TransCanada PipeLines

GEORGIAN BAY WATER PIPELINE CONCEPT

Summary Overview

SEPTEMBER, 1992

GEORGIAN BAY WATER PIPELINE CONCEPT

TransCanada PipeLines Limited is proposing to design, finance, construct, own and operate a long distance potable water transmission system using Georgian Bay as the water source. The system would serve communities in Simcoe County and York Region, and could be extended at the outset or later to serve communities in Peel, Halton, Wellington and Waterloo Regions.

TransCanada is seeking to develop, in partnership with the provincial and regional governments, the institutional framework necessary to facilitate such an undertaking.

COMPONENTS AND CAPITAL COST OF THE SYSTEM

The system would be comprised of an intake structure and water treatment plant located in the vicinity of Collingwood. The main trunkline would consist of approximately 115 miles of large diameter steel pipeline. One or two intermediate pumping stations would be required depending upon the final design selection. Deliveries would be made into either existing or new reservoirs. A preliminary estimate of the total capital cost is in the order of $500 million in $1992. From discussions with local and regional officials, initial average day volumes are estimated to be 50 - 60 million gallons.

THE NEED FOR SUCH A SYSTEM

The principal objective for the proposed system is to replace existing groundwater supplies in communities where it is found to be chronically lacking from a quality, quantity or long term reliability perspective. The pipeline system would provide numerous communities permanent access to high quality potable water. In addition many communities are faced with substantial capital requirements to: upgrade aging infrastructure; meet changing water quality standards; or, expand systems to meet future needs. The proposed pipeline system offers a cost efficient means of simultaneously filling these needs.

PROTECTION OF THE PUBLIC INTEREST

The construction and operation of such a system would be undertaken within a regulatory framework designed to ensure protection of the public interest. Various protection mechanisms are possible, including established regulatory procedures. Pipeline routing, capacity and access privileges would be subject to provincial jurisdiction to ensure harmony with long-term planning objectives.

BENEFITS OF PRIVATE SECTOR PARTICIPATION

Governments at all levels are struggling with the rising costs of meeting the ever growing needs of their constituents. The costs of maintaining and expanding water systems compete with other critical demands on the public purse including health care, education, welfare services, public transit and other infrastructure requirements of modern society. The burden can be reduced by encouraging greater private sector involvement within a framework that ensures the protection of the public interest. TransCanada believes its proposal is in the public interest and is consistent with the objectives of the Government of Ontario.

ENVIRONMENTAL IMPLICATIONS

Groundwater is an immensely valuable resource. In addition to serving as a primary source for agricultural and rural residential uses, groundwater fills a variety of very critical environmental functions. For example, groundwater helps to recharge streams and rivers, it can be very important to the maintenance of healthy wetland areas, and it improves soil water content which is essential to plant life. A reduction in the urban consumption of ground water will therefore lead to positive environmental impacts.

Current steel pipeline construction practices and technology is such that the localized environmental impacts resulting from the construction process can be minimized and mitigated. Relative to the average daily outflow from lake Huron (approximately 100 Billion gallons) the contemplated withdrawals are negligible and will have no discernible impact on Georgian Bay.

PIPELINE CAN FACILITATE GOVERNMENT POLICY & PLANNING OBJECTIVES

Within the framework of a regulated utility, the pipeline can be a tool of the provincial government to facilitate its policy objectives in the areas of: managing urban form and structure; meeting environmental objectives; implementing revised drinking water standards; and promoting and protecting public health. In addition, cost of service regulation is consistent with the user-pay principle which in turn will promote conservation.

SOCIO ECONOMIC BENEFITS

The system will form a permanent part of the Ontario's infrastructure providing a long-term economical source of high quality potable water to residents of the Greater Toronto region and adjacent centres. Virtually 100 percent of the total estimated capital cost will be sourced from within the Province. The construction of the pipeline alone will create in excess of 130,000 man days of direct employment and result in approximately $75 million of wages at current union rates. Assuming a conservative economic multiplier of 2 the project would result in $1 billion of economic activity for the Ontario economy.

In addition the operations of the pipeline and treatment plant will create jobs and provide new municipal and provincial tax revenues.

