed that the primary customer expectations from the utility are as follows:

- Customers demand the best prices for their products and services.
- A range of product and service offerings is necessary. Concern for environmental issues and wise energy use are important and the gas utility should be able to introduce initiatives and changes to address these concerns.

- Personalized care is fundamental. This required individual interaction, frequent communication, and the ability to accommodate unique situations.
- In general, the company must be “easy” to do business with.

A new CIS is critical in providing Union and Centra the ability to evolve their products and services in a manner consistent with customer expectations and in a cost effective manner.

Competition

Competition in the energy industry is accelerating, particularly with respect to the convergence of natural gas and electricity. The business changes which accompany competition necessitate systems flexible enough to handle these changes. Utilities are and will continue to be under greater pressures to offer their services at the lowest cost possible in order to ensure continued utilization of their delivery systems. In addition, changes and restructuring associated with ancillary services and products traditionally operating under regulated cost of service may also necessitate system changes. The ultimate impacts and associated timing of changes resulting from competition are difficult to predict with accuracy. However, flexible systems will ensure Union and Centra have an opportunity to adapt to these changes in a cost effective manner.

Regulatory Change

The existing CIS systems have been modified and enhanced to incorporate many changes resulting from changes in regulation during the last 30 years. The impact of regulatory and business changes in conjunction with all other changes has pushed the existing systems to the point where the ability to respond to additional changes and requirements is in jeopardy. The regulatory changes related to deregulation and business restructuring resulting from initiatives such as the Board's 10 Year market review and separation of ancillary programs from the regulated utility operations will necessitate business process changes and associated system changes. Again, the specific nature of these changes are difficult to predict. However, consistent with the above noted points respecting competitive changes, flexible systems to accommodate and react to these changes in a cost effective manner are critical.

CONCLUSION

Considering all of the internal and external factors described above, a new CIS is necessary to allow Union and Centra to adapt and respond to all of these factors in a reasonable and cost effective manner. Union and Centra are not prepared to accept the financial and technological risks associated with the existing CIS systems. It is important to note that Union and Centra are not attempting to anticipate the specific nature of all the changes likely to materialize in the future and to attempt to incorporate this functionality into a new CIS. Rather, the primary

requirement and objective is to adopt and implement a new CIS which is flexible and can adapt to future business changes while simultaneously providing a platform to allow further productivity and improvements and business process changes to be pursued by the merged company.

5.0/ CIS OPTIONS/ECONOMIC EVALUATION AND JUSTIFICATION

This section provides an overview of the CIS options that were considered and includes the project costs and a "least cost" analysis of these options. Finally, a Net Present Value (NPV) analysis is conducted for the chosen option.

The utility is currently engaged in many activities. The full merger of Union and Centra in 1998, the proposal to separate certain ancillary programs and services from regulated cost of service, as well as the 10 year market review, will all have impacts on the utility. While it is very difficult to define and predict the outcome and associated impact of these initiatives, the probability of substantial change is high. There is still a need to proceed with a new CIS, due to the fact that we must address the year 2000 issue. However, to focus only on the changes required for year 2000 would be an unwise decision, as it would provide a system that could not support the changing business requirements and a new CIS would still be required. Given the substantial need for a new CIS, a least cost evaluation of the options was undertaken first with a full NPV analysis conducted on the chosen option.

Options and Project Costs

Five options were considered for meeting the CIS needs of Union's and Centra's customers. The options were assessed initially from a technological, financial and regulatory risk perspective, in accordance with the criteria outlined by the Board in EBRO 493/494. If the risk
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posed by an option was deemed to be too great, then the option was rejected without further pursuit of the economics. The options that passed the initial risk assessment were then evaluated on a least cost basis. The five options considered are as follows:

- i. Continue to use existing and separate systems at Union and Centra.
- ii. Build a single custom CIS for Union and Centra.
- iii. Upgrade Union's existing CIS system and integrate Centra.
- iv. Purchase and tailor a CIS software package for Union and Centra.
- v. Purchase CIS services from a Westcoast affiliate.

(i) Continue to use the existing and separate systems at Union and Centra

Continuing to use Union's and Centra's existing systems is not a viable option given the significant functional and technical limitations associated with these systems, as described in Tab 4. The primary functional limitation is that these systems reflect current and past business practices. As the business changes due to the merger, potential separation of ancillary programs and services from regulated cost of service and the 10 year market review, business practices will also need to change. The current systems will be unable to support these business changes in a timely and cost effective manner. The current systems are not year 2000-compliant. This issue must be addressed, or the company risks not being able to operate the business after 1999. To incur the estimated cost of \$7.875 million to make only those changes required to correct the year 2000 issues for the existing Union and Centra CIS would be a poor investment as the systems would still be unable to meet the requirements associated

with the changing business. In addition, as noted in Tab 4, the General Architecture software used to develop the existing Union CIS is no longer supported by the vendor. It is projected that a \$4.0 million investment is required to rewrite Union's existing CIS in a more current and supported computer language. Again, to make this investment in an old system would be a poor investment. Even after requiring a projected \$11.875 million investment to address the year 2000 and General Architecture issues, a new, common CIS would still be required. There are also other technical limitations, as referenced in Tab 4 of this evidence.

Union and Centra cannot realistically continue operating existing separate CIS systems. The risks of escalating costs of continuing to run old systems, the inability to adapt to changing business requirements and the inability to protect our plant investment, are unacceptably high. Continuing to operate with two separate CIS systems is inconsistent with the company's strategic direction of integrating and merging Union and Centra. Based on an assessment of these risks and for reasons set out in Tab 3 and Tab 4, this option was rejected.

(ii) Build a single custom CIS for Union and Centra

Building a custom CIS for Union and Centra is not a viable option primarily due to the high costs and risks associated with such an undertaking. This option would carry the highest costs, as it is extremely difficult to control the scope of the development effort when undertaking a custom build approach. Union's experience with the Theseus project confirmed that this is a more expensive option, that requires significantly more people resources than the option of

acquiring a software package. The Wilson Group estimates in their report dated April 12, 1995, (See Tab 2, Appendix A) that the cost of this option would cost in the rate of \$65 to \$80 million. This range is supported by the most recent estimate of the Theseus project costs of \$54 million, as detailed in the Board's E.B.R.O. 486 Decision With Reasons dated July 19, 1995 (EBRO 486, Paragraphs 5.2.1 and 5.2.2). In addition, it is noted that CIS packages that are sufficient for Union's business needs today, were not available when the original decision was made to undertake the Theseus project.

In Centra and Union's view, it would be imprudent to develop a custom-built, integrated system within the utility given the potentially large business changes flowing from the TYMR and the separation of ancillary programs and services from regulated cost of service. Software packages are generally more modular in design which provides for greater flexibility as the business requirements change, and ensures that systems costs are limited to the functionality required. A custom-built application is less likely to achieve this same level of flexibility and therefore increase the financial risk associated with this alternative and increase the potential for stranded assets or functionality.

