

Ontario Energy Board

Review of Further Efficiencies

in the

Electricity Distribution Sector

Hydro One Inc. Submission

February 19, 2004

SUMMARY

As input to the Consultation process initiated by the OEB to review further efficiencies in the electricity distribution sector, Hydro One is pleased to provide its response to the OEB Staff Discussion Paper dated February 10, 2004.

This issue is of importance to Hydro One, which has three licensed distribution subsidiaries serving roughly 1.2 million customers in total: Hydro One Networks Inc., Hydro One Brampton Inc., and Hydro One Remote Communities Inc.

Hydro One Networks is Hydro One's largest distributor. Its distribution territory is unique in that it covers much of Ontario's geography and overlaps its transmission system, allowing service synergies to be achieved through the vast rural areas of the Province. In addition, it has the scale economies of serving about 1.1 million customers.

Hydro One offers the following observations in regard to the issues raised in the Staff Paper:

1. Hydro One agrees that there is the need to continue to pursue productivity improvements to improve the operational efficiency of individual distributors. Hydro One has achieved annual savings in total cost of approximately 8% over the 2001 to 2003 period with productivity savings largely re-invested in work programs. However, going forward savings are expected to be more difficult to achieve.
2. Hydro One agrees that there is the need to seek an optimal balance between cost reductions and desired results in regard to such business values as reliability, customer service, safety and environment, and sustained financial viability. Hydro One has implemented an asset management framework, which helps it ensure such a balance in allocating resources and prioritizing work programs to achieve desired objectives.
3. Hydro One's experience with the acquisition of 89 mostly small and embedded urban LDCs demonstrates that there are substantial synergies that can be achieved through consolidation. These synergies arise from the elimination of duplication and overlap in facilities, operations and services, improved scale economies in functions such as administration, asset management, billing, settlements and call centres, and more effective regional planning and emergency coordination.
4. Regulatory incentives such as a properly structured PBR regime can help drive efficiency improvements and beneficial consolidations. However, such a regime should recognize that certain factors such as low-customer density and difficult service terrain can drive intrinsically higher costs that are beyond the control of the LDC.
5. Legacy rate structures can be a barrier to consolidation. Similar types of customers with similar costs of service can pay very different distribution rates if they are served by different LDCs.
6. Transition and stranded costs can also be a barrier. An efficient rationalization strategy will seek to minimize these costs. Any remaining residual transition costs should be recoverable through rates.

7. Technological innovation by LDCs could be encouraged by allowing a certain proportion of costs within rates to cover such factors as accelerated depreciation and technology pilots and testing, within prudent limits.

1. Introduction

In this submission, Hydro One Inc. (“Hydro One”) is pleased to provide its response to the Ontario Energy Board’s February 10, 2004 Staff Discussion Paper entitled “Review of Further Efficiencies in the Electricity Distribution Sector”. In these comments, Hydro One has largely drawn from its own experience. Hydro One looks forward to participating in further constructive discussion as the OEB’s Consultation on this topic proceeds.

This issue is of major importance to Hydro One. Hydro One has three distribution subsidiaries: Hydro One Networks Inc., which is the largest electricity distributor in the Province and serves about 1.1 million customers; Hydro One Brampton Inc., which serves about 100,000 customers in the municipality of Brampton; and Hydro One Remote Communities Inc., which serves about 3,400 customers in 18 small off-grid communities in remote regions of Northern Ontario.

Hydro One Networks’ distribution service territory is unique in that it covers much of the geography of the Province, incorporating most of rural Ontario. (See attached maps). Within its vast service territory, Hydro One Networks also serves a diverse customer base. This includes a large number of small and medium-sized urban communities, all of which are fully embedded within its rural service territory, as well as some areas on the fringes of other urban LDCs, and some large direct customers (with greater than 5MW demand). All other local distribution companies (LDCs), including Hydro One Brampton, serve relatively limited and mainly urban geographies. Hydro One Networks also delivers energy to 42 other LDCs over its distribution system (rather than its transmission system).

Hydro One Networks’ transmission and distribution service territories overlap each other across the province, and share common work forces, service centres and processes and systems. Hydro One Networks’ distribution has therefore both scale economies (serving almost 30% of the Province’s customers) and scope economies (serving both transmission and distribution throughout the vast rural areas of the Province), both of which help reduce costs to consumers and improve service.