SUMMARY OF THE MERITS & BENEFITS OF THE CONCEPT

- By eliminating the withdrawal of ground water by larger urban areas, the project will have a positive environmental impact.
- The project will provide a reliable supply of potable water to a large number of communities who's current groundwater supplies may be subject to loss from past, present and future sources of contamination.
- The project will promote conservation through the market price mechanism and is consistent with, and promotes, the user pay principle.
- Permanent jobs and tax assessment will be created in addition to significant economic activity during construction.
- The project can act as an example of a " partnership " between the private and public sectors in serving the needs of the people.

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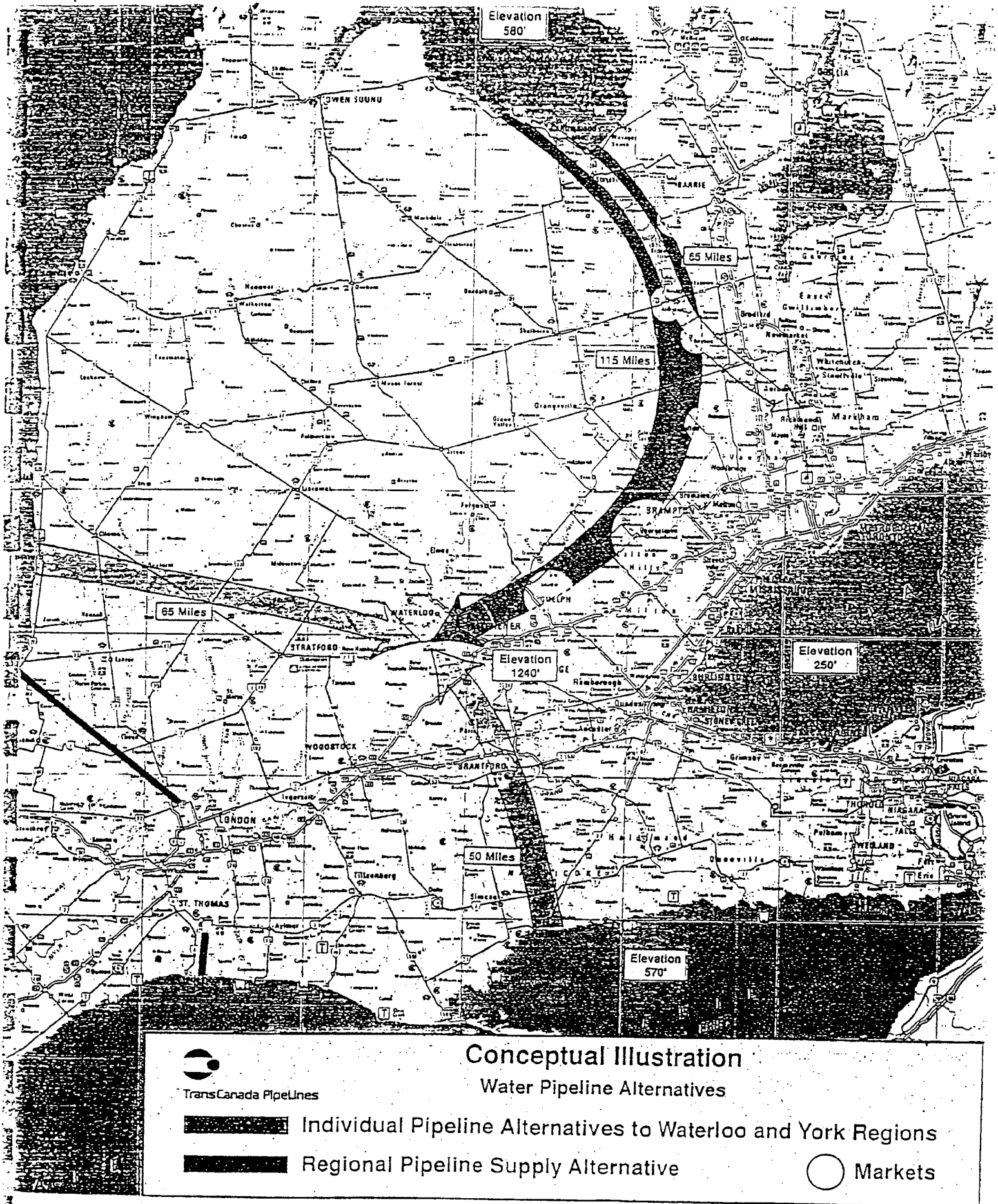
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LONDON
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TransCanada PipeLines
Conceptual Illustration
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TRANSCANADA PIPELINES

GEORGIAN BAY WATER PIPELINE CONCEPT

QUESTIONS AND ANSWERS

September, 1992

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BACKGROUND

TransCanada PipeLines Limited is proposing to design, finance, construct, own and operate a long distance potable water transmission system using Georgian Bay as the water source. The system would serve communities in Simcoe County and York Region, and could be extended at the outset or later to serve communities in Peel, Halton, Wellington and Waterloo Regions.