Finally, current business procedures and processes are typically incorporated into custom-built CIS systems. One advantage of acquiring a software package is that it incorporates the best practices and enables the utility to adapt to these best practices. To pursue a custom built CIS approach properly would require a full and detailed assessment of business processes which

would greatly increase the scope of the project and the implementation timing.

In addition, Union and Centra's evidence in E.B.R.O. 493/494 at Exhibit A, Tab 9 outlined the industry changes and the intent to propose the removal of competitive programs and services from regulated cost of service. To consider undertaking the development of a custom built system given the recent development of competitive CIS packages in the marketplace is contrary to this direction and as such, this option would in Union and Centra's view create high financial and regulatory risks. Based on the above factors, this option was rejected.

(iii) Upgrade Union's existing CIS system and integrate Centra

Under this option, Union's existing CIS system would be rewritten and upgraded technically. All of the programs, routines, transactions, reports and data files would be moved off of the mainframe computer. Centra would then be moved to this upgraded system and the current Centra CIS would be terminated. Some enhancements would be made to address the functionality that is required by the business, but is currently on hold. There are an estimated 2.3 million lines of code currently existing in Union's CIS. A rewrite of the existing system would be a huge undertaking that in many ways would be similar to a custom built new system. In addition, if the rewrite was based on existing business practices, the company would forgo the opportunity to incorporate industry best practices into the CIS. To incorporate best practices into the project would increase the scope and time to implement and would involve the same work considered under the second option.

The details of the costs associated with this option are shown in Appendix A. A description of the steps involved in this option are as follows:

File structure changes - this involves the conversion of the many existing data storage files that currently reside on the mainframe and reconstructing them into a database system. This would require the writing of numerous new computer programs and acquiring new tools that would be used to convert the data from the old flat file format into the new database format. It is estimated that this effort would take 12 person years, at a cost of \$1.2 million to complete. Centra and Union users have developed many of their own programs and reports, using software that is installed on their desktop computers. These programs were all written in a manner that allowed them to access the data in the old file formats. These applications would also need to be rewritten, to allow access to the data that would now be in the new database systems. It would take approximately 5 person years at a cost of \$500,000 to rewrite these programs.

Technical rewrite - this activity involves taking all of the existing programs, routines, transactions and reports and rewriting them. This would be very similar to custom building the entire set of computer programs since a complete rewrite would be required. The major difference is that they would continue to be based on the current system design built using old, or current business practices, so there would be no business process re-engineering. The new programs would also be written in a way that would enable them to be shown on the computer in

a manner similar to other applications being used by the company. Many of the programs would need to be renovated to allow them to fit both Union's and Centra's existing business practices, as some differences do exist. The estimated time that it would take to complete this work would be 120 person years, with an additional 15% of that time for client involvement. The total estimated cost would be \$15 million.

Interfacing newly rewritten modules with existing systems - upgrading Union's existing CIS system would include less than half of the existing customer applications. Interfaces would have to be developed, to allow the newly rewritten computer programs to continue to work with the applications not upgraded, but which continue to rely on exchanging data. It is estimated that these interfaces would require 12 person years to complete, at a cost of \$1.2 million.

Making system year 2000-compliant - these are all of the changes that will be required to ensure Union's existing CIS system was year 2000 compliant. The August 15, 1997 issue of Computerworld Canada, reported on a study performed by Technology Management Reports, a consulting company based in San Diego. The Study indicated that an organization will pay an average of \$1.75 per line of computer program code, to convert programs to be year 2000-compliant. Union's current CIS system has approximately 2.3 million lines of code, resulting in a cost to complete this conversion of \$4.025 million.

Incorporating business functionality requirements - a number of projects required to satisfy

current business requirements have been put on hold, pending the implementation of a new CIS. These enhancements would be part of the cost of upgrading Union's existing CIS system. This additional functionality would take approximately 44 person years, at a cost of \$5.72 million.

A "cloning" option that would simply copy Union's existing CIS system and implement it at Centra, was considered in 1994 and was appealing from the perspective of quickly integrating the Union/Centra systems and providing additional functionality to Centra, as well as positioning the companies for a new longer term CIS solution. The major drawback of the "cloning" option is that Centra would experience 2 major systems implementations in a short period of time. A further limitation to this approach is that the existing Union system was built using old technology. This would limit the ability to modify and expand the system to meet future business needs and therefore a full technical rewrite would be required within a short period of time which would create the second implementation for Centra.

It is unclear whether option (iii) is even feasible from a technological perspective, and the cost to pursue this option is high. Although the scope would be limited by converting applications that support today's business functions, no benefits from changing business processes would be realized.

(iv) Purchase and tailor a CIS software package for Union and Centra

This option involves the purchase and tailoring of a CIS software package which would facilitate

the integration of Union and Centra and provide the flexibility required by the changing business.

One significant advantage of purchasing a software package is that it incorporates industry best practices, and as such, would enable the utility to renovate its own business practices to fit the software.

New packaged software is also modular in design resulting in system flexibility. Business functions are typically bundled together into components, that can be purchased individually. This ensures that systems costs are limited to the functionality required and allows for greater flexibility in adding future functionality to the system.

In most cases, CIS software packages available in the marketplace have already been installed at other companies. This allows potential customers to view the software in operation and to understand its performance characteristics and compare them to the performance characteristics of other options. The potential buyer can also assess a vendor's ability to implement and provide support for the package, based on input and feedback from the companies that have it installed. This facilitates a thorough evaluation of the software and reduces the risk associated with implementing the product. Most packaged system suppliers offer full implementation support to ensure that the system performs to its potential. Implementation support staff are trained and are well versed in the functionality of the product modules and the implementation process.

The costs for this option are detailed in Appendix A and are further described as follows:

One time software licence fee - \$2.38 million is the up front cost to licence SCT's core Banner product and is exclusive of any tailoring or modifications to the base package.

Package fit analysis - this step consists of an analysis and in-depth comparison of the functions included with SCT's core Banner product, with the company's functional requirements for a new CIS. The intent is to identify any "gaps" between the core Banner product and the functional requirement. Any tailoring that is identified to address this gap, would then be developed by SCT and included into the core Banner product code. It is estimated that it would take 8 person years to complete the package fit analysis, at a cost of \$800,000.

Package Tailoring - this step includes changes that are required to adapt SCT's core Banner product to Canadian business (e.g. zip code/postal code validation, loan amortization, T5, mapping and descriptions on some fields and validation of SIN/SSN). It also includes developing any missing functions identified through the package fit analysis. The primary functions requiring further development over the base package include Marketing, the Customer Contact System and Electronic Work Queue. The Marketing component contains the functions that would assist in the creation of marketing programs, target potential customers of the programs and monitor the results. The Customer Service Reps would have access to this information when they are dealing with the customer. The Customer Contact System component allows for the recording of the time and length of the customer's call, the type of call, the reason

for it, etc. The Electronic Work Queue component allows the Banner product to assign work items to individuals or work groups, handles escalations and allows for electronic approvals of work assigned. Also included is \$3 million for SCT staff and associated expenses. The cost for CIS systems integration is projected to be \$11.820 million.