Hydro One Networks is also unique among Ontario LDCs in that it borders on a large number of other LDCs (88 in total, 54 of them exclusively). Most other LDCs border only on one or two others, given their origins as municipal entities.

Like other distribution companies, Hydro One has an interest in:

- means of improving the efficiency and effectiveness of electricity distributors within the Province, including its own operations; and,
- distribution consolidation which benefits all Ontario electricity consumers by providing the best possible service at the lowest overall cost.

2. Operational Efficiency

The OEB Staff Paper defines operational efficiency as “reducing costs while providing the same level of service to customers”. It also makes a useful distinction between efficiency improvements that can be enhanced without changing the structure of a distributor or the Ontario distribution industry and those that require structural change. Our comments, therefore, first focus on operational efficiency as achievable without structural change, i.e., improving individual LDC efficiency and effectiveness.

2.1 Efficiency Gains

Hydro One's experience is that efficiency gains can be achieved. For example, Hydro One has achieved annual savings of approximately 8% in total cost over the 2001 to 2003 period with productivity savings largely re-invested in work programs.

These gains have been achieved through a number of actions. Operations have been centralized and new flexible work rules and practices for lines and forestry staff have been implemented, such as temporary work headquarters. The use of hiring halls to meet intermittent and seasonal work needs has been expanded. And, non-core call centre functions have been outsourced to Inergi¹. These and other actions have resulted in a reduction in regular employees from 5,632 in 1999 to approximately 3,970 at December 31, 2003.

Going forward, opportunities for cost reduction and productivity savings will be more complex and difficult to achieve. Hydro One is targeting further savings through initiatives such as the operating centre consolidation in Barrie, Ontario, the strategic sourcing of materials and services, and certain information technology initiatives. These initiatives are intended to produce lower costs and better service through the introduction of more technologically sophisticated operating systems.

2.2 Balancing Cost Reductions and Customer Value

The OEB Staff Paper very effectively makes the point that operational efficiency is not achieved via cost reduction alone. The challenge is to provide the level of service that best balances what customers value in terms of service quality against the price they pay.

The service elements that customers value go well beyond engineering statistics that measure reliability of the overall system such as SAIDI (System Average Interruption Duration Index) and SAIFI (System Average Interruption Frequency Index). Other factors that may be of equal, or even greater, importance to customers include accurate bills, access to timely information on outages, and sound environmental performance.

In addition, worker and public safety are of paramount importance to Hydro One and other LDCs and should not be compromised. It is also in no one's interest that the financial viability of LDCs be compromised given that they provide an essential service to society. Many Ontario LDCs, including Hydro One, raise debt on the basis of a standalone credit rating without the benefit of a government guarantee. Credit ratings must be maintained at a sufficiently high level to ensure the ability to borrow to finance needed infrastructure investments on a cost-effective basis.

The challenge is therefore to allocate resources in a manner which balances these qualitatively very different objectives. This has been particularly important over recent years where LDCs have been trying to balance the trade offs between service quality and financial performance in an era where distribution charges have been frozen at levels well below allowed regulatory returns.

¹ Even though it has approximately 1.1 million customers, the judgment was made that, over the longer term, Hydro One Networks does not have the scale economies necessary to achieve cost leadership in these functions. Other Canadian utilities, such as BC Hydro, BC Gas and Enbridge, have adopted similar directions.

In order to make the hard choices in regard to prioritizing the resources it allocates, Hydro One Networks has implemented an “asset management” framework. This framework of processes and systems, which Hydro One continues to refine and improve, is intended to optimize the balance between resources allocated and results achieved. Hydro One applies this asset management framework to both its transmission and distribution assets. Desired outcomes are defined in terms of a number of business values, which currently include customer service, reliability, financial performance, regulatory compliance, safety and environment, competitiveness and reputation. Work programs are then prioritized on their contribution to these objectives. This approach is risk based in that it seeks to identify the degree of risk mitigation achieved in regard to each of these business values, for each incremental dollar that is allocated to a given program.

Hydro One believes that it is desirable that consensus is reached in regard to desired outcomes across the Province, while respecting the realities of regional differences. It may be useful for the OEB to facilitate such a discussion with a view to endorsing a set of priorities for LDCs to use in their resource programming.