During the past several months, TransCanada has met with representatives of communities and regions that could be served by the pipeline and with provincial government officials. We have been encouraged by the show of support for our pipeline concept, and have therefore prepared this paper to provide answers to a number of recurring questions.

The Need for a Pipeline Water Supply

Q: Is there evidence of a need for a pipeline water supply in the near future in the areas contemplated by TransCanada?

A: The question of need is one that each region or community has to answer. In general, there is mounting evidence that communities bounding the Greater Toronto Region and in the northern parts of the GTA itself are encountering water quantity or quality problems. Even modest growth at levels predicted in recent Ontario government reports will make new water supplies a necessity in many communities (e.g., Ministry of Municipal Affairs, *Perspectives: Beyond the GTA*) and some communities are having difficulty meeting their current needs.

Q: Are there not options other than a pipeline system from Georgian Bay?

A: Virtually all of the communities in the proposed service areas are entirely or mostly dependent on groundwater. For most communities the only local options are to continue the search for new groundwater supplies by drilling deeper or farther afield, and to allow, if not encourage, new housing and estate type developments in unserviced areas using wells and septic systems. Both approaches may buy time, but neither represents a long-term solution to the water supply problem. Some communities may also have the option of connecting to the Metropolitan Toronto or other regional water systems which draw on Lake Ontario, but this may be a more costly and less satisfactory alternative over the long term. In the case of Waterloo Region, there is also the option of a pipeline from Lake Erie as well as additional phases of the Mannheim recharge system. But none of these options is likely to provide the strategic advantages of a Georgian Bay pipeline. A Georgian Bay line can economically serve more communities outside the metro area and would be best placed for subsequent extensions to serve even larger areas.

Q: What about the conservation option?

A: Water conservation programs should be vigorously pursued no matter what water source is used. But conservation will not eliminate the need for new long-term water supplies. Estimates of the gains from conservation suggest per capita water consumption could be reduced by about 20% in most Ontario municipalities, assuming comprehensive water conservation strategies including appropriate pricing. But that level of reduction requires major changes in water using habits by individuals and businesses and will not be achieved quickly. If the 20% target is achieved by the year 2011, the Greater Toronto Area and surrounding regions and

counties will still face increased water demands equivalent to substantially more water per day than is now required by the City of Toronto on a daily basis (assuming the moderate growth rates projected by the Ontario government). Moreover, growth will undoubtedly continue beyond 2011 and water demands are likely to increase in direct proportion to this longer term growth once the major conservation gains have been made.

Q: TransCanada talks about designing a water system to meet current requirements, but isn't the viability of a system dependent on continued growth in the regions to be served?

A: The need for alternative water supplies reflects recent growth as well as anticipated longer term growth. But the proposed pipeline is **not** a growth-oriented project and it would not be viable if designed only to meet water demands related to growth — no matter how high the anticipated growth rate. For the system to be viable there must be a sufficient base load at the outset and we are therefore assuming the pipeline supply would displace all or most of the groundwater currently used in the communities to be served. The pipeline could also meet the requirements of newly developed or developing areas where alternatives are already being sought. Once installed, the pipeline system would be the logical means of meeting growth requirements in any of its service areas, but the system would remain viable without additional growth.

Q: Why should a community abandon its groundwater supply and lose the value of past investments in pumping and related facilities if groundwater can continue to supply a large part of its needs?

A: Unless groundwater can meet all current and longer term needs, it probably will have to be displaced at some time because it's unlikely any distant surface source can be economically connected without a sufficient base load for the pipeline. In addition, the experience in other parts of the Province (e.g., London and the southern parts of York region) suggests it is impractical and costly to maintain groundwater facilities as other than a stand-by emergency system once a pipeline system is in place.

Q: Would there be a need for pipeline water supplies if growth was stopped, or at least sharply curtailed, in the areas and communities that face water supply problems?