Customer Committee Modifications - additional tailoring requirements were identified by the Customer Committee, subsequent to the original SCT proposal. These modifications are projected to cost \$2.5 million.

Package Install - there are a number of activities required to get the CIS product ready for production. The final package received from SCT, would be installed into a mock production environment in order to ensure that the system runs and meets the required technical specifications and that appropriate storage is available for the database. The software would then be tested against mock data, to compare the functionality of the product with the company's functional requirements for a CIS. This testing would also give insight to the technical performance of the product. The feedback from the testing activities, would provide input for the refinement of installation parameters. This process would assist in fine-tuning the databases, determining how the product should be installed and help to optimize the performance of the system. The initial parameters for security, database, CIS application, job scheduling, etc. would be defined and installed. The customer data that was converted by the company would be loaded into the new CIS databases. The total install cost is projected to be \$2.505 million.

Computing infrastructure - Appendix A, page 5 provides detail respecting the computer infrastructure costs.

Contingency - is estimated to be 15% of the total capital cost.

The package software option has a number of benefits. Technical risk is limited by using a product that is already in production and being used in the industry. The ability of the vendor to support their product is known. Scope creep is limited by concentrating on the functions that are included in the purchased package. Package software also provides benefits by allowing companies to change their business processes to fit evolving industry best practices, incorporated into the package and continually updated through product maintenance releases. The financial risk is limited to the terms of the contract and there is little if any development risk.

(v) Purchase CIS services from a Westcoast affiliate

This option is very similar to option (iv). The same benefits enjoyed under option (iv) would be realized under this option, as well as some further benefits as described in Tab 8. The risk of delivering a workable system are borne by UEI - CIS Division and not Centra and Union.

This option, in Union and Centra's view, presents the least risk from a technological, financial and regulatory perspective. It allows for the greatest flexibility to contend with future changes in

the business, is consistent with the company's strategic direction and will facilitate the separation of competitive ancillary programs and services from regulated cost of service should this be approved.

Based on the reasons outlined in this section, options (i) and (ii) were not explored further. The costs of options (iii), (iv) and (v), used in the least cost analysis are detailed in Appendix A.

Least Cost Analysis

The following table provides a summary of the Net Present Value Costs (ie. least cost) analysis results:

Option	Description	NPC (\$000's)
(iii)	Upgrade Union's existing CIS system and integrate Centra	\$37,600
(iv)	Purchase and tailor a CIS software package for Union and Centra	\$28,100
(v)	Purchase CIS services from a Westcoast affiliate	\$25,600

The last column of this table provides the net present value cost of each of the alternatives.

Option (v), purchase CIS services from a Westcoast affiliate, is the least cost option. As described above, this option is also the least risky and provides additional and significant qualitative benefits relative to the other options. As such, Union and Centra have chosen Option (v).

Net Present Value (NPV) Analysis for Option (v)

There are two important qualitative benefits that are inherent in purchasing CIS services from UEI - CIS Division. The first is that the financial and development risk to Union and Centra is reduced significantly. UEI - CIS Division has assumed the risks of developing the CIS system, Union and Centra are not committing to an asset purchase and the up front investment is minimized. The second benefit relates to flexibility. As described above, there are many initiatives impacting Union and Centra. Although these impacts are difficult to predict, it can be assumed that the utility business will change significantly. If the utility were to pursue a purchased package option on its own, it would be faced with buying the CIS functions required to support the business as it exists today. Should a substantial business restructuring be approved, Union and Centra could find themselves faced with stranded assets or functionality. The UEI - CIS Division service offering is based on a charge per transaction. Purchasing services on a transactional basis will allow reductions in annual costs to be realized if the number of transactions is reduced in the future. The quantifiable benefits associated with this option are found in Appendix B. The difference between the NPV of the projected UEI - CIS Division charges and the NPV of the quantifiable benefits results in an overall NPV of \$0.1 million as detailed in Appendix C revised October 24, 1997.

Strategic Positioning for Restructuring the Business

Option (v) allows the utility to adapt many of its current business processes to the Banner software. Since the package incorporates industry standard best practices, there are benefits that can be realized, without having to significantly reengineer business processes immediately.

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Strategic Positioning for Restructuring the Business

Option (v) allows the utility to adapt many of its current business processes to the Banner software. Since the package incorporates industry standard best practices, there are benefits that can be realized, without having to significantly reengineer business processes immediately.

Since Union and Centra have many business processes that differ, implementing common practices will result in some degree of business process renovation. While the Banner CIS system is flexible enough to accommodate full business process re-engineering, this has not been undertaken at this time due to the proposal to restructure the business to remove certain competitive programs and services from regulated cost of service. To pursue business process re-engineering, concurrent with the implementation of the new CIS would be imprudent, since the effort would have to be undertaken again if the proposed business restructuring is approved. In addition, the pursuit of full business process re-engineering is a significant undertaking and would substantially increase project scope.

UNION GAS LIMITED CAPITAL BUDGET SUBMISSION FORM DETAILED ECONOMICS								Schedule 3A
Project Name: <u>IVR and CTI Replacement</u> Project Number: <u>49-07-420</u> Approval Year: <u>2007</u> Capital Type: <u>General</u> Business Unit: <u>IT/IS</u> Classification: <u>IT</u>								
Economic Information: PI: _____ N.P.V.: _____ Project ROE: _____ IRR: _____ Earnings Impact in 2007 _____ Economic Analysis Term (yrs) _____ Break Even Year _____ In Service Date <u>August 1 2007</u>								
Plant Account / Type Total Capital costs, by calendar year:								
Description	WBS Element	CWIP	2007	2008	2009	2010	2011	2012
1 hardware	7641		575,000					
2 software	7642		239,000					
3 IS backfill	7642		120,000					
4 Client backfill	7642		50,000					
5 Training and consult	7642		62,000					
6 Implementation	7642		54,000					
7								
8								
9								
10								
11								
12								
Total WBS Elements		-	1,100,000	-	-	-	-	-
IDC								
Total Per SAP		-	1,100,000	-	-	-	-	-
Direct Construction Costs (DCC)								
Plant Items (Blanket Meter & Regs)								
TOTAL		-	1,100,000	-	-	-	-	-
Total Project Cost: \$ 1,100,000			Contingency Included In Total _____					
Expected Revenue Stream, by year								
Description	2007	2008	2009	2010	2011	2012		
Expected O & M Costs/Savings by year								
Description	2007	2008	2009	2010	2011	2012		
Incremental annual maintenance								
Avoid additional 2 FTE's (Customer Care)		(122,265)	(122,265)	(122,265)	(122,265)	(122,265)		
	-	(122,265)	(122,265)	(122,265)	(122,265)	(122,265)		

C:\Documents and Settings\jlaforen\My Documents\Regulatory RFIs\IVR Project 2007\2007 IVR and CTI Replacementv2.xls

Project Justification (Qualitative Analysis)

You **MUST** respond to the following questions and include in Schedule 3 package.

