Q. In the Board's Decision for P.U.7 (No. 89), the Board directed NLH to present a summary report with recommendations on how NLH might improve reliability for customers in coastal Labrador communities. Please provide a copy of this report.

A. Attached is a copy of "Summary Report on Reliability and Quality of Service to Coastal Labrador Communities" dated September 27, 2002.

Summary Report

On Reliability and Quality of Service to Coastal Labrador Communities

Newfoundland & Labrador Hydro
September 27, 2002

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INTRODUCTION

In Order No. P.U. 7 (2002-2003) dated June 7, 2002, Newfoundland and Labrador Hydro (Hydro) was directed to **"review the issues raised during the hearing and file with the Board a summary report with recommendations on how Hydro may reasonably improve the reliability and quality of service for customers in coastal Labrador communities."**

There are 16 isolated systems along the Labrador Coast stretching from Nain in the north to L'Anse au Loup in the south. These systems are accessible only by coastal boat or light aircraft with the exception of the southern Labrador coastal communities which are now accessible via the Trans Labrador Highway. The isolation, as well as the often severe weather conditions on the Labrador coast, provides many challenges to maintenance and operation personnel.

This report will address the reliability and customer service concerns presented by the community representatives during Hydro's 2001 general rate hearing and outline the initiatives Hydro has taken to improve the services delivered to its customers as requested by the Board in its Order.

RELIABILITY CONCERNS

Customers in Nain, Charlottetown, Mary's Harbour and L'Anse au Loup expressed concerns with the quality of service provided in their communities at the hearing held by the Board in Happy Valley-Goose Bay in October 2001.

The community of Nain indicated that outages were not a problem and that service reliability in this regard had improved considerably since 1996/97 (Transcript Oct. 18, 2001 pp. 11-12, 50). However, there was a clear concern for power quality, specifically that of "brown-outs" (i.e. power fluctuations) occurring during the late evening (Transcript Oct. 18, 2001 pp. 44-45, 47-48). The customers of Charlottetown were very concerned with the number of outages affecting the community that primarily coincided around the time of the opening and during the operation of a new shrimp processing facility (Transcript Oct. 19, 2001 pp. 28-29). The customers of Mary's Harbour were also concerned with the number of outages experienced by their community (Transcript Oct. 19, 2001 pp. 35-36). The customers in the L'Anse au Loup area expressed concern about the amount of power, reliability and the uncertainty of supply (Transcript Oct. 19, 2001 p. 24).

In monitoring reliability, Hydro uses indices such as SAIFI and SAIDI which are regularly reported to the Board in Hydro's Quarterly Reports. For the isolated systems in question, the following table outlines these indices for 2002, 2001 and 2000 along with the overall Hydro average.

	SAIFI 2002	SAIDI 2002	SAIFI 2001	SAIDI 2001	SAIFI 2000	SAIDI 2000
Nain	17.26	9.53	12.11	10.21	8.99	14.91
Charlottetown	5.32	1.99	32.77	8.11	21.87	9.81
Mary's Harbour	8.91	17.33	28.38	22.13	39.46	25.71
L'Anse au Loup	16.31	15.57	12.69	8.86	14	21.27
Hydro Avg	5.34	7.19	15.25	9.77	15.45	12

The following is a discussion of each of the isolated systems and the concerns expressed by customers in these systems during the 2001 hearing:

Nain

At the 2001 hearing, reference was made to "brown-out" conditions occurring at Nain. These complaints of “brown-out” conditions had been investigated and corrected by Hydro prior to the hearings in October 2001. The problem was identified as an overloaded secondary conductor and was created when the Labrador Inuit Association (LIA) installed a large quantity of electric heat in a commercial building supplied from the affected line. Our field investigation confirmed that the remainder of the community was unaffected by this condition and that the diesel plant was producing a stable supply.

Charlottetown

At Charlottetown, Hydro had to increase generation capacity by 240% in 2001 to accommodate the very significant load growth of a new shrimp plant. During the first season of the shrimp plant operation, there were a total of 42 outages in the community, with 33 outages identified as “loss of supply”. These outages were due to coordination problems experienced by Hydro and the processor in matching the load and the timing of the load requirements with the generation supply. During the same period, Hydro experienced several mechanical problems with its new equipment. These issues were addressed as soon as the problems were identified. Reliability performance has improved significantly in this community in 2002 with only four (4) "loss of supply" outages in the community to August 31.

Mary's Harbour

At Mary's Harbour during 2001, there were 33 "loss of supply" outages. The primary problem contributing to these outages was the diesel engine cooling system. These problems have been corrected and system performance has improved in 2002 with only seven (7) "loss of supply" outages.

L'Anse au Loup

The representative for the Combined Councils of Labrador spoke of the concern of customers in the L'Anse au Loup area regarding the amount of power available, as well as the reliability of supply and the future of supply from Quebec. Based on current load forecasts, Hydro is proposing to increase the present capacity of the L'Anse au Loup plant from 3900 kW to 4400 kW in 2005. The present load is 3265 kW and the forecast load for 2005 is 3982 kW. Although the L'Anse au Loup system is supplied from power purchased from Hydro Quebec through a secondary power contract, the diesel plant has sufficient capacity to meet the area's loads should it be required to do so. There were 25 system outages in 2001, of which 6 were "loss of supply" from the Quebec system. The outages on this system are primarily attributed to weather and Hydro has taken steps to improve reliability by rerouting lines to provide easier and safer accessibility by maintenance crews as well as conducting routine upgrading work on the line structures, i.e. insulator and pole replacements and installation of mid-span poles.