A: The need may still exist in those communities having difficulty meeting current requirements, and all communities have to consider the risks of continuing to rely on groundwater to serve large populations.

Q: What are the concerns about using groundwater to serve urban concentrations?

A: There are three main areas of concern. First, there is the risk that the rate of discharge of aquifers will begin to exceed the rate of recharge (i.e. the aquifers will be mined). When that happens, communities may face a serious water quantity problem. Already, there is mounting evidence that urban concentrations in and around the GTA will be unable to continue meeting their water requirements from existing groundwater sources for very much longer. And the search for new groundwater supplies is becoming less and less fruitful for many of the communities. Because of its nature, it is difficult to assess the adequacy of a groundwater supply or to predict its ability to support a given level of requirements for very long into the future. Indeed, the water in some Ontario aquifers was laid down in distant geologic time and is essentially a non-renewable resource. The ability of other aquifers to maintain a given rate of discharge is dependent on the weather, among other things, and an apparently abundant source can become limited if there are hot dry summers of the kind we've experienced over the last decade.

A second risk is the potential for contamination. Aquifers are highly susceptible to contamination from a variety of sources and can only be cleaned, if at all, by complex, time-consuming methods (measured in years) . Land use controls and other measures to protect groundwater should be implemented. But today's groundwater contamination problems are often the result of past agricultural, industrial or waste disposal practices. It's these past practices that water authorities have to live with and can do little about. Moreover, authorities have few short-term remedial options other than to shut down the affected wells when contamination is detected (see the Environmental Issues starting on page 8 for a more detailed discussion of the contamination problem).

Finally, there is the more subtle, and potentially much more serious, risk that continuing to use groundwater to serve larger urban concentrations will adversely affect the environment. Unfortunately, the environmental implications of excessive groundwater use are not as well documented and may not be as well understood by those making water supply decisions. Moreover, the damage can be done before the problem is recognized. (see Environmental Issues, starting on page 8, for a more detailed discussion).

Timing

Q: Can't a community buy time by continuing to develop new groundwater supplies?

A: Yes, new groundwater supplies can extend the time before a community has to connect to an alternative system. But unless the time extension is lengthy, continuing to make incremental additions to the groundwater supply probably won't make much sense. The new groundwater will still be displaced at some point and the incremental investments will be lost. In the meantime, water supply problems will continue to dominate the public agenda instead of being resolved once and for all.

Q: Why can't individual communities look after their own needs for as long as possible and then connect to a pipeline when other options are either exhausted or become too expensive?

A: This may represent a sensible alternative for individual communities that have longer term water supply options, particularly smaller communities. But the development of a pipeline supply can be jeopardized if most communities, or the larger communities, take this approach. Again the problem is one of establishing a sufficient starting base load to make a pipeline economic.

Q: What is the likely timing of a pipeline supply based on the needs of different communities?

A: Virtually all of the communities in the potential service areas have indicated a need for pipeline supplies at some time in the future. The perceived timing varies. Most of the communities or regions are undertaking studies to examine options and more precisely determine the timing; some continue to make incremental investments to buy more time; others have few options and are limiting growth to stretch the available water supplies.

Q: How can the different timing requirements be reconciled?

A: Ontario regional and local governments are used to thinking about water supply as a purely local matter. But a Georgian Bay water pipeline system will cut across traditional political boundaries and will require a cooperative effort, at least in terms of defining the volume and timing requirements. TransCanada can assist in this process by clarifying the pipeline options and related costs and by bringing communities together to discuss and better define their needs. While timing compromises may be necessary, with some communities connecting to the pipeline system somewhat sooner

than they would like, a cooperative approach is likely to result in significant long-term benefits for all participating communities.

Growth Issues

Q: Won't the introduction of a secure and abundant long-term water supply result in more rapid growth in an area?

A: An adequate water supply is a necessary condition for growth, but it is not the only condition. Unless a water constraint is severe, it may be overshadowed by factors such as employment opportunities, location relative to other centres and transportation facilities. Conversely, the provision of adequate water will not generate growth in an area unless other key conditions are satisfied. For example, water supply facilities were built in southern Ontario partly to serve the needs of an electrical generating station and partly to help spur growth and develop a new community in an area removed from existing urban centres. But the anticipated growth never materialized despite the favourable water supply situation because the area presumably did not meet people's needs and expectations to a sufficient degree.