1) What is currently being done and why must it be changed?

Nortel has outlined an end of life path for our Periphonics IVR, support and continued development on the system will start to dwindle in 2006 with no further support available in 2008. With the company's current direction to grow the business, and the potential introduction of vendor consolidated billing, it is expected that call volumes will increase. This in turn drives the need to increase self-serve functionality on the IVR. The addition of voice recognition and speech-to-text functionality will improve customer receptivity, resulting in an additional 5% of inbound calls being resolved through the IVR. This will create capacity to handle incremental volumes arising from market changes.

Nortel has outlined an end of life plan for the CTI software, Symposium Agent and Tapi. Effective Dec 2006, there will no longer be support available for this solution. In order to upgrade to a supported level, there must be a platform upgrade to the IVR.

Based on four years experience with our existing IVR, we strongly recommend in-sourcing all coding and testing activities. Insourcing the application development will provide us to an opportunity to respond to the ever changing. It is important to note that this project will also provide us with an in-house test system.

2) What are the implications if the project is rejected? If it is deferred?

The ivr currently handles over 20% of inbound calls which has freed up resources to manage arrears and bad debt. If the ivr is not upgraded and fails, we will have a shortfall of approximately 22 FTE's just to complete our core workload. Beyond this, failure to improve on user-friendliness will expose us to the need for 3.5 incremental FTEs. In addition, we have only a moderate confidence level that our existing programming vendor, Softel, can meet our future needs. Although not feasible to duplicate the system we have today for another year to provide a test environment, without a test environment, we continue to be at risk each time a security patch or enhancement is applied to the servers. With no way to test some of this, we are at risk of bringing the system down.

With the CTI at an end of life state effective Dec 2006, a deferral would put us at risk of having to disable the screen pop functionality.

3) What other alternatives have been considered?

Due to the end of life path defined by Nortel we must proceed with this upgrade in 2007 or we risk the system having to shut down entirely until replaced. It is also an option to defer functionality improvements and to continue to out-source ivr programming.

4) Why were each of the alternatives rejected?

In order to manage the number of resources required in the contact centres, we need to maintain and enhance our existing self-serve options. With regards to the test system, since we installed our original ivr, we have completed two major redesigns and over 30 fine-tuning exercises. We are at risk of failure with each change, as we do not have a separate test environment. Our vendor has proved to be less than nimble in terms of turnaround, this at a time when flexibility and responsiveness have become even more critical to our success.

5) What are the key assumptions and risk factors?

We have obtained high level quotes from our current vendor dated May 2005.

6) Identify any risk mitigation plans.

Quotes include project management cost which can be mitigated by in-sourcing if necessary.

7) What is your confidence level that each assumption will be achieved?

Very good.

8) What are the high and low range estimates for major revenue & cost elements?

9) If this is a non-revenue generating project, are there cost or O&M savings associated with this project?

Due to the planned insourcing of the ivr application development, 1 IS FTE was added in 2006 (\$75K), however, a projected \$85K in maintenance, and \$70K in enhancements for just this year will be saved.

10) Has the project been submitted for approval during past iterations? If yes, why was it rejected or deferred?
No

11) Does the project require OEB approval? Are there any major issues which need to be addressed?
No

Instructions:

Data entry cells are highlighted in yellow. Enter **ACTUAL** dollar amounts **not** rounded values in thousands or millions.

To add additional sheets to the workbook, use the Utilities menu item on the Schedule 3 Menu

To add additional lines to any particular sheet, use the Utilities menu item on the Schedule 3 menu.

Refer to the definitions page as needed.

Model Operation:

If you need to change any of the parameters you supplied in the opening screen, select Utilities| Change Parameters.

Please ensure that the project number is included when the final version is printed and sent to Financial Analysis. All projects will need to be cross referenced to the project number.

After data entry, when you close and before you print you will be given a warning if you have not separately identified the contingency amount in the project. A warning will also be issued if the project is Distribution and does not include the DCC amount. **The DCC is applicable for Distribution Business**, if your project is not Distribution related, ignore the warning.

Contingency

As noted on Sched3A , the contingency amount included in the project is to be separately identified.

Interest During Construction (IDC)

Project submitters must supply the IDC results for **ALL** related projects. Please contact your budget co-ordinator for instructions for using the model via SAP.

Distribution New Business.

Please separately include the DCC and Plant Items amounts as noted on Schedule 3A

Multi Year Projects

The characteristics of a multi year project are as follows; the project has several years of spending using the **SAME** project number, and **ONE** in-service date. The current year spending is dependent on prior year expenditures and/or future years spending. All spending should be documented on the Schedule 3.

Project Justification

Qualitative questions are included in the of the Schedule 3 to assist in the decision making process with a strong emphasis on risk assessment. It is **critical** that all information is thoroughly completed and all questions answered. If the project requires outside approval (any expansion projects), an extensive Business Case is required. Contact Financial Analysis for details.

Routing Order:

Once the Schedule 3 has been completed and **Project Manager/Submitter** and **Project Sponsor**, approval indicated, the package should be sent to your area's **Budget Co-ordinator**. The Budget Co-ordinators should then forward to **Plant Accounting** for expenditure classification verification. Plant Accounting will then forward to the **Technical Ratifier** for review of feasibility. Once technical ratification is complete, **all Schedule 3's are to be submitted to Financial Analysis** for economic review. Financial Analysis will return the Schedule 3's to the **Plant Accounting** for compilation of the capital budget and retention of all submissions.

Incomplete Submissions

To avoid any approval delays, it is crucial that the Schedule 3 be complete when submitted! If information is missing, the Schedule 3 will be returned to the project manager/submitter via the Budget Co-ordinator.



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Distribution Construction *Contractor Alliance*

October 8, 2003

Prepared for:

Phil Knoll, Executive VP DEGT

Overview

Executive Summary:

- Project WAVE
- Initiative Overview - UG Distribution Construction
- RFP/Contractor Selection Process
- Alliance Approach and Implementation
- Benefits / Savings
- Key Learning
- Do's and Don'ts
- Current Status



WAVE – Westcoast and Vendors for Excellence

Comprehensive, disciplined analysis and assessment of Major spend areas across WEI including:

