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PRESENTATION TO:

Ontario Distribution Sector Review Panel

By The Northwestern Ontario Municipal Association
And
Common Voice Northwest Energy Task Force

Presented by:

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Councillor, City of Thunder Bay

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On behalf of the Northwestern Ontario Municipal Association and the Common Voice Northwest Energy Task Force, I am pleased to be here today to provide you with some information and some advice regarding the electrical distribution system in Northwestern Ontario.

Under the leadership of the Energy Task Force, the Northwest has been fully engaged in pressuring anyone we can reach to properly plan for the needs of the Northwest Region.

Several initiatives involving distribution system planning in Ontario are going on concurrently:

- the Integrated Power System Plan II,
- the Long Term Energy Plan issued by the Minister of Energy,
- The OEB is just finishing off its Renewed Regulatory Framework for Electricity (RRFE) Consultation that, in part, is intended to bring about revisions to the Board's own Distribution System Code,
- The OEB has just begun its own Consultation on the embedded generation being added into the distribution system under the Micro FIT program - a fairly technical review of requirements-type planning, and
- the Ontario Distribution Sector Review Panel has been commissioned by the Minister of Energy.

The nature and purpose of each of these initiatives, the Review Panel in particular, reflects top down infrastructure planning. This remains a key frustration across Northwestern Ontario as it appears that southern Ontario's needs trump those of this region.

Under the leadership of the CVNW Energy Task Force, the City of Thunder Bay, the Northwestern Ontario Municipal Association, the Town of Atikokan and the Northwestern Ontario Associated Chambers of Commerce have collaborated in participating and intervening where necessary in all of these processes affecting electrical generation, distribution and transmission in and through Northwestern Ontario.

This involvement commenced when the Integrated Power System Plan was released and we found that not only was there no plan for the Northwest, but that the planners just assumed that what was required in the rest of Ontario was what was needed in the Northwest. Nothing could be further from the truth.

All we have been able to accomplish to date is recognition by the OEB that regional planning must be part of the future development of the IPSP. All of our specific suggestions for inclusion in future plans have so far been ignored.

DISTRIBUTION: A NORTHWEST REGION PERSPECTIVE

With regards to your mandate, it is important for you to understand at the outset that the term distribution means much more in the Northwest than it does in the rest of the province

By way of background, it will be useful to describe, for the record, the Distribution System in the Northwest Region, distinguishing it from the Transmission System. A Transmission System, of course, transmits power, using voltages greater than 50kV, between large-scale generators to Transmission customers. The customers of transmitters are local distribution companies and a few very large industrial users.

The transmission in the Northwest Region (apart from the 230 kV line that, at this point, serves primarily as a conduit line running between the Manitoba boarder and points east of Wawa) takes place typically at 115kV delivering power to step-down transformers of customers.

- It is essential to appreciate that the transmission system in place covers only the lower one third of the land mass of the Northwest Region.
- The remaining two thirds of the land mass of the Northwest Region have no access to power supplied by transmission.

It is also essential to appreciate the lack of security in the transmission system that does exist in the Northwest Region. The 115kV lines are virtually all long radial circuits running extensive distances of between 200 km and 500 km through remote areas of Crown Land. (See Figure 1) Permanent faults in these transmission lines result, several times a year, in blackouts that are often measured in days rather than hours. Moreover, transmission line management during electrical storms requires the temporary suppression of transmission in the locality of a storm. The absence of two line supply throughout most of the Northwest Region, outside the City of Thunder Bay, leaves industrial customers and LDCs of smaller communities with little security in power supply.



Figure 1 Transmission System - Northwest Region

A Distribution System delivers power, in voltages lower than 50kV, to end use customers. The local distribution companies are charged with distributing the power within defined geographic areas. In the Northwest Region the distributors are either Hydro One, Hydro One Remotes, or the local distribution company (LDC) of a municipality.

In the Northwest Region there are some anomalies in the distinction between Transmission and distribution lines. There are several power lines in the Northwest Region that fall under the definition of Distribution lines in terms of their voltage levels but are longer than many power lines in the province that would classify as transmission lines. There are power lines in the Northwest Region that fall into the category of a distribution level voltage but their extended length of 15 or 20 Km leaves them vulnerable to the same risks of permanent faults, several times a year, resulting in blackouts that are often measured in days rather than hours. In these situations as well, the absence of two line supply leaves industrial customers and LDCs of smaller communities with little security in power supply.