Q: But wouldn't it nevertheless make sense to first complete planning studies and make decisions about the extent and location of growth before deciding about a pipeline system?

A: There are two aspects to this question — the issue of the amount of growth and the issue of location. Answers about both aspects depend on the scale of the studies; whether they are on a broad macro scale, or on a micro scale at the level of sub-regions and individual communities. The broad patterns of growth in and around the GTA have been well established for the past 50 years or so and seem unlikely to be fundamentally altered as a result of new planning efforts. Nor does there seem to be serious debate that growth will continue in and around the GTA. In fact, given the nature of our society, it's doubtful that growth could be stopped on a macro scale even if the no-growth option were favoured. Planning therefore tends to be more focused on deciding which specific communities or sub-regions should be encouraged to grow and what form the growth should take. New water supplies will be needed irrespective of the specific, or micro, growth pattern and the pipeline fits with any realistic concept on a macro scale. Moreover, planning efforts are often more focused and fruitful when decision have to be made about specific projects and a definitive pipeline proposal could therefore facilitate the planning process at the micro level.

Q: How does the pipeline proposal fit the likely broad pattern of development in and around the GTA.

A: Snapshots of urban concentration at intervals since the early 1920's reveal a steady increase in concentration along the lake shore to Hamilton, along major north-south arterial highways and expressways leading out of Metro to the northern parts of York Region and to Barrie, and along highway 401, particularly to the west. The highway 400 pattern shows not only a northward thrust from Metro but also a southward thrust from Barrie. Similarly, there has been a thrust in both directions along highway 401 from Metro and from the Kitchener/Waterloo area and Guelph. The Georgian Bay pipeline concept is a strategic one in the sense that the pipeline could serve all of these growth areas except the lake shore, either from the outset or through a process of extension to meet needs as they materialize.

Environmental Issues

Q: How can communities contemplate new water supply systems without at the same time considering waste water disposal?

A: As a general principle, water supply and waste water disposal are two sides of the same coin and consideration of one requires consideration of the other. However, there will be no significant change in total water use and therefore no increase in waste water if a new pipeline water supply only displaces existing groundwater supplies in a community. Since communities already have waste water disposal systems to handle current discharge levels, the relationship of water supply and waste water disposal is mainly of concern in the context of growth. In that context, it is the increase in total water use that will result in any waste water disposal problems, irrespective of the water supply source.

Q: Doesn't it make sense on environmental grounds to limit community populations at levels that can be sustained by local water supplies, rather than always reaching out to more distant sources?

A: This is a frequently recurring argument against pipeline water supplies and it has intuitive appeal. It's also an argument that gains stature from widely publicized problems and proposed solutions in areas like California and the U.S. midwest. But the validity of the argument depends on a more precise definition of the words 'local' and 'distant" and on a careful assessment of the nature of water use in problem areas. In California and the midwest, for example, the major contributor to water supply problems has been inappropriate irrigation practices which have resulted from subsidized water supply programs. While long distance water transmissions schemes

have been proposed, the more rational solutions relate to proper pricing of water and making best use of available supplies.

In Ontario, the problem is different. Here, the problem reflects urban concentration, industrial development and the historic approach to water supply planning and development. Water supply has long been considered a local problem in Ontario, requiring local solutions. But the definition of 'local' has varied according to the circumstances, ranging from the regional municipality level down to small villages, and has little to do with actual water sources. The word 'distant' has had a similarly elastic meaning. For example: Lake Ontario water is pumped through the Metro Toronto system to serve southern parts of York region; systems that extract water from streams and rivers are actually relying on natural pipelines to bring water from somewhere else; and, groundwater systems often reach out beyond municipal boundaries either in terms of where wells are drilled or in terms of the effects of pumping on underground water movements.

In contrast to the existing jurisdictional approach to water supply, it makes more sense from an environmental perspective to define 'local' in ecosystem terms. Ecosystems, in turn, can be defined by natural watersheds or on an interrelated drainage system basis — for example, the Great Lakes drainage system. When 'local' is defined in this way, the question of distance becomes largely irrelevant and the focus is properly on the best strategic (and cooperative) approach to meeting water supply requirements within an ecosystem. The TransCanada proposal has been structured from this strategic perspective.

Q: What about the related issue of water contamination? Shouldn't we clean up and protect existing groundwater rather than simply turning to more distant water sources when a contamination problem occurs?