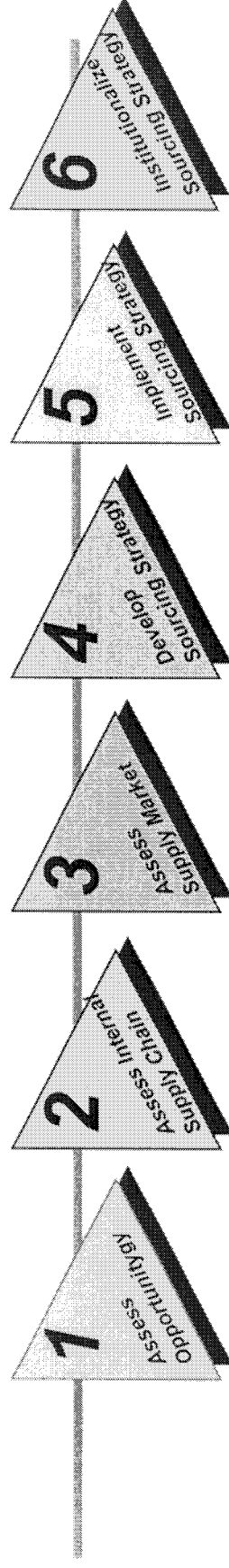
- Communication
- Information Technology
- Travel
- Fleet

✓ ***Distribution Construction (UG only)***

- Capital Projects



Six Step Sourcing Methodology



1. **Assess Opportunity** – cross functional team, total cost approach
2. **Assess Internal Supply Chain** – understand stakeholder needs
3. **Assess Supply Market** – RFI (telescope)
4. **Develop Supply Strategy** – Scope and approach
5. **Implement Sourcing Strategy** – RFP Process
6. **Institutionalizing Sourcing Strategy** – Implementation, transition



The Opportunity

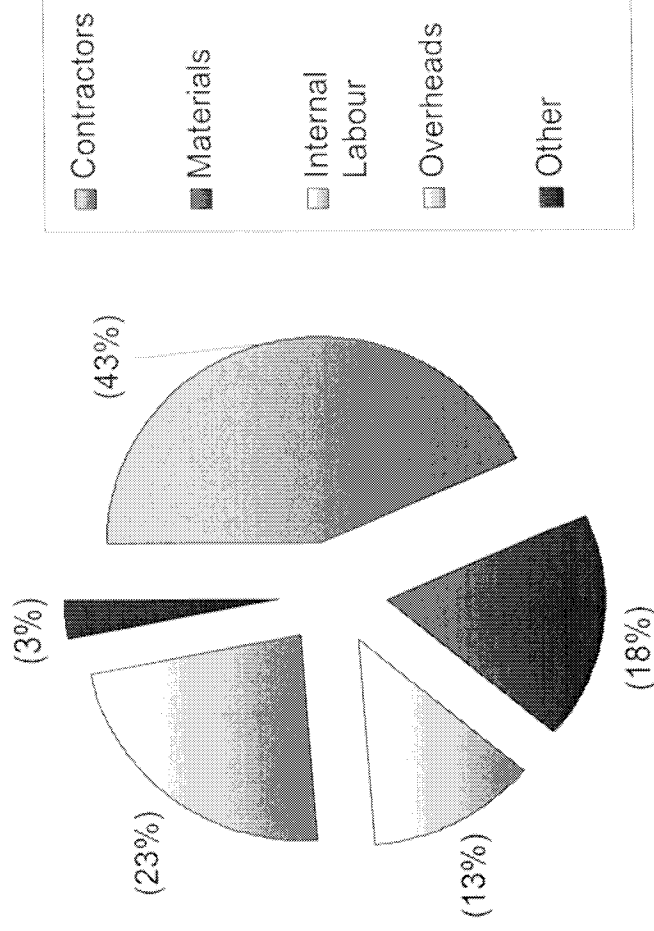
Union Gas DC Total Spend = \$60 - \$100 Million

2nd major capital spend
area for WEI

Pattern of annual
increases and high margin
seasonal impacts

Move from cost of
services to performance
base regulation

More effective use capital
for internal growth



Union Gas contractors' costs accounted for just over 40% of the total construction spend in C-98.

Assessing Supply Chain

Worked with contractors and internal stakeholders to find quick hits:

- Achieved \$832K in Savings

Gained understanding of contractor cost drivers:

- Larger volume of work in geographic area allows contractor to spread out their fixed overheads
- Reduce contractor risk to avoid any premium being built into the price

Identified further opportunities:

- Contractor cost
- Direct Shipping Materials to Contractor Warehouses
- Reduction of duplication of tasks on the job site

RFI Process

- Significant interest in work



Develop Supply Strategy

Goals and Objectives:

- Significantly reduce the total cost of distribution construction
- Improve safety and customer service levels
- Develop long-term, mutually beneficial relationship including:
 - Collegial relationship in which both parties look out for each others interests
 - Efficient and cost-effective construction and administrative processes with focus on reduction of duplication of efforts
 - Data-based decision-making through tracking and evaluation of key performance measurements
 - Vigilant focus by both parties on continuous improvement opportunities
 - Continuous reduction in total costs throughout the agreement period

The Request for Proposal included goals and objectives focused on improving the business performance of both contractors and Union Gas over the long-term



RFP Selection Process

A Non-traditional Approach:

- Selection Team – included Key Stakeholders
- Rigorous Analytical Process - Due Diligence
- Facilitated by Deloitte - Unbiased
- Included Contractor site visits to validate responses
- Qualitative focus
- High Priority - RFP's were received early December 1999 with
Final Recommendation early February 2000



RFP Evaluation

Quantitative evaluation performed independent of qualitative evaluation for credibility

Qualitative:

- RFP responses were evaluated by the team using a pre-determined answer key
- Further evaluation was done through site visits consisting of senior management interviews and site tours to review the physical infrastructure and business systems

Quantitative:

- New business cost information included a breakdown of labour, equipment, material, overheads and profit
- Replacement cost information included hourly labour and equipment rates, overheads and profit
- All contractor cost information was analyzed by the team for errors or omissions
- Evaluations were done using all new business costs and replacement overhead costs



RFP Evaluation Components

The evaluation criteria introduced in the RFP were weighted by the selection team based on the overall objectives and intent of the new contract

Selection Criteria	Weight	Pass/Fail
Safety & Quality		
Qualitative:		
Potential to develop long-term, mutually beneficial relationship	20%	60%
Innovation and creativity of management and operations	20%	
Technical competency	10%	
Resources and infrastructure	10%	
Quantitative:		
Costs	40%	40%
Total		100%

The final weightings were 60% for the qualitative criteria and 40% for the quantitative criteria.