The following map indicates the power line system across the Northwest that serves the role, in terms of length and customers, as transmission but is comprised of a combination of 115kV and 44kV lines. The point is that you will note how sparse this transmission (distribution) system is. It is over and above the in-community distribution found elsewhere.



Figure 2 Intra-Community Distribution

The excerpt from Hydro One map on the right shows the integrated system in the Northwest:

In addition to being served by distribution lines, the communities of Ear Falls, Red Lake, Pickle Lake, Greenstone, Manitouwadge and White River are



Figure 3 Hydro One Transmission and Distribution

served by only one line. There is no redundancy so once the line goes down there is no power – for business, industry, institutional or residential use, other than those few who have backup generation.



The picture on the left shows the wrath of a forest fire that cut off Slate Falls and Pickle Lake for 10 days in 2011. Our radial lines are vulnerable to weather, natural disasters and in some cases, traffic accidents, leaving the residents up the line vulnerable.

Our first request to the Ontario Distribution Sector Review Panel is that you recognize the unique nature of Northwestern

Ontario and it's both inter-community and intra-community distribution system and as you develop your recommendations ensure that you do not arrive at a one size fits all solution, particularly as it will likely not relate appropriately to the Northwest region.

A review of Northeastern Ontario shows that with the exception of the line to Moosanee, Chapleau and Hearst, the vast majority of the northeastern population centers have built in redundancy. (Figure 4):

Figure 4 Hydro One - Northeast Region Transmission and Distribution



BUSINESS CASE REQUIREMENTS

Under the current policies of the Government of Ontario a business case is required for the construction of any new distribution or transmission lines. In other words, the proponent, be it a new mine or a new generator, must pay for the construction of the required line to connect to the grid.

The development of the industrial sector of southern Ontario was not funded in this manner. Either the rate payer or the tax payer paid for these infrastructure investments, just like the vast majority of our public highways were not only paid for but continue to be paid for in this manner – through taxation.

As the Northwest is on the threshold of massive investments in mining, requiring significant construction and operation of infrastructure – from roads to telecommunications, to rail to electrical transmission or distribution – it is patently unfair for the northwest region and those who invest here to be forced to pay for the infrastructure that was publicly paid for to allow for the development of southern Ontario.

The second area where this policy is not only unfair, but is discriminatory, is a requirement that the remote First Nations who must rely on expensive (from both an economic and an environmental perspective) diesel generation must prove a business case in order to be connected to the provincial grid. These people are citizens of Ontario and should have the same access to electricity as do all other citizens and should not be asked to bear a higher cost to make those connections.

Our second recommendation is that the Ontario Distribution Sector Review Panel recognize that the current business case policy is discriminatory to the aspirations of the Northwest region and recommend that it be removed for all projects to be connected to Hydro One Networks.