A: In principle, and certainly on purely environmental grounds, the answer to this question is yes. But people must have an acceptable water supply, and in practice the answer depends on the source of contamination, the specific contaminants and the characteristics of an aquifer and water supply system.

There is no doubt that groundwater can and should be protected. However, groundwater is susceptible to contamination from so many direct and indirect sources that protection may be very difficult to achieve. In addition, slow but steady migration of groundwater can result in a problem years after the fact and distant from the original source of contamination. In fact, contaminant plumes can be drawn toward a well by continual pumping.

Once groundwater is contaminated, clean up may be possible (although not always) but generally at great expense and over a long time period. In the meantime, the groundwater may be totally unsuitable as a source for potable water supplies without extensive treatment. Treatment is difficult, however, because groundwater systems are typically characterized by dispersed well clusters and generally do not include centralized treatment facilities. Nor can the appropriate facilities be installed quickly or cheaply. Of particular concern is the fact there is seldom advance warning of a contamination problem and generally little basis for determining how long a specific well has been contaminated, what exposure people have had to contaminants and what health effects might have been suffered.

Dr. John A. Cherry, of the University of Waterloo Institute for Groundwater Research, has presented the following prognosis for groundwater contamination in Canada in the next few decades:

(1) Aquifer contamination that already exists will, in many cases, gradually spread.
(2) Many water-supply wells that are not presently known to be contaminated will be identified as being contaminated.
(3) The number of contaminating compounds observed in wells will increase and new contaminants will be identified.
(4) Many aquifers that are not now contaminated will become contaminated.
(5) An increase in monitoring wells using modern analytical methods to detect industrial organic contaminants will show that groundwater contamination is generally more widespread and deeper than previously thought.
(6) The discharge of contaminated groundwater into wetlands, streams, and lakes will increase.
(7) An increasing number of water supply wells in which contaminants are identified will be shut off and the former users of these wells will be supplied at much higher cost with water from other sources.
(8) There will be an increase in the number of sites where attempts will be made to remove contamination from aquifers but, for some time, successes will be few and costs will be large because appropriate technology has not yet been developed or tested.
(9) Public concern and fear with regard to the effects of waste disposal sites, pesticides, and industrial spills into groundwater will increase. This trend will be fueled by the seemingly unexpected occurrences of contamination and the inability of government and industry to predict trends or to solve the problem.

[Source: Cherry, J.A., 1986. Groundwater Occurrence and Contamination in Canada. In: Canadian Aquatic Resources, Canadian Bulletin of Fisheries and Aquatic Science #215, Healy, M.C. and Wallace, R.R. (eds.) pp. 387-426.]

Q: But isn't contamination also a problem with large water bodies like the Great Lakes?

A: Yes. However, in this case, protection and clean up are synonymous: unlike groundwater, large water bodies can flush and clean themselves naturally over a relatively short time if they are protected from further contamination. We generally have the luxury

of time because water from such sources always passes through centralized treatment plants before distribution and can therefore be treated to ensure a safe potable supply. For all of the above reasons, contamination is most often a serious problem requiring the consideration of alternative supplies in the case of groundwater based systems and there is seldom serious consideration of abandoning a large surface water source in favour of a more distant source.

Q: What are the environmental implications of shifting away from groundwater and relying on surface sources?

A: Although some argue for continued, and even increased, reliance on groundwater, we believe the environmental benefits of shifting away from groundwater to serve large urban concentrations outweigh any environmental costs associated with extracting, treating and transporting surface water. Or to put it another way, continued reliance on groundwater to serve large urban concentrations can result in serious environmental impacts, impacts that may not be recognized until it is too late.

Groundwater is an immensely valuable resource. In addition to serving as the main or only water source for agricultural and rural residential needs, groundwater fills a variety of environmental functions, including various geotechnical roles, helping recharge surface water bodies, maintaining healthy wetlands and improving surface soil water saturation on which virtually all plant life depends. The ability of groundwater to fill these essential human and environmental needs can be seriously compromised when it is also expected to fill urban needs. Large towns and cities use a lot of water no matter how conservation-minded the population and it's easy to reach the point of aquifer mining (overdrafting) or to significantly reduce the water table. When that happens, groundwater may be diverted from its natural path and be unable to serve environmental functions.