Final Contractor Selection

- Moved from 8 to 2 contractors
- Aecon in three Districts, Link-Line in Hamilton / Halton
- Anticipate potential impacts (political, internal)

BENEFITS	RISKS
• Provides Union Gas with two best contractors in terms of alliance understanding and capability to deliver innovative improvement ideas and cost savings • Fosters aggressive competition between Link Line and BFC for potentially greater benefit to Union Gas • Allows Union Gas to learn how alliance can work from more than one contractor	• Somewhat complex alliance management structure • Decreased efficiency in implementing common processes and continuous improvement initiatives with 2 contractors • Bringing in non-union contractor



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New Approach - Fundamentals

The Alliance approach is significantly different than the way we've been accustomed to doing business. Most notable differences include:

- Long-term relationships based on the desire to continually improve the profitability of both parties and the quality of work performed
- Longer-term contracts (2 years plus extension) with established margins
- Greater volume of work and associated revenue
- Emphasis on sharing and understanding of contractor costs (open book)
- Use of target pricing and contractor cost for replacement work to minimize risk

These differences were used to signal a change in the way Union Gas will do business with its contractors



Guiding Principles - Moving Forward

- Maintain or enhance levels of safety, quality and reliability.
- Distribution contracts in the south remain in place until Mar 31st, 2002.
- Will improve customer service levels.
- We will monitor and evaluate all construction practices on an ongoing basis to achieve efficiencies and cost savings.
- Project management structure is required throughout project life cycle
- All business processes, and IT systems can be modified (with appropriate business case/justification)
- Organization, roles, locations, functions and staffing can be modified to meet business objectives (degree of centralization opportunity to be reviewed)



Implementing the Alliance

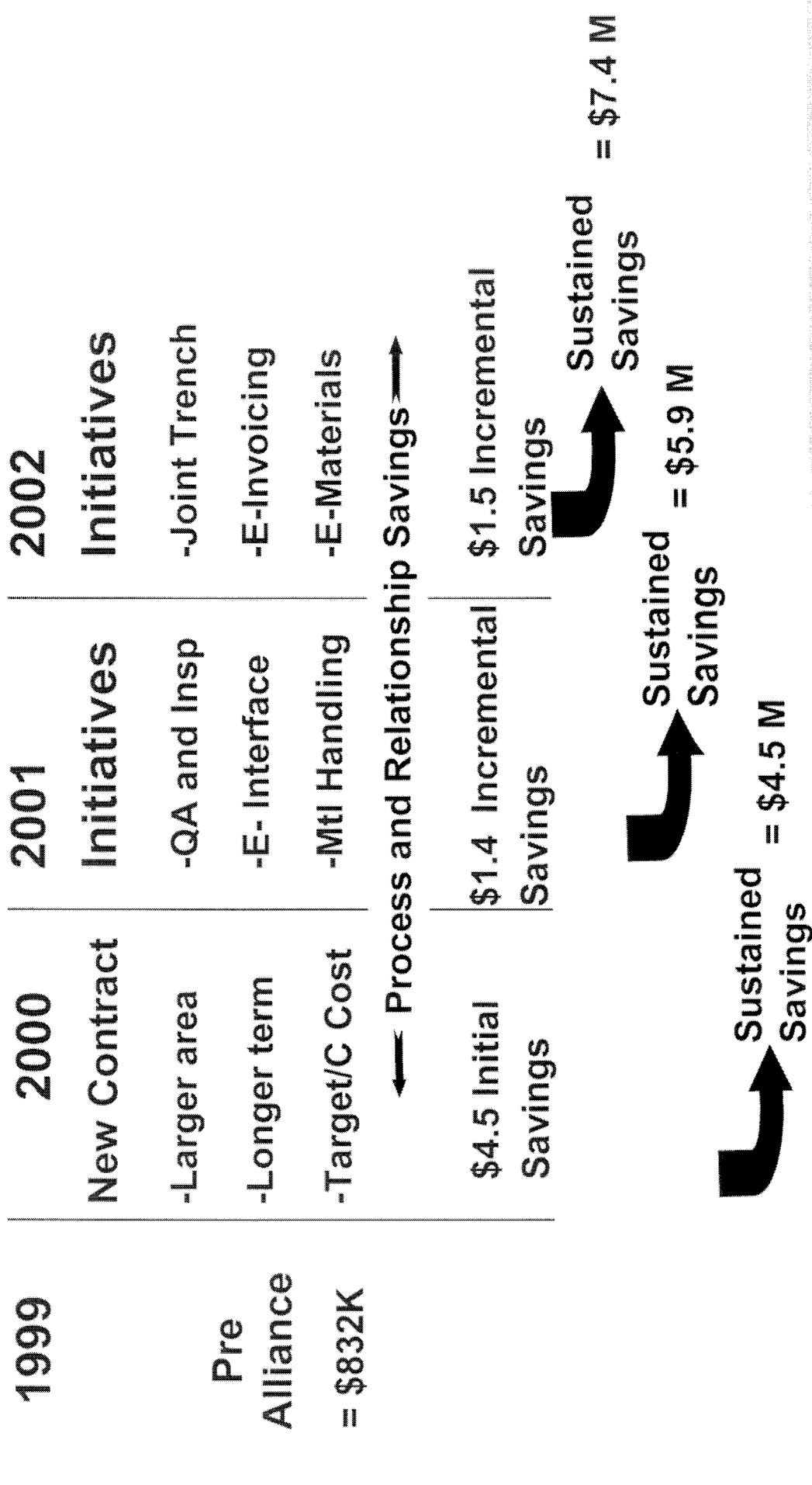
- Created Alliance Agreement Document – expectations and scope
- Developed Strong Governance / Structure
- Established Clear Accountabilities (RACI) and Scope
- Ongoing Communication Plan
- Measurement System – aligned with UG Scorecard

Benefits of the Alliance

- **Significant Savings and Value** - \$7.4 million sustainable
- **QA Inspection** – allows better utilization of resources for other work
- **Electronic Interface** - Real time information transfer, payment
- **Collegial Relationship** – looking out for the interests of each other
- **Open Book** - Better understanding of contractor costs and profit margin
- **Elimination of Duplication** – increased productivity
- **Leverage Relationship** – Peak shave, Bell Locates, maintenance, etc.



Alliance Savings



Key Learning from Hindsight

- First / Last Rule of Project Management :
- Resources are Scarce**
- Establish an effective governance structure
- Baseline measurement is critical
- Resource for ongoing measurement
- Accounting system lagging project implementation
- General resistance to change

Do's and Don'ts

Do:

- Establish clear accountabilities (RACI)
- Demand responsive decision making
- Secure sufficient critical mass of dedicated resources
- have a disciplined project management approach
- Communicate, Communicate, Communicate

Do Not:

- Focus on activity (but rather results)
- Underestimate level of leadership involvement required
- Neglect stakeholder management and involvement
- Underestimated implementation effort, timing and resources