The OEB Staff Paper also recognizes that an optimal balancing between results and costs is complicated by the reality that consumers are not homogeneous in their willingness to pay for an increased level of service. The paper raises the question as to whether it is possible to develop a variety of price-service offerings to accommodate such variations. While this concept has value, it is important to note that many aspects of electricity distribution service, including the reliability of wires service necessarily apply across a range of customers. All customers on a particular feeder line, for example, will have a similar level of reliability of service as measured by frequency and duration of outages.

3. Controllable Structural Efficiency

The OEB Staff Paper uses the term “controllable structural efficiency” to apply to efficiency gains that can be achieved through restructuring, such as sharing of services, contracting out and/or consolidation.

We offer some observations based on Hydro One’s experience to date.

3.1 Consolidation

Hydro One’s Experience

Hydro One’s experience shows that consolidation can reduce costs thereby freeing up resources to better address customer and system priorities and/or mitigate upward rate pressures.

Hydro One negotiated agreements on a voluntary and commercial basis (“willing seller/willing buyer”) to purchase 90 LDCs since the passage of the Energy Competition Act of 1998. (In total, Hydro One responded to offers to bid on 171 LDCs). All acquired LDCs except Hydro One Brampton Inc. were embedded in nature and have now been fully integrated with Hydro One Networks. The 89 embedded LDCs represented 104 distinct service territories because some had already merged in a non-contiguous fashion.

The total number of customers in embedded LDCs acquired by Hydro One Networks was approximately 160,000, with the size of the acquired LDCs varying from 135 to 18,000 customers. Most of the acquired LDCs were very small. The median size was 900 customers.

Cost-savings milestones were identified and tracked during the integration process. These milestones included closing redundant service centres, and rationalizing administration and billing activities. Savings were sufficient to cover transaction costs and purchase premiums, and generate sustained reductions in going forward costs.

While ongoing costs are not tracked for each individual acquired utility, a sample of ten were examined in more detail during integration and showed a weighted average OM&A (Operating, Maintenance and Administration) savings of 30%.

These savings are likely to be high compared to situations where the consolidating LDCs are contiguous rather than embedded. This difference is largely the result of the ability to eliminate duplication and overlap in facilities, operations and services in the embedded case.

Other synergies arose from taking advantage of scale economies in functions such as administration, asset management, billing, settlements and call centres, and from enabling more effective regional planning and emergency coordination.

Total cost savings (net present value) were estimated to amount to about \$170M in OM&A and \$30M in capital. Overall, the incremental costs of taking on these additional customers were small. This was essentially the result of two things. First, Hydro One service crews (and service centres) cover the rural areas of Ontario and were often already located in the acquired LDC service territories; and, second, the incremental costs of adding new customers to enhance Hydro One's already substantive scale and scope economies were small.

As an example, Hydro One was able to close 12 duplicate service centres located in the same municipalities, while only adding a few further satellite service centres to provide effective coverage of the new service territories.

The OM&A savings broke down into categories roughly as follows: 30% in administration and other duplicated costs, 30% in buildings and fleet, 30% in staff, and 10% in billing and other customer service costs. Capital savings resulted from the avoidance on investment in duplicate centralized systems, such as IT, and the ability to plan investments more effectively to support regional service, thereby avoiding or deferring investment in new distribution stations.

Post merger surveys showed overall a high degree of satisfaction among the customers that were transferred and the municipalities that chose to sell to Hydro One.

Some General Considerations

When examining consolidation options for Ontario, it is important to take into account the realities of its geography. As can be seen in the attached maps, the character of Ontario's LDC sector is defined by contiguous municipal LDCs in the Golden Horseshoe and non-contiguous LDCs embedded in Hydro One's largely rural service territory outside the Golden Horseshoe. In this regard, it is worth noting that Ontario is qualitatively different to some of the other jurisdictions that are discussed in the Staff Paper, such as Great Britain, Switzerland and South

Africa. All the latter, for example, are separate countries, with distinctive provinces, or other regional groupings, all with multiple centres of high population density.

Consolidation into fewer and larger entities will likely also have benefits other than greater cost efficiency. Larger LDCs may be better positioned to deliver effective programs of benefit to the Province such as DSM. Consolidation may also help reduce the current complexities and costs associated with regulating a multitude of entities, as well as those associated with the interaction with other parties such as retailers and the IMO in regard to settlements and metering.

3.2 Shared Services

Irrespective of whether and when further consolidation occurs, Hydro One believes that there are benefits to be gained by working with other LDCs to share costs and resources in regard to issues such as regional planning, emergency response and delivery of conservation and demand management programs. Hydro One is working with other LDCs in this regard.