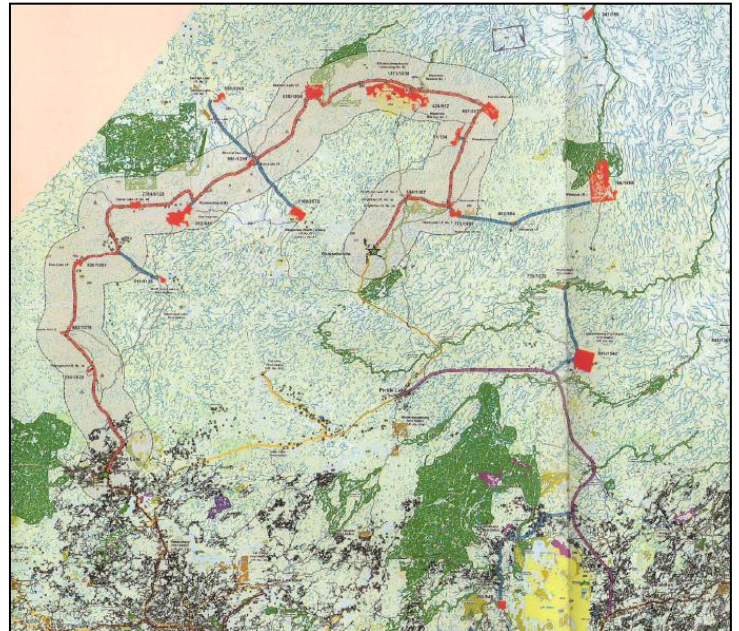


Figure 5 First Nation Option for Connecting to the Grid

REQUIREMENTS PLANNING vs NEEDS-ANALYSIS PLANNING

NOMA asks the Ontario Distribution Sector Review Panel to consider that there are different types of infrastructure planning. The Panel appears to be mandated to come up with economies specifically by reorganizing the existing distribution system. The inferred plan for achieving the economies is to consolidate a large number of small local distribution companies into fewer large ones.

The Review Panel appears to be mandated to conduct its inquiry in support a ***requirements-type of infrastructure planning***. What is needed in the Northwest Region, however, is a ***needs-analysis-type of infrastructure planning***.

Requirements-type infrastructure planning starts on the premise that a problem has already been accurately identified and properly understood by the planner and that the proposed change will address the problem. The planning that results involves selection of a process, structure or system that will bring about the change. The final steps are the efficient implementation of the process, structure or system selected and an assessment as to whether it has been effective in addressing the identified problem. By contrast, needs-analysis starts with a broad inquiry as to what the end users or beneficiaries of the infrastructure actually need and should reasonably expect to have. The planning that is involved turns on development of changes that can be expected to address the needs that the users or beneficiaries of the infrastructure have identified. There is no final step in needs-analysis planning; rather, there are objective assessments, and ongoing re-assessments, as to whether the infrastructure changes that have been developed and implemented actually address the needs of the users and beneficiaries and, where they do not do so on a continuing basis, needs-analysis planning continues.

The distinction between requirements planning and needs-analysis planning is useful because what the Northwest Region has not had, in relation to power system infrastructure development in particular, is adequate needs-analysis planning. NOMA asks that the Review Panel recognize that the planning for the power system, distribution in particular, in Northwest Region should start with needs-based planning. The importance of making these distinctions arises from the fact that it appears to NOMA that, because its focus will be on requirements-type planning, the Review Panel is at risk of making two mistaken assumptions:

1. if restructuring of the sort mandated under what appear to be the terms of reference of the Distribution Sector Review Panel works in the southern region of Ontario it is axiomatic that the same sort of restructuring should work in the Northwest Region, and
2. there will in fact be economies if the restructuring under consideration is implemented in the Northwest Region.

NOMA respectfully submits that assumption (1) is an all too common over-simplification of the needs of the Northwest Region.

The second assumption is, of course, not an assumption but a question the answer to which needs to be demonstrated.

- One point of note is that the demonstration of any economies of scale would be the obligation of the Review Panel.
- a second point of note would be that the regulatory requirement for rate harmonization in amalgamations would serve to raise rates for customers whose LDCs operate on a not-for-profit or rate minimalization model basis.
- a third point of note is that the most assured way of cost saving for ratepayers would be simplification of regulatory compliance requirements.

NOMA has neither the funding nor the expertise to gather the technical information required in order to assess whatever economic advantage or disadvantage might arise with any restructuring under consideration.

Our third recommendation is that Ontario Distribution Sector Review Panel recognize that the Northwest Region requires a needs-analysis planning process to be commenced and to recommend such to the Minister of Energy.



THE REVIEW PANEL QUESTIONS

Although we have already noted that the Northwest Region requires a needs analysis planning process, this presentation will address the questions of the Review Panel in relation to requirements-type planning.

a) **Do you have a position on possible approaches to restructuring the utility sector, which is based on data or experience?**

NOMA's position on the approach to restructuring is twofold:

Firstly, there needs to be something to restructure. The five LDCs in the Northwest Region, plus Hydro One (functioning as the LDCs for several smaller municipal communities) and Hydro One Remotes (functioning as LDCs for the 44 First Nation communities largely served by diesel generators) are reliable within themselves. The problem arises, however, where those distributors are not attached to a reliable transmission or generation source. The power system in the Northwest Region, which serves as the transmission system, ranges from equivalent to less than that available in developing nations.