INITIATIVES

In addition to the action taken to address specific issues in the four communities, Hydro has a number of ongoing initiatives to address system performance, including reliability. These initiatives are designed, where possible, to meet the challenges of providing electrical service to customers within the Province given the physical environment in which equipment and labour must operate, for example the isolated systems along the Labrador Coast.

In order to address the issue of reliability, Hydro has, over the past few years, either introduced or updated existing programs as follows:

Engine Replacement Program

Hydro has an engine replacement program which ensures that diesel engine performance is reviewed regularly and replacements properly planned and provided for in the capital budget planning process. The guideline used to replace an engine includes consideration of the number of overhauls already done, number of hours usage, age, availability of parts and maintenance history. The primary objective is to enhance system reliability by replacing obsolete units that are no longer cost effective to maintain and operate, prior to catastrophic failure. Over the last four years, 21 engines have been replaced out of a total of 59 engines in the Labrador isolated communities (36%).

Condition Based Monitoring

Condition based monitoring techniques are employed by performing maintenance testing at strategic points of an operating system to detect problems before reliability is compromised. For example, samples of oil and coolant from diesel engines are analyzed for contaminants that might

indicate potential engine problems. In addition, all new diesel engines have electronic monitoring systems that enable remote monitoring of performance.

Reliability Centered Maintenance

A Reliability Centered Maintenance (RCM) methodology is being developed to identify those parts of a system that are most susceptible to failure and adapt a maintenance schedule to prevent a failure. Preventative maintenance is performed at intervals in proportion to equipment in-service duration and is intended to preserve and enhance system reliability.

Tool Inventory

In Labrador, because small aircrafts are used for coastal travel, maintenance crews frequently encounter difficulties and delays in transporting tools to and from worksites. Often, due to weight restrictions, crews and tools are not accommodated on the same flight. Recognizing the importance of having tools available and to prevent unnecessary delays during unplanned outages, Hydro has a plant tool inventory at each diesel plant. As well, this reduces the costly freight charges associated with air transportation for these items.

Diesel System Representative

In 1998, Hydro initiated the concept of a Diesel System Representative (DSR) with the aim of creating a multi-skilled discipline to provide greater flexibility and improved customer service at less cost. Employees in the positions formerly classed as Diesel Plant Operator were provided training in limited distribution line work, minor electrical/mechanical repairs, utility work, meter reading and related customer service work. These employees who reside in the isolated communities can now perform some

tasks previously requiring tradespeople from outside. This is consistent with trends elsewhere.

Summary

The above initiatives introduced over the past few years will assist in improving system reliability and will reduce outages for all customers, including the isolated Labrador area.

CUSTOMER SERVICES

There are a number of initiatives undertaken or planned that Hydro believes will enhance Customer Services and address the concerns expressed at the October 2001 hearing in Happy Valley-Goose Bay relating to customer services. The service complaints are discussed below.

Forfeited Discounts

Some years ago, Hydro recognized that there are delays in mail service to its service areas and initiated the following measures to provide customers a full opportunity to meet their billing discount date:

- The discount period was set at fifteen (15) days from the bill date as opposed to the normal timeframe of 10 days;
- All bill payments received by mail are dated back for discount purposes by seven (7) calendar days;
- Upon a customer inquiry, in all cases of forfeited discounts, where a delayed payment appears to be beyond the control of the customer, the discount is credited back to the customer's account.

Although these initiatives are not new, they provide all customers using postal service, including those in coastal Labrador, a total of twenty-two (22) days from the bill date to pay their electricity account before the discount is forfeited. Alternatively, customers may still have a forfeited discount reviewed upon request. Hydro believes these steps are appropriate and assist the customers in avoiding losing the discount.

Bill Design

In 2003, as part of continued initiatives to improve Customer Services, Hydro will be starting the process of bill redesign. The purpose of this initiative will be to present customers with their billing information in a more customer friendly format. Customers will be consulted during the 2002 Customer Satisfaction Survey to ensure their needs and concerns are included in this process.

Billing Errors

A review was conducted of all bill corrections made for customers in coastal Labrador communities for the period from January 2000 through July 2002. It was found that there was an increase in errors during 2001, however for 2002 it is returning to the 2000 level. The primary reason for the increased number of errors during 2001 was the changeover of the meter reading duties from regular part-time readers to the Diesel System Representative ("DSR"). This was a new responsibility for many of the DSR's and, in addition to training, on-the-job experience was required for them to perform their duties at the required level. Hydro believes that the DSR's are now at the level required to produce error free readings. This is supported by the reduced number of meter reading errors to date in 2002.

Customer Service

Hydro contracted MarketQuest Research Group Inc. in 1999, 2000, and 2001 to undertake a Customer Satisfaction Research Tracking Study that measures the performance of Hydro in providing customer service and produces a baseline against which future performance will be compared. This survey will be conducted again in the fall of 2002.

In July 2002, Hydro initiated an Equal Payment Plan (EPP) and a Pre-Authorized Payment Plan (PPP) for the convenience of customers in paying their electricity bills. To July 31, 2002 1,112 customers are participating in the EPP (93 of these from the Labrador Isolated Region) and 133 in the PPP (3 from the Labrador Isolated Region).

SUMMARY

A number of the issues referenced by community representatives during the public hearings at Happy Valley-Goose Bay in October 2001 were problems specific to a community and have been resolved. In addition, Hydro believes that the initiatives in place and those that will be undertaken as outlined above, will address the issues raised by the communities in coastal Labrador and improve the reliability and quality of service for not only these customers, but all customers served by Hydro.