However, such opportunities (and partners) need to be carefully chosen so that the costs of managing the relationship do not outstrip the benefits. (Similar considerations apply to outsourcing).

3.3 Uncontrollable Structural Efficiency

The OEB Staff Paper makes the point that there are certain factors such as lower customer density and difficulty of terrain that drive intrinsically higher costs in certain areas and are beyond the control of the distributor, either through improvements in operating efficiency or structural change. Given it faces the challenge of serving some the highest cost areas of the Province (e.g., low density rural and the Canadian Shield), Hydro One is supportive of recognizing this reality.

4. Incentives and Barriers

4.1 PBR

An effective PBR regime should provide continuous incentives for distributors to seek out efficiency improvements, including both those achievable through greater operational and structural efficiency.

However, the PBR regime needs to be carefully structured in order to:

- Appropriately reward those LDCs that achieve such gains;
- Avoid compromising quality of service, reliability and safety and environmental performance through an approach that explicitly balances cost reductions against such values; and,
- Recognize those cost variations that are driven by uncontrollable factors such as customer density and difficulty of terrain. This applies to both capital and operating costs.

4.2 Rates

Legacy rate structures can be a barrier to consolidation. Similar types of customers with similar costs of service can pay very different distribution rates if they are served by different LDCs. This can lead to large discrepancies across service boundaries and results in harmonization challenges

in the event of amalgamation. It can also provide incentives for entities to pursue options that are uneconomic in an overall sense.

These discrepancies are the result of a number of factors. With the advent of competition in the electricity sector, previously bundled energy (electricity commodity) and delivery rates were unbundled using a simplified process so to allow choice of energy supplier. Rates are therefore not consistently cost-reflective. LDC rates are also averaged over a wide range of service conditions and hence service costs. (This is particularly true of Hydro One Networks as it covers a wide range of customer densities and service conditions across the Province.) And, some LDCs embedded in other LDCs' distribution systems (such as municipal LDCs embedded within and served off Hydro One's distribution system) currently do not pay "low voltage" charges to cover the facilities costs of transferring power to them.

Consolidation and rationalization of distribution should provide a means for distribution rates to be harmonized over regions and over time in a manner which is more cost-reflective. Where necessary, explicit cross-subsidies (like Rural Residential Rate Protection) could continue to apply to reduce variations in distribution charges across the Province to an acceptable level. Any changes to charges could be phased in over a period of time to avoid undue impacts on any single customer group.

4.3 Transition Costs

Any consolidation activity inevitably involves transition costs. These may include separation agreements with surplus staff and stranded costs arising from elimination of duplicate systems. Rate treatment should allow the consolidating entity to retain savings to provide the cash and earnings needed to pay transition costs. This could be provided by allowing average rates for combining entities to remain frozen (subject only to inflationary adjustments) for a five-year period, after the phase-in of market returns.

Consolidation involving partial divestitures can also result in stranded costs, as the utility selling customers can lose scale economies in many of its functions including customer care, billing, IT and other systems where costs are shared across the customer base. In the absence of offsetting actions, this stranding results in higher required premiums for transactions, higher costs for remaining customers and lower shareholder returns. An efficient rationalization strategy will seek to minimize stranding. For example, swaps of customers or customer acquisitions elsewhere by the divesting utility can help offset stranding of staff and assets.

4.4 Approvals

The OEB mergers, acquisitions and divestures approval process could be further streamlined and standardized.

