

**ELECTRIC UTILITY RESTRUCTURING
A PERSPECTIVE FROM THE FAR EAST**

by

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According to the Flat Earth Society, one of the four corners of the Earth is on the north east coast of Newfoundland. That would certainly put St. John's in the Far East. This is consistent with the generally accepted geography of Canada where Ontario is often described as being in the east of the country although Toronto is about 1,500 miles to the west of St. John's.

One of the many advantages of living in the Far East is that we're always ahead of everyone else – at least by one-half hour!

When it comes to electricity, we may have been ahead by decades if not a century. Fortis, through its subsidiary Newfoundland Power, has been serving the St. John's area since 1885. We have always been investor owned. Over the decades we have been able to meet the requirements of our customers for reliable, cost effective electricity as Newfoundland evolved from colony, independent country, administered territory and, ultimately, to a province of Canada.

In Ontario, our subsidiary Canadian Niagara Power developed the Rankine Generating Station which is the original power plant on the Canadian side of Niagara Falls. It has been in operation since 1906. We have served the Fort Erie area since 1907 and have exported surplus energy to the US. Today we also serve Port Colbourne and are awaiting regulatory approval to acquire Cornwall Electric. In addition, we hold minority interests in two regional electric utilities in this province – Rideau St. Lawrence and Westario Power.

Fortis also owns the principal electric utilities in the province of Prince Edward Island and the Central American nation of Belize. We have a minority interest in Caribbean Utilities which serves Grand Cayman. We have generating facilities in all these jurisdictions and small hydro facilities in New York State. Our Fortis Properties subsidiary is the largest owner-operator of hotel and commercial real estate in Atlantic Canada.

The structure of the electricity industry varies throughout our generating areas and has changed considerably over time. For example, Maritime Electric in PEI is currently on its third regulatory regime in less than a decade.

Through our long history and regulatory diversity, Fortis has a broad perspective on restructuring of the electric utility industry. I've been asked to share that with you this morning.

When I hear or read some of the statements about electric utility restructuring, I'm reminded of the Flat Earth Society. If you focus on only a small part of the earth's surface it seems like an obvious conclusion that the earth is flat. If you're building a house or laying out a garden, it is a safe and useful assumption. Level is level, east is east. Unless, of course, you plan to travel a significant distance.

This morning I want to talk about four cornerstones electric utility restructuring. Each has a substantial element of truth but unfortunately is not completely accurate.

First Cornerstone, the Electric Utility Industry is Like Other Deregulated Industries

While much of the focus in electric utility restructuring is on the commodity generation of KWh's, the utilities are fundamentally in the business of energy delivery not commodity generation. Electricity is not a primary energy form but can be manufactured using hydrocarbons, solar or nuclear energy or moving fluids. The user of electricity converts it into heat, light and motion. It powers household appliances, communication devices and numerous other applications that define modern society.

Electricity is essential in a modern society. Customers expect it to be available on demand without interruption at affordable rates.

A KWh of electricity will energize a 100 watt light bulb for 10 hours. In a thermal based system, it takes about 4 cents worth of fuel to generate a KWh of electricity and 2 cents for the generation. The delivery is typically 4 to 8 cents. Whether at 2 cents or 20 cents a KWh, a reliable supply of electricity is a tremendous value proposition for our customers.

The structure of the electric utility industry must also reflect the physics and unique features of the service or product that is electricity.

Electric current travels at the speed of light so that for most practical purposes, its use is instantaneous with generation. There is no practical means to store electricity at the utility level. Generators, users, and

environmental forces are constantly changing the electrical characteristics of the system. The flows of electrical current, voltage, and frequency must be controlled or the system will become unstable and collapse.

The industry is also characterized by economies of scale and capital intensity which helped make it a natural monopoly. One system providing service to all customers in a given area will, in total, cost less than multiple smaller systems. There are large capital costs and long lead times for construction. However, the assets typically have long service lives and, if the owner can be assured of cost recovery over a long period, capital charges can be minimized. Capital intensity favours a stable and predictable investment climate to instill investor confidence and lower the cost of capital.

Other industries share the attributes of economies of scale and capital intensity. However, when coupled with the almost essential requirement for electricity in a modern society and the physics of electricity, analogies with other industries are not completely appropriate.

Second Cornerstone, Restructuring Allows Deregulation

The concept of utility regulation first proposed and implemented in the early 1900's recognized that electric utilities are permeated with the public interest that would necessitate significant public oversight by way of government regulation. The question is and always has been, to what extent is regulation necessary and desirable.

For many decades it was assumed that government ownership was an alternative to regulation. Eventually this proved to be misguided and many jurisdictions moved to regulate “commercialized” government utilities. Ultimately governments have found it necessary or desirable to privatize the utilities. Privatization is often accompanied by restructuring and, unfortunately the two processes are often confused. Frequently, governments have attempted to obtain through restructuring, benefits which can only be truly gained through privatization.