For example, one of groundwater's geotechnical roles is structural and excessive groundwater withdrawals may lead to a loss of structural integrity in host rock or unconsolidated materials. In fact, overdrafting of groundwater has caused land subsidence and produced severe engineering problems in many locations around the world. Parts of Mexico City, for instance, have subsided as much as 10 metres in the past 70 years as a direct result of excessive groundwater use. Although sub-surface structural damage has not so far been a serious problem in Canada, the potential is evident. For example, in the early 1970's an entire Ottawa residential subdivision subsided, with serious damage to the residents' property, when construction of a nearby collector sewer resulted in a lowering of the water table.

In terms of surface water flows, groundwater is often a major contributor. Indeed, in dry periods the flow of some streams may be supplied entirely by groundwater. Moreover, stream and lake flows and levels are dependent on groundwater conditions at all times of the year and in all weather conditions. If aquifers have been depleted, there will be more absorption of rainfall or snow melt and a corresponding reduction in surface run-off into rivers and lakes. Heavy pumping from a reservoir will therefore encourage more rapid aquifer recharge and result in a corresponding reduction in run-off into surface water bodies. This may be a desirable outcome in generally wet conditions when streams, rivers and lakes are already swollen, but far from desirable when water levels are already low. Yet periods of low water are typically the same periods when urban water systems are taking their greatest toll on aquifer levels. It's also worth noting that urban well systems are sometimes sited to induce infiltration of water from surface sources to an aquifer, when the natural course may be for the groundwater to flow into the surface body.

Wetlands are a specific, particularly critical, point of interaction between groundwater and surface water. Home to nearly all of North America's ducks and other waterfowl, wetlands are a precious natural resource that has been steadily disappearing and has to be protected. In terms of groundwater, wetlands are much more likely to be discharge areas than recharge areas. In other words, wetlands are very dependent on a continuing flow from groundwater sources for their existence. Again, the lowering of water tables as a result of heavy pumping of aquifers can have serious adverse environmental consequences.

It's also important to recognize that environmental damage doesn't happen only when aquifers are mined. For example, heavy pumping can result in deterioration of groundwater quality before discharge rates exceed recharge rates because there may be induced infiltration of poorer quality underlying groundwater (i.e. brackish or saline water) as a result of pressure changes. The deteriorated groundwater may then find its way to wells or be discharged into streams, lakes or wetlands.

In contrast to groundwater, the environmental implications of using surface water are visible, well-understood and can be mitigated. For example: the volume reduction will be barely measurable when the source is a large water body like one of the Great Lakes; the main environmental problem associated with treatment is sludge disposal and methods for dealing with that problem are steadily being refined; and, pipeline transmission is an essentially benign activity once the pipeline has been constructed and the right-of-way restored.

Roles of the Public and Private Sectors

Q: What specifically is TransCanada proposing to do?

A: TransCanada is proposing to finance, build, own and operate a water supply system that would include an intake structure, treatment facilities and the pipeline, including pumping stations and ancillary equipment. TransCanada would not own or sell water, but would provide an extraction, treatment and transportation service to regional or municipal governments. Payment for these services would be charged on a cost-of-service basis following essentially the same approach as other private utility services such as natural gas transmission.

Q: What would change in terms of regional or municipal government responsibilities for water?

A: Regional or local governments would continue to be responsible for water distribution within their jurisdictions and would therefore maintain existing relationships with water users. The major change would be in terms of bulk water supply. Instead of having to find and develop water sources, or make inter-governmental arrangements for water supply, municipalities would contract with TransCanada for a given level of service, taking account of their current and medium term requirements (5 to 10 years into the future). If needs increase in the longer term, a municipality would request an increased service level and TransCanada would then prepare plans, seek approvals, finance and implement the appropriate system expansions.

Q: Who would be responsible for getting the necessary approvals to construct and operate the water system?

A: The most logical approach would be for TransCanada and its potential customers to each take responsibility for certain aspects of the approvals process. Regional or local governments would take responsibility for assessing water requirements, including related land use and growth issues, and for comparing alternatives, including the environmental and financial implications of non-pipeline alternatives. TransCanada would provide sufficient detail about its proposal to assist governments in making comparisons, but it would rest with regional or local governments to determine the preferred alternative and to then argue that case as necessary at the provincial level. Assuming a pipeline emerged as the preferred alternative, TransCanada would take responsibility for obtaining environmental clearances and other approvals related to all of the facilities it would build and operate.

Q: Where would the provincial government fit in this process?