4.5 Clear Service Territory Obligations

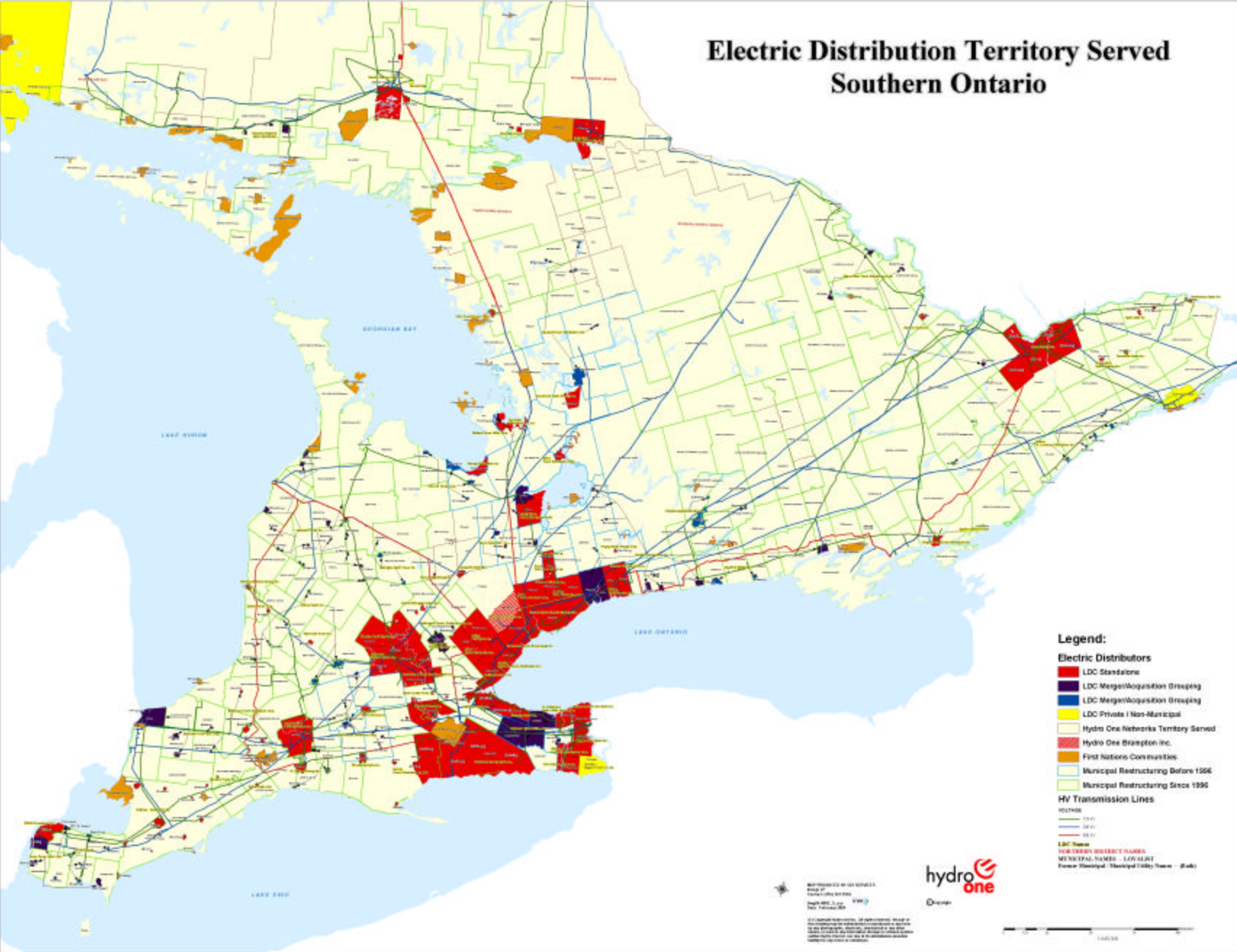
LDC service boundaries should be fixed and unchanged so that the obligation for long-term planning is clear. The only exceptions to this should be mutually agreed boundary adjustments where it makes overall economic sense, and consolidation under voluntary and commercial negotiations. Most distribution assets have very long lives (tens of years), and the system needs to be planned with such time frames in mind.