In the traditional regulated monopoly model, one utility is responsible for all aspects of the business and for ensuring reliable service to the consumer in its service territory. Monopoly regulation permits utilities to take full advantage of economies of scale and minimize the cost of capital. The regulator is responsible for seeing that the utility meets its obligation to serve, that it doesn’t abuse its monopoly and that its costs and rates are fair and reasonable in the circumstances.

Many components of the electric utilities business have always been part of a competitive market without regulation. Consider the equipment and technology used by the utilities, these are provided by a number of international manufacturers. The primary fuels used in generation, coal, oil and gas, are commodities for which there are competitive markets. Utilities compete for human and financial capital with other businesses in national and international markets. In fact, almost all the principal cost inputs to the electric utilities must be secured on a competitive basis. This means that in a given jurisdiction no utility can enjoy a significant cost advantage over

another on a go forward basis absent economies of scale. Existing differences in cost are due mostly to historical or geographical factors unrelated to current operation of the utilities.

The restructuring in the electric utility industry that came to be captured by the word “deregulation” is really a misnomer. It describes a process whereby fully regulated vertically integrated monopoly utilities are disaggregated, with the resultant components being afforded different types of regulation.

The generation of electricity is separated from the wires business and competition to sell electricity into a regulated market is promoted. The generators are not regulated in the traditional sense. In theory, the price of electricity, as a commodity, is determined in the market on a real time, marginal cost basis and flowed through to the customer. The experience to date is that generally there are many market imperfections. A few large competitors dominate the market and regulatory oversight must be provided to ensure that they don't use their market power to game the system. Proponents of restructuring argued that this is a transitory problem or faulty market design.

The transmission system is critical to the functioning of a market within which electricity is bought and sold. The operation and regulation of transmission is therefore separated from the rest of the utility business to ensure non-discriminatory access. Ownership of the transmission system may however remain with distribution. The transmission operator must also

procure related services such as voltage support, load following and spinning reserves to ensure that the system stability is maintained.

Distribution companies remain regulated monopolies. Incentives may be added to promote efficiencies.

The marketing and customer support function may be separated from distribution to promote competitive marketing and bundling of services. However, in all instances to date, it has been necessary to have a default provider of a “standard offer” service on terms set by a regulator. The default provider is usually the distribution utility, although sometimes it is the regulator. Experience to date suggests that, except for large users, customers default to the standard offer. Again, proponents of restructuring argue this is a transitory problem or faulty market design.

The wires remain a monopoly but there is “regulated competition” in generation and sometimes customer marketing. “Regulated competition” is an oxymoron. We’re clearly not talking about free markets and the “invisible hand” that would inspire the followers of Adam Smith. Distribution is still regulated. Transmission is still regulated. Generators and marketers are not regulated but their market place is. The regulator or the transmission company or the distribution company, must be responsible for default supply and system planning and expansion.

Deregulation in generation but much more complex regulation in other aspects of the business - this is the fundamental model after restructuring although there are substantial differences between jurisdictions

in the detail of implementation. Restructuring is not deregulation and certainly not privatization.

Third Cornerstone, Restructuring Will Give Lower Prices

The principal reason given for restructuring and regulated competition is economic efficiency and lower prices to consumers. Regulating competition is much more complex and costly to administer than regulating monopolies. Economic savings in other areas must be substantial to offset these costs. This can only occur in systems with millions of customers and thousands of megawatts of generation.

To achieve economic efficiency, it is argued the price to the consumers for electric services must reflect the real time, marginal cost. Relative to prices under the traditional model of regulation, prices in a restructured market would be lower where there is capacity surplus and, higher when there are capacity shortages, but on average, lower over the long run.

Conceptually, this is easiest to understand with respect to the energy component. But the concept has also been applied to generating capacity, transmission capacity and related services.

Fundamental to the economic argument is the principle that prices will rise as demand rises towards peak capacity. What deregulation advocates sometimes ignored or failed to fully appreciate was:

- i) new capacity will not be constructed in advance if nobody is prepared to pay for it and can't be constructed quickly when required;
- ii) demand will eventually reach capacity either because demand will rise with general growth in the economy or through some natural event, or capacity will diminish through obsolescence or through some natural event; and
- iii) prices would rise dramatically as demand approached capacity because in a modern society, electricity is essential.

Because it is inevitable that demand will eventually reach capacity (unless new capacity is being added) and because the consequences in terms of price to the consumer is so severe, consumers should be provided with sufficient reserve capacity as insurance against this outcome. The experience under restructuring has generally been that reserve capacity has shrunk substantially.

Subject to the caveats about the cost of regulating competition and of the need to provide sufficient reserve capacity as insurance, economics indicates that prices overall would indeed be lower if rates charged to customers with differing usage patterns more closely reflect their true economic cost. However, among customers, there will be winners and losers. Electricity marketers can focus on the individual customer usage patterns and help identify the winners.

Restructuring has produced some clear winners. Those advisors and consultants who were involved in implementing restructuring are still earning fees from clients who want to sort out the problems created or who want to avoid making them. The larger commercial and industrial customers have also benefited even when reliability is considered.