A: The provincial government has responsibility under various acts and regulations to determine that the public interest would be served and that all public health, safety and environmental standards would be met. For example, under the terms of the Ontario Water Resources Act, TransCanada would have to satisfy the Minister of Environment that it was meeting all requirements related to water quality and service reliability, including the design, construction, operation and maintenance of its system. Similarly, regional or municipal governments would have to satisfy the Minister with regard to the question of need and the selection of a preferred water supply alternative. Local governments would presumably also have to satisfy the Ontario Municipal Board with regard to long-term water supply contracts and related obligations.

Q: If a pipeline is found to be the preferred alternative, why shouldn't a regional government build and operate the system itself?

A: There are two main factors to be considered by a municipality considering this option, one financial and the other relating to jurisdictional matters. On the financial side, a municipality may benefit from having a system financed by the private sector, depending on future Ontario Municipal Board treatment of long-term contractual obligations. Assuming the Board does not treat such payments as equivalent to a debt service obligation, a municipality would gain from the ability to preserve its debt capacity to serve other needs. On the jurisdictional side, a municipality would face a complex and difficult process if a preferred pipeline alternative connected to a source outside the regional or municipal boundaries. In addition to all of the time-consuming and costly problems of negotiating inter-governmental agreements and acquiring rights-of-way related to meeting its own needs, the proponent municipality could face the complexities of operating and perhaps expanding a system to serve the long-term needs of other regions or municipalities. A private entity like TransCanada can usually cope with such complexities more easily and quickly because it can maintain a single project focus and deal with different jurisdictions and individual landowners in a more neutral, one-on-one relationship. Indeed, as the owner and operator of one of the largest pipeline systems in North America, TransCanada routinely deals with governments at all levels as well as with individual landowners.

Q: Why shouldn't regions or municipalities look to the provincial government to resolve water supply problems by building and operating inter-regional water systems on their behalf ?

A: Inter-regional water systems were historically constructed and operated in Ontario by the provincial government because it seemed the most logical entity to cope with related jurisdictional complexities and financial burdens. But the Province has made it increasingly clear in recent years that it is reluctant to continue this role and that it looks instead to regional governments to solve their water supply problems on their own or in cooperation with other local governments. In addition to financial reasons, some argue this is a sensible approach because it reduces the potential for conflict of interest on the part of provincial authorities. As water supply and quality issues become progressively more complex, provincial authorities have a primary responsibility to ensure the maintenance of public health and safety as well as environmental standards — a role that is more difficult to fill if it concurrently builds and operates water systems.

Protection of the Public Interest

Q: Is it in the public interest for a private company to be involved in a function as critical as municipal water supply?

A: Water supply is certainly an essential service, but it's doubtful in modern urban settings whether it is any more critical than fuel and electricity supply, waste disposal or maybe even communication services. The private sector has historically been the primary provider of fuel supplies and communication services, and is becoming progressively more prominent as a supplier of electricity and waste disposal services in Ontario, as elsewhere. But for a variety of reasons, and with few exceptions, water systems have long been considered the exclusive purview of governments in Ontario. This is not so true elsewhere. For example, private water companies are very common in the United States, England and France, often providing distribution as well as extraction, treatment and transmission services. There are also private water companies operating in other parts of eastern Canada. The evidence from those jurisdictions supports our belief there is no inherent reason private companies can't provide water services just as they provide other critical services, as long as the public interest is properly protected.

Q: How can the public interest be protected?

A: Regulatory precedents for overseeing private utilities are well established in Ontario. For example, the Ontario Energy Board protects the public interest by regulating the franchised natural gas utilities that serve the public directly. In the case of a water pipeline system of the type proposed by TransCanada, services would be provided to regional governments or municipalities rather than end users. Since governments would therefore be contracting with

TransCanada for services, there is no apparent reason that contracts couldn't deal with many of the public interest matters such as rates, rate-making, the level and quality of service, and other service agreement issues. Other aspects of the public interest could then be covered by having the provisions of the Ontario Water Resources Act apply in full to the project. Alternatively, a more specific regulatory regime could be established by modifying the mandate of a suitable existing body or by creating a new regulatory body along the lines of the Ontario Energy Board model. TransCanada recognizes the importance of public interest safeguards and is prepared to adhere to any reasonable requirements, whether they involve a structured regulatory regime, a contractual approach or some combination of mechanisms.