- Two thirds of the land mass has no transmission and therefore no distribution to restructure.
- The lower one third of the Northwestern Ontario land mass, other than the City of Thunder Bay, has a distribution system that depends on a transmission system that is itself fragile and therefore inadequate.

Secondly, what is needed, as indicated, is a needs-analysis planning that addresses the problems that smaller municipalities and First Nation communities, as well as industrial users have been living with for decades, all of which would be understood as intolerable in the southern region of the province.

As an example of the inadequate, top-down, requirements-type planning originating in the southern region, NOMA notes the distance wind generators must be set back from residential structures. The regulation frames the setback in terms of meters. The Northwest Region, however, is the size of France. It has something in the order of thousands of hectares of land for each man, woman and child. What analysis worthy of the term would indicate the setback appropriate in the Northwest Region should be same as that found suitable for the southern region?

A second example would be the regulatory change preventing LDCs from servicing street lighting. The change presumably makes sense in larger urban areas such as Toronto where the scale of operation would warrant development of the skills and equipment need for the task. In the communities of the Northwest region, however, that change has taken the task away from the LDC that obviously has, as a part of its

ordinary business, the resources needed to carry out the task to the municipality, which does not. The City of Kenora or the Town of Fort Frances, for example, combined have less than half a percent of Toronto's population.. In smaller communities a regulatory change moving service of street lighting out of the LDC into the municipality makes no sense.

Another example is that of the `Orange Zone` in the Northwest that has limited our ability to take advantage of the green energy opportunities for economic development. A needs analysis would identify the barriers, match them to the opportunities and then plan appropriately to facilitate the additional generation.

Although not an amalgamation of existing LDCs, the remote First Nation Communities¹ may want to form their own northern Distribution Company as the transmission system heads north rather than have Hydro One Remotes do their distribution for them. They may want to have each community do their own distribution utility but that may not be feasible so a regional distribution utility much like Hydro One is for the rural areas of the province may be appropriate. This is one place where the GEGEA [probably modified] would make sense with distributed generation making up a large portion of the power needs. The cost comparators vs fuel oil on a short winter road season would be easier to justify than spilling 2 cent water in favour of 82 cent solar. Once again this would require First Nation design, but if the communities were given the opportunity to participate in this way, the results may be quite remarkable.

Our shoulders are just too far apart. Communities that do not have a Hydro One service centre within their communities would literally be left out in the cold. The local accountability of each entity cannot be undervalued. It will be challenging to create a model without Hydro One absorbing the less than 900 customer entities.

The downloading on municipalities of the late 1990's early 2000's that was to be compensated by turning the local utility into a money generator has resulted in higher rates across the province. Further privatization will either result in higher rates and perhaps greater subsidies or less development. LDCs as a money generator are not a replacement for taxes. Businesses will leave and residents may choose to use less, so the revenue will be sporadic at best.

Setting minimum thresholds for number of customers to be efficient is not realistic in the area of the province above the Sudbury Ottawa line. If we could triple the population of

¹ NOMA, nor the Energy Task Force, does not represent that it speaks for the First Nations, their Treaty Organization or Tribal Councils.

Ontario, we would probably not have the density necessary to match the minimum fantasy LDC sizes.

LDCs tend to be a product of geography and history, thus resulting in no common cookie cutter or cohort definition. Trying to meld such differences may either end up being deal breakers, or in fact increasing costs for all entities. Local decision makers and share holders are more likely to be able to actually control costs than a larger entity where a cookie cutter approach may evolve.

It would be our recommendation that the Review Panel inquire with the Municipal Councils of those former LDCs if the decision to sell, in hindsight, was appropriate for their community.

b) How might such restructuring be arrived at?

The only appropriate way to arrive at any useful planning for the Northwest Region is by implementing a program of needs-analysis planning, keeping in mind the following:

- in order to restructure there needs to be a structure in the first place; the urgent need in the Northwest Region is to build transmission and distribution systems in two thirds of the Region and improve it in the other third;
- LDCs are owned by the municipalities and have different business models and some with different transmission sources; NOMA does not speak for the LDCs;
- a simple call for amalgamation on the assumption that some benefit will arise out of many becoming few would be the proverbial bull in the china shop
- a call by the Panel for input as to what regulatory changes would encourage shared services and greater collaboration among LDCs, with less regulatory compliance costs in resources better used elsewhere, and less disincentive for cooperation, would be a better result.

c) What would the costs and benefits be of such restructuring, with particular regard to the electricity ratepayer?

