

1 Q. Please describe the system(s) supporting the Outage Management/ Restoration  
2 process, detailing user roles (including second-role), functionality, system interfaces  
3 and use of the system in blue-sky, weather and equipment-related events. Also  
4 specify vendor, version, recent enhancements and any plans to replace, upgrade  
5 and enhance.

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8 A. Hydro has staff and processes in place to respond to customer outages in its rural  
9 distribution systems, either planned or unplanned. It does this through a variety of  
10 manual and computer based systems. The primary computer based system is  
11 Hydro's Energy Management (EMS) and Supervisory Control and Data Acquisition  
12 (SCADA) system. It has recently been enhanced to include monitoring of parts of  
13 the distribution system in Labrador City as part of the distribution upgrade project  
14 occurring in that area.

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16 When trouble is initiated on the transmission system or it affects an entire  
17 distribution system feeder, which has remote indication provided to the ECC, the  
18 Energy Control Centre (ECC) staff immediately receives an indication of the outage  
19 through the EMS. The ECC will be able to assess the extent of the outage and  
20 whether it is a transmission or distribution related problem.

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## 22 Transmission System Outages

23 For transmission related outages, the ECC will review the SCADA alarm summary to  
24 determine the equipment where the outage initiated. Based on their assessment,  
25 the ECC will either start the restoration process or dispatch field personnel to the  
26 affected station(s) to investigate. Hydro's outage communication protocol will be

1 followed to ensure customers are kept up to date with timely and accurate  
2 information as described in PUB-NLH-196.

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4 ECC personnel are well trained and prepared for transmission system restorations.  
5 There are training sessions conducted 2 to 3 times each year using the Operator  
6 Training Simulator (OTS), which prepare ECC staff in using the restoration  
7 procedures. Communication with field staff is also built into the training scenarios,  
8 facilitated by the trainer. Feedback is provided by the trainer to the trainees on the  
9 outcomes of the scenarios to ensure a clear understanding of the restoration  
10 procedures used.

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12 During any restoration being completed by the ECC, there are senior management  
13 (System On-Call) support staff available to assist. The System On-Call person  
14 provides communication support to key stakeholders<sup>1</sup>, logistical support for  
15 identifying required resources and may provide technical support. In addition, the  
16 ECC will inform the Executive On-Call Person so that the Corporate Emergency  
17 Response Plan (CERP) can be activated to provide additional support as necessary.

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19 Field personnel play a key role in outage restoration. There is an on-call support  
20 system for each of the three Transmission and Rural Operations (TRO) regions  
21 (Central, Northern and Labrador), the hydroelectric generation facilities and the  
22 Holyrood plant. In the event of a transmission system outage, field staff may be  
23 required at the terminal stations to assist the ECC with restoration. This on-call  
24 system ensures the outage information is received and passed on to the  
25 appropriate personnel.

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<sup>1</sup> Key stakeholders include large customers such as Newfoundland Power, Industrial Customers and executive management.

Distribution System Outages

In the case of distribution feeders where the ECC has SCADA monitoring capability, the ECC notifies the TRO regional on-call person for the area affected. If immediate restoration can be made, the ECC will restore the feeder and no further action is required. The majority of Hydro's distribution feeders are not monitored by the SCADA system and therefore unplanned outages are unknown until a customer reports a problem using Hydro's 24-hour toll-free power outage and emergency number to Hydro's Call Center during normal business hours and to the ECC after hours.

Once the customer information is received, it is then provided to regional field personnel to address the issue. During normal business hours, the Call Center will contact the applicable region's support services personnel who will then contact the front line supervisor by e-mail and phone to provide the customer's contact information and details of the concern. The front line supervisor will dispatch crews to the area to investigate. After normal business hours, the ECC will contact the on-call supervisor who will manually record the customer's information and details and dispatch crews to the area to investigate. The crew that responds to the outage is responsible for completing the restoration in a safe manner and providing updates to stakeholders using Hydro's outage communication protocol (refer to PUB-NLH-196).