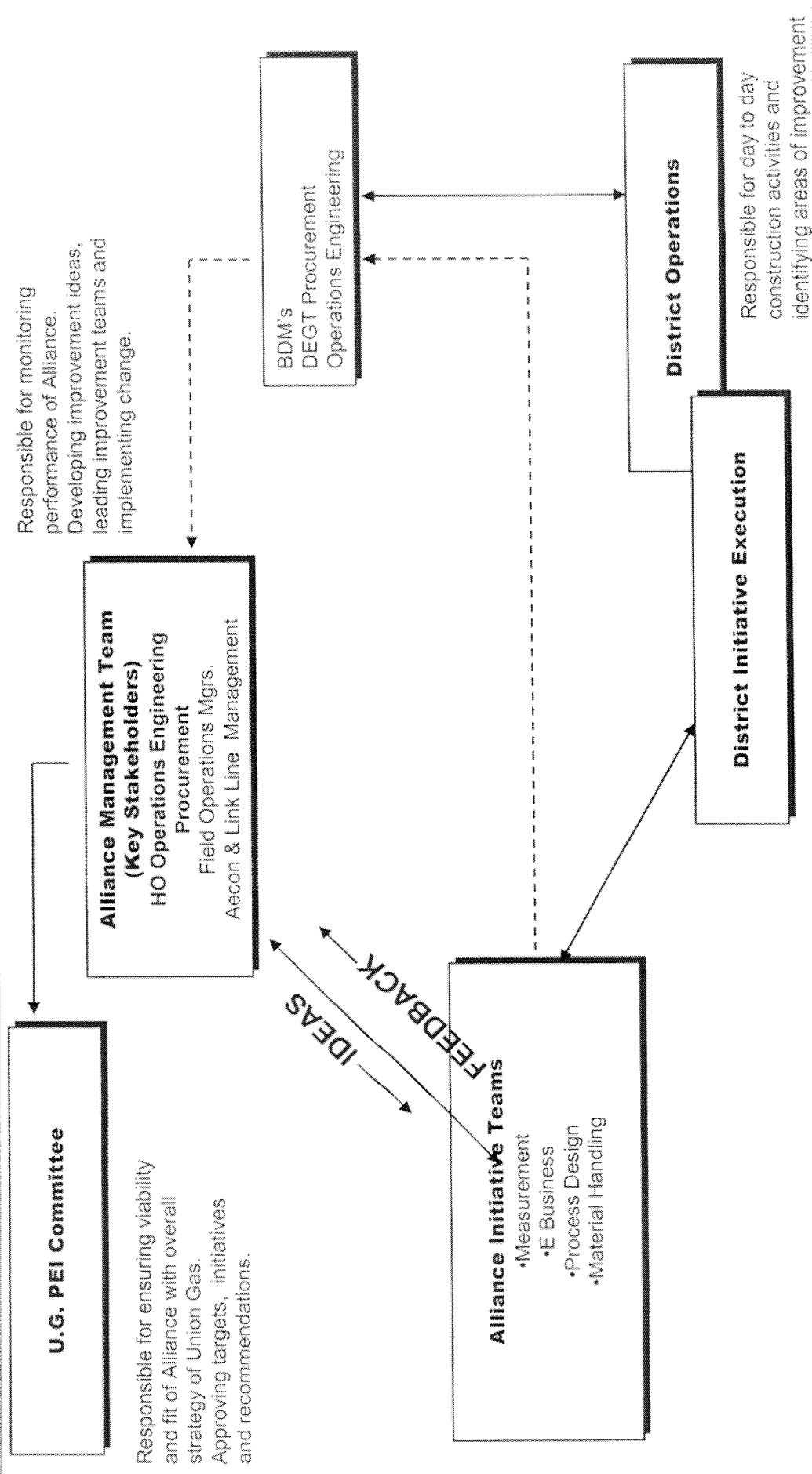
Current Status

- Extended current Alliance Structure for a three year period, effective until December 31st, 2004
- Continue to identify and implement new initiatives and process improvement opportunities
- Expanded scope to include Northeast District Distribution Construction and Integrity work in the Alliance
- Continue to leverage relationship, processes and technology to expand workload into maintenance and other activities
- Ensure Risk Mitigation Action Plans/Timelines are followed
- Developing Strategy for 2005 and Beyond



Appendix

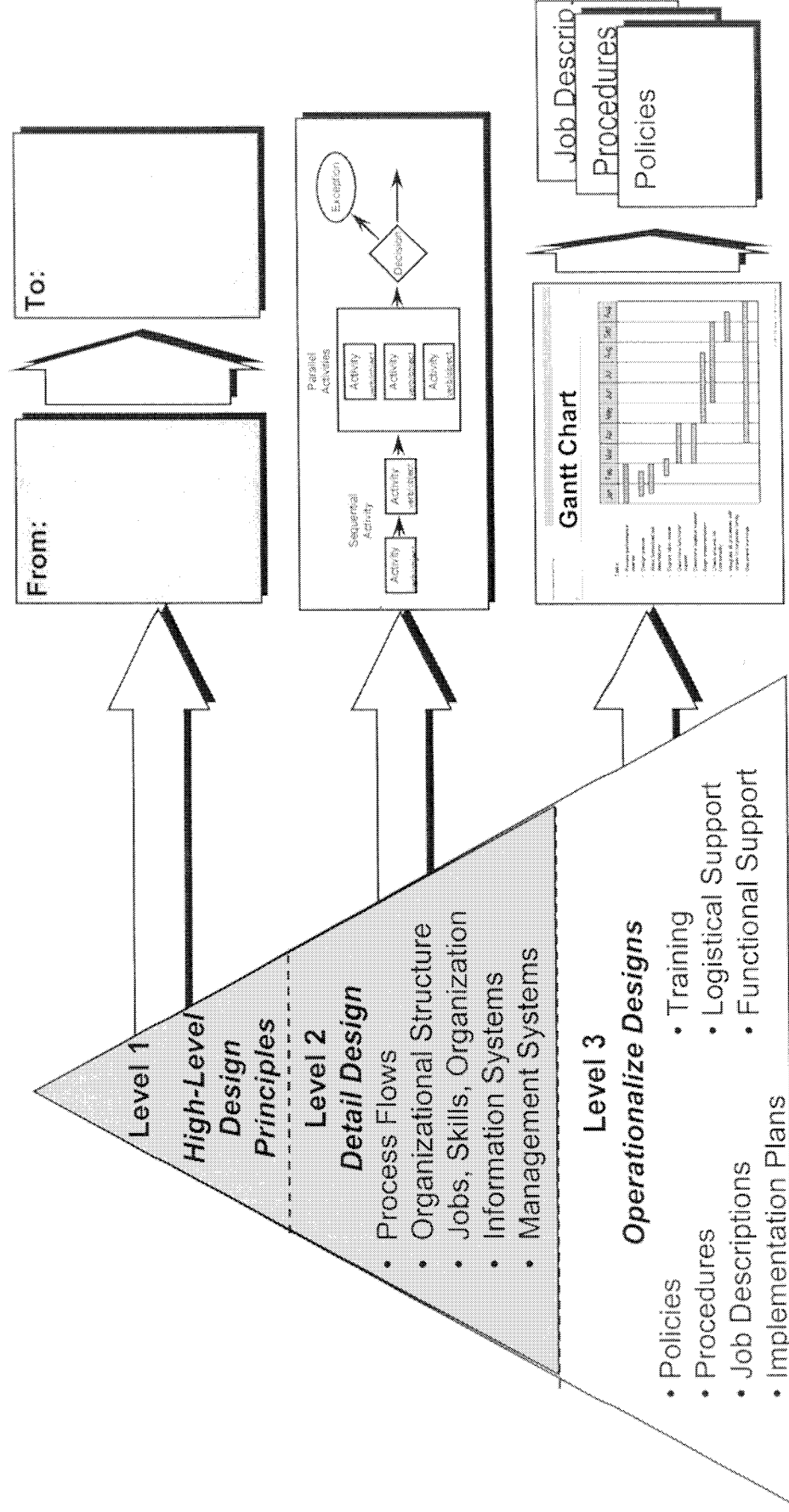
Alliance Governance



Project Management Process

Three Levels of Design Detail

What It Looks Like:



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The Story of E-Billing

DGM Meeting

January 2007

What is e-billing?