4.6 Technological Innovation

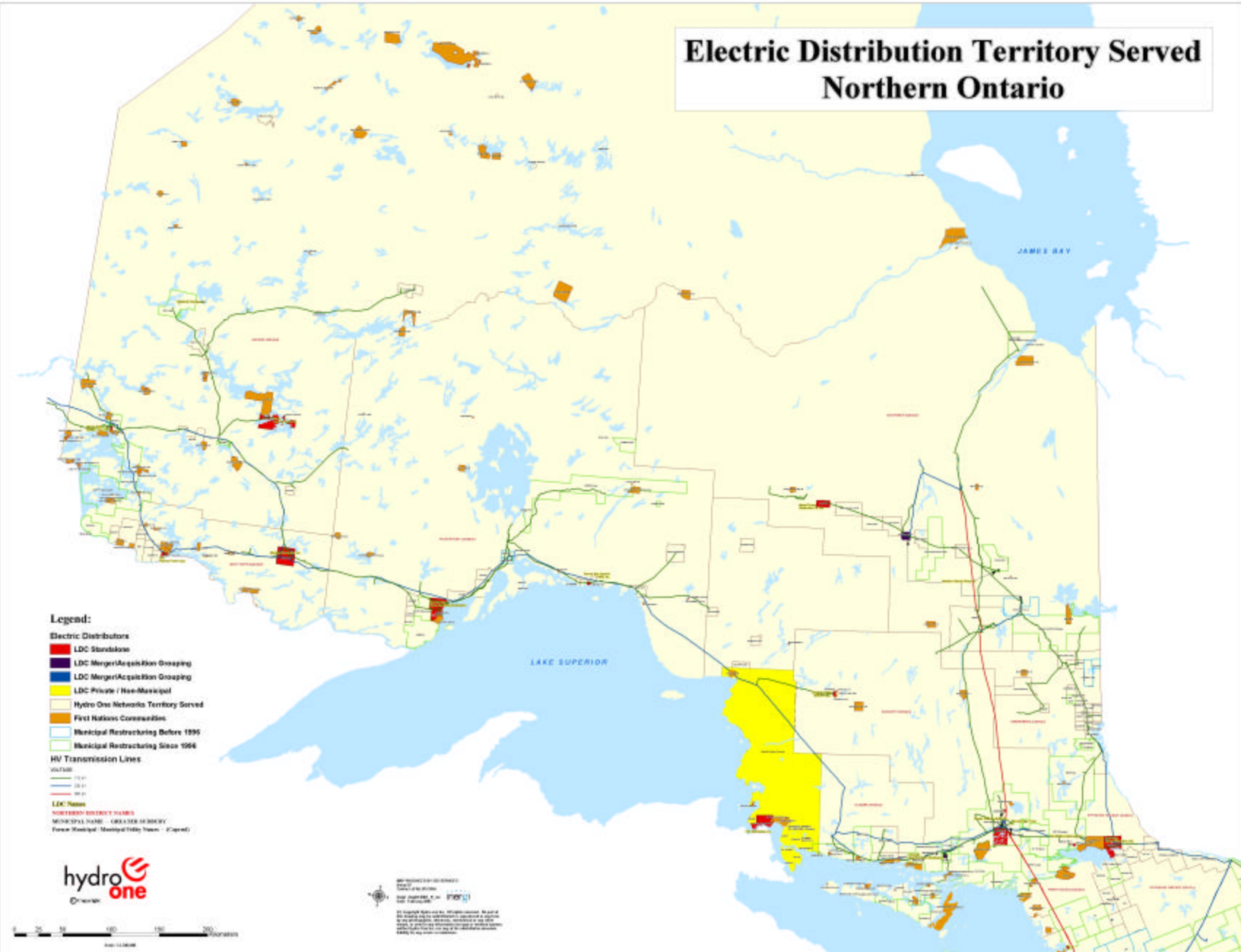
The current regulatory environment may not provide sufficient incentive for LDCs to invest in new technology that can contribute to improving efficiencies in the sector. Technological innovation by LDCs could be encouraged by allowing a prudent proportion of costs within rates (for example, a certain fraction of revenues) to cover accelerated depreciation and technology pilots and testing.

Scale economies can also be important in advancing technology in that costs of implementing advanced systems can be spread over a larger number of customers. While fixed costs can be high, the incremental costs of adding additional customers can be small.

Electric Distribution Territory Served Southern Ontario



Electric Distribution Territory Served Northern Ontario



- Legend:**
- Electric Distributors
 - LDC Standstill
 - LDC Merger/Acquisition Grouping
 - LDC Merger/Acquisition Grouping
 - LDC Private / Non-Municipal
 - Hydro One Networks Territory Served
 - First Nations Communities
 - Municipal Restructuring Before 1995
 - Municipal Restructuring Since 1996
- HV Transmission Lines**
- VOLTAGE
- 138 kV
 - 230 kV
 - 500 kV
- LDC Names**
- NORTHERN ENERGY YULBRO
 MUNICIPAL NAME - GREAT LAKES ENERGY
 Former Municipal / Merged/Taken Over - (Capital)



Map prepared by Hydro One
 Date: 11/11/2010
 Scale: 1:100,000
 Projection: UTM
 Data Source: Hydro One
 Legend: See Legend
 Contact: 1-800-387-0000