As to the restructuring that the Review Committee appears to be mandated to investigate, Hydro One has assumed by default the role of distributor. It does an excellent job with very limited planning resources.

Hydro One Networks has negotiated the purchase, from the municipal owners, of all but five LDCs in the Northwest Region. This has been accomplished in separate negotiated transactions between willing communities on a needs-based assessment of resources and opportunities, typical of the cooperation of communities throughout the Northwest Region. They were business decisions.

Those transactions aside, there is a history of longtime cooperation among communities in the Northwest Region. Please note the following bit of history:

“The Northwest Energy Association was formed by 10 of the 11 municipal utilities (Terrace Bay chose not to participate) so Kenora, Rainy River, Fort Frances, Atikokan, Dryden, Sioux Lookout, Red Rock, Nipigon, Schreiber, and Thunder Bay were members. Purchasing in bulk especially bulk power from Ontario Hydro of the day was the main thrust. Again under today's definitions LDCs likely could not do that today. This organization was successful because it was from the north, by the north and for the north. Distribution is different in the north because of long runs and low customer density. This organization is an example of an excellent regional entity and could be an excellent example for first nations either on their own or in partnership with municipal LDCs.”²

“There are only five LDCs left standing. In 2008 – 2009 the Northwest Group [Thunder Bay Hydro, Sioux Lookout Hydro, Kenora Hydro, Fort Frances Power Corp, and Atikokan Hydro] worked as a group to take part in the London Consortium to gain approval for smart meters. The purchase, installation, and operation were done as the Northwest Group [with each entity being responsible for their own purchases, but the scale was aggregated]. The Northwest Group use one entity for billing software and smart meter operation including Time of Use billing. [It is more expensive to operate smart meters than to read by hand, but would be even a greater expense if all were to do it on their own] The Northwest Group also consolidate the administration and delivery of Conservation and Demand Management programs. The individual entities would need to take on more staff to provide the Provincially mandated programs. This is probably much more cost effective than combining one LDC from the Quebec border to the Manitoba Boarder.”³

Of the five remaining municipal LDCs the geographic distances are perhaps the greatest disincentive. If any amalgamation is to be considered it is something for the owners of the LDCs themselves to consider. Presumably the rationale for not having taken the step has been the common sense planning principle that, “If it ain't broke, don't fix it.” The fact is that there already exists a robust level of cooperative sharing of resources amongst municipally owned LDC's in the Northwest Region. This existing cooperation already results in, significant savings as already noted.

If a municipal community has the critical mass to manage its own distribution system it would be incumbent on the Review Panel to demonstrate how the service can meet the

² Larry Hebert, former General Manager of Thunder Bay Hydro, Councilor, City of Thunder Bay and Co-Chair of the CVNW Energy Task Force

³ Wilf Thorburn, Manager, Atikokan Hydro

needs of the users of the power supply as well or better with less cost through some other structure, one that does not jeopardize existing cost effectiveness or risk loss of collateral benefits to ratepayers.

As to practicalities, the Review Panel, in assessing the possibilities, will need to understand the impact of factors unique to the Northwest Region, such as distance. The distance between Kenora and Thunder Bay, for example, is greater than the distance between Windsor and Oshawa. In the Northwest Region distances and remoteness of one municipality from another can require resources, including funding, that are not built into requirements-based planning models developed for more densely populated regions, such as southern Ontario.

d) What implementation issues and/or risks should be considered?

As stated above.

e) What principles should govern restructuring?

As stated above; in particular the need for needs-based regional planning and voluntary participation by the parties involved.

f) Do you have any further research to share with the Panel to support your position?"

NOMA and the Common Voice Northwest Energy Task Force would be pleased to assist the Review Panel in providing Northwestern Specific data to you, provided that the appropriate funding is made available to do the necessary work.

We hope that the information we have provided you today will assist you in your deliberations. You can be assured that we will be reading your report with a northern lens once it is released.

Thank you for the opportunity to present to you today. I look forward to your questions.