Delivery of the customer bill by electronic means

- ☐ E-mail the bill to the customer
- ☐ Access the bill on a secure web site
- ☐ May or may not eliminate the paper bill

Current Offerings

- ☐ On-line bill view – does not replace paper bill
 - ⌘ Company sponsored site (Union Gas)
 - ⌘ Third party sponsored site (AllianceData offering)
- ☐ E-billing
 - ⌘ Company sponsored site (Enbridge)
 - ⌘ Third party sponsored site (epost®, AllianceData offering)



Where is e-billing offered?

epost®

- ☐ Union Gas, Terasen, Manitoba Hydro, Gaz Metro
- ☐ Bell Canada, Bell Expressvu, Rogers, Union Energy, Enwin, London Hydro, Guelph Hydro

Own e-bill system

- ☐ Enbridge, SaskEnergy
- ☐ Hamilton Hydro

Others with basic i-net offerings

- ☐ Cogeco, Hydro One, Thunder Bay Hydro, Utilities Kingston



What is the Union Gas Offering?

epost since April 2003

☐ 26,000 customer on epost

On-line Bill View since June 2006

☐ 8,000 customers on OBV

***900 customers are on both epost and OBV**



What are others doing?

Bell Canada, Bell Expressvu and Rogers

- ☐ Are in the epost top “20 mailers” group
- ☐ Also provide their own e-billing service
- ☐ Have numerous customer information and self-service functions

Major Banks

- ☐ 35% of Canadians bank on-line (6 million people)

All have a common customer base with Union Gas



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What are the Subscription Rates?

E-billing Subscription Rates (AGA/EEI/CGA)

Union Gas is at 2.0% (4th Quartile)

	Minimum	Average	Maximum
1 st Quartile	5.7%	7.2%	10.1%
2 nd Quartile	3.3%	4.2%	5.6%
3 rd Quartile	2.3%	2.8%	3.2%
4 th Quartile	0.0%	1.4%	2.2%



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Who is subscribing to e-billing?

	Internet Users	UGL Customers	UGL epost Customers	All epost Customers
Internet Access	68%	67%	100%	100%
Age	41	45	45 (higher % 55+)	45
Income	\$38k person \$70k house	\$72k	\$79k	\$62k - \$115k
Education (College or University)	33%	30%	41%	yes



Why are they subscribing?

Benefits

- ☐ No paper / less paper / saves paper (47%)
- ☐ Convenience (21%)
- ☐ Faster / saves time / gets bills faster (15%)
- ☐ Easier to pay / can pay online / at home (11%)

Important Features

- ☐ Receiving / viewing bills electronically (46%)
- ☐ Receiving notification that bill is due (20%)
- ☐ Receiving / viewing at one website (17%)
- ☐ Paying bill thru link to financial institution (13%)



Why offer e-billing?

Cost Savings

- ❑ Save on bill production/delivery
 - ⌌ Costs approx. \$6.53 per customer per year
 - ⌌ Epost can save \$1.62 per customer per year
 - ⌌ OBV has potential to save \$5.28 per customer per year
- ❑ Can drive other i-net self-service activity

Customer Choice

- ❑ Paperless, convenient, connects to i-net banking
- ❑ 2% of UGL customers already there
- ❑ 20% say they are somewhat interested
- ❑ 69% of customers have i-net access



How do we proceed?

Follow the leaders!

- ☐ Keep epost
 - ⌘ Utilize \$75k marketing fund provided by epost
 - ⌘ Go to a “thin bill” offering to bring customer to uniongas.com
- ☐ Enhance OBV to include e-notification and paper / no paper options
- ☐ Build self-serve options within OBV with links to Banner
- ☐ Move from 2% to 7% participation rate (top quartile)
 - ⌘ 75% epost and 25% OBV (currently 79%/21%)
 - ⌘ breakeven year 1 and save \$150k thereafter



When do we do this?

Start now!

Introduce OBV e-bill / self-serve in Sept 2007



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UNION GAS LIMITED

Answer to Interrogatory
from Consumers' Association of Canada

Reference:

Question

Please provide a detailed explanation as to what productivity gains were achieved during PBR. For each department please identify where productivity initiatives were achieved and the cost reductions related to those initiatives.

Answer

During the trial PBR term, Union has been managed in its entirety with a focus on company-wide financial results. Consequently, Union does not have a listing of areas where productivity gains were achieved. The focus was on forecasting as accurately as possible, ensuring a financial plan was in place to achieve acceptable financial results for Union given the 2.5% productivity factor used to set Union's delivery rates and then executing on that financial plan.

Guidelines were communicated to management as to how to go about constructing their budgets. If it became apparent that financial targets would likely not be achieved without corrective action, management was asked to commit to generating higher revenue or reducing costs. How managers delivered on their commitments, was up to each individual administrator. There was no value to be gained from documenting the areas where productivity improvements were being achieved, nor were the resources available to do so.

However, 2 initiatives 1) 1999 restructuring, and 2) WAVE were undertaken by Union. Each is discussed below.

- 1) In the RP-1999-0017 proceeding, Union identified that it had restructured the company and downsized, eliminating 177 positions. This had been done for a number of reasons including preparing Union to manage under PBR. The investigation by Union's management that led to the restructuring was comprehensive and extensive. In its RP-1999-0017 Decision with Reasons, the Board reduced rates by \$5.162 million to reflect the staff reductions. Exhibit C3.28 (Attachment #1) and C3.93 (Attachment #2) from the RP-1999-0017 proceeding described the restructuring.

At the time restructuring was undertaken, Union believed that PBR would reduce the regulatory burden that had accompanied a cost of service filing and the Company was staffed

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accordingly. Consequently, resources were not available and are not currently available to document the areas where productivity improvements have been achieved.

It has been Union's experience that PBR has not reduced the costs of regulation as anticipated by Union when it undertook the restructuring that occurred in 1999. This is consistent with the Board's belief as expressed at par. 2.232 of the RP-1999-0017 Decision with Reasons. This is the rationale for the additional adds to staff proposed in 2004.

- 2) In 2000 and 2001, Union undertook in conjunction with Westcoast a corporate wide purchasing initiative to reduce costs related to travel, telecommunications, computers etc. During this period it is estimated the Company was able to reduce operating costs by \$2.0 million. These savings are reflected in current operating costs.

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