The clear losers in restructuring are residential and small commercial customers. Proponents of the process would argue that on balance society, in total, is better off in economic terms or at least will be better off when we resolve transitional difficulties or perfect the design.

At Fortis, we have been in the electric utility business for over 115 years. We operate electric systems from the industrialized areas of Canada to the developing economy of Belize. The structure of the industry in these jurisdictions covers the spectrum. Service reliability is always of greatest concern to customers. In theory, it should not be affected by industry structure. However if prices rise sharply, electricity may simply become unaffordable to some. Our experience suggests that the stable, predictable rates are generally much more important to customers than their absolute or average level. Rates become a concern only when they rise sharply. If they do rise sharply, for whatever the reason, and from whatever the base, customers will be very unhappy.

Consumer dissatisfaction with substantial rate increases inevitably leads to political and regulatory pressures for change. Indeed, this was the driving force for restructuring in the first instance. In a restructured environment, there will be tremendous political pressure to cap rate

increases when demand approaches capacity. To do so would defeat the market mechanism and cause confusion and uncertainty. Investors will not then commit to new capacity additions causing prices to spiral upwards in the longer term.

The corollary to the economic argument is that rates will be less stable in a restructured environment. Consequently, it is to be expected that many, and indeed most, customers will be unhappy with restructuring.

Final Cornerstone, There's A Stable Model for Restructuring

The electric utility industry is about 120 years old. It is an industry where the life of assets is typically 20 to 40 years. The restructuring process, while it began about 20 years ago, has advanced significantly only in the last 10 years. Those jurisdictions where restructuring is the most advanced began with mature electric systems. Over the last decade, they experienced historically low rates of growth. These are the most stable circumstances. Nevertheless, every jurisdiction where the industry was restructured found it necessary to revise its initial approach.

The trade off is always between service reliability and price stability on the one hand and the average price on the other. The traditional cost of service regulatory model served customers well for almost 100 years. However, for much of that period the industry was able to deliver a gradual decline in price while improving service.

It is obviously no coincidence that the cries for restructuring began with the rapid escalation in electricity prices in the early 1970's. Generally the higher prices rose, the stronger the cries. It was a coincidence that in the 1990's restructuring seemed to deliver on promises of lower electricity prices. Lower prices for natural gas and oil used for electric generation kept retail electric prices from rising and caused wholesale electric prices to drop. A return to more traditional price levels and volatility suggests that much of the early benefits may have been illusory or unsustainable.

Whether there is a stable model for restructuring of the electric utility industry that will bring overall long term benefits to customers is still open to question. At least the recent difficulties with the process has forced us to ask the right question and this is the right question:

What structure will best serve the needs of our customers in the long term for reliable electric service at reasonably stable rates?

With existing technology, the transmission and distribution functions are natural monopolies which must remain highly regulated. Separation of the marketing function from distribution has no significant benefit to customers other than large industrial or commercial users.

The generation of electricity will continue down the path of deregulation. Most of the new competitive generation is fired by natural gas and these facilities are more a part of the gas business than the traditional electric utility business. For oil and gas fired generation, economies of scale have been reduced down to the 100 MW level. Manufacturers have

developed much smaller units which can economically trade off slightly higher generating costs with reduced cost of transmission and distribution, thereby opening up the market for “distributed generation”.

The model that has all competitive generators and an efficient market for electricity entails significant size and complexity. At its heart is the transmission system. Expansion and strengthening of the transmission system and improvements in system operations are invariably required to accommodate the less regulated model for generation.

For systems that don't have millions of customers and thousands of megawatts of load, the challenge is to achieve more economical rates without full restructuring. Some jurisdictions promote unregulated generation, without restructuring in other areas, through long term contracts between generators and utilities or large customers. In a fully regulated environment, economic efficiency can be substantially improved through closer attention to rate classes and rate structure.

Clearly one pattern does not fit all when it comes to electric utility structure. Each jurisdiction should adopt a structure most appropriate to its own circumstances. Size and maturity of the system are important factors. For big interconnected systems, substantial competition in generation may be appropriate but not for a small isolated one. What is most appropriate will change as the system develops.

Economic efficiency is an admirable goal but economics has the reputation of being a dismal science. Economic theories may not be

practical or cost effective to implement. We can all save our customers and ourselves a lot of grief if we focus on the fundamentals, beginning with the priorities of our customers—reliable service and stable, predictable rates.

In all this discussion I have intentionally refrained from specific comment on Ontario. Contrary to what many people in this province might think, the difficulties that has occurred here are not unique. Indeed I would offer that it represents something close to the classical model of privatization confused with restructuring. Not a lot of progress has been made in restructuring in Ontario, the changes being more form then substance. As Alfred P. Sloan once commanded at General Motors “strategy follows structure”. A proper structure is critical to success. Fortis continues to pursue opportunities in Ontario. We do not assume any particular structure for the industry or timetable for privatization. For the moment at least, it serves our interest to assume that the earth in Ontario is flat! Or so it seems from the Far East.