

1 Q. Please provide Hydro's actual experience with mobile diesel generating units in  
2 isolated rural areas compared with other sources of supply in diesel areas.

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5 A. Please see PR-PUB-NLH-150 Attachment 1 for Hydro's current use of mobile  
6 generating units in isolated rural areas. Hydro has employed mobile generating  
7 units in the past to supply temporary power for extended periods of time while  
8 more permanent solutions are established. This is troublesome for Hydro during the  
9 winter months due to:

- 10 • Operating in adverse weather conditions creates many hazards as rain and  
11 snow is drawn into the unit creating extremely slippery surfaces and damage  
12 to equipment. During winter operation in 2015 a unit sustained major damage  
13 when snow was drawn in, melted and shorted the generator windings;
- 14 • A large volume of air is required to cool the generating unit and sometimes  
15 outside debris is drawn into the unit. During winter operation in 2014 a unit  
16 sustained major damage when a piece of ice passed through the fan/radiator;
- 17 • The Plant Operator has to contend with winter conditions (snow, ice, slippery  
18 surfaces) to properly operate the units due to traversing back and forth  
19 between the main plant and the mobile unit;
- 20 • Difficulty in using lifting devices during maintenance due to limited space  
21 inside of the mobile; and
- 22 • Performing maintenance work inside the unit while operating during the  
23 winter is difficult as the air flowing through causes the wind chill to be  
24 extreme.

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26 Please see PR-PUB-NLH-149 for the experience at Black Tickle.

### TRO Mobile Diesel Units

Region	Location	Unit Number	kW	Model	Mfg	Purchase Year	Volts	Comments	Status / Availability	Recent Failures
TRO Northern	St. Anthony Diesel Plant (SDP)	229	850	D-399	Cat	1980	4160	Not road worthy. Connected at SDP	Unit is installed in a semi-permanent state and is required for winter peak in SDP.	
	St. Anthony Diesel Plant (SDP)	2003	850	D-399	Cat	1980	4160	No wheels. Connected at SDP	Unit is installed in a semi-permanent state and is required for winter peak in SDP.	
	Port Hope Simpson Diesel Plant (PHS)	2044	600	D-3412	Cat	1996	600		Currently installed in PHS, available for emergency power in other locations.	
	L'Anse Au Loup Diesel Plant (LAL)	2082	1825	D-3516	Cat	2006	600	Connected at LAL. Mobile transformer on wheels installed with unit 600 delta / 25 - 12.5 - 4.16 kV wye	Unit is installed in a semi-permanent state and fully integrated into the plant control system. Required for peak demand at all times.	
	Charlottetown Diesel Plant (CHT)	2088	910	C32	Cat	2011	600	Connected at CHT. Separate transformer installed for 2088 & 2089.	Unit is currently installed in a semi-permanent state and is required to meet peak period.	This unit experienced a radiator failure in Dec 2013. Ice buildup caused the radiator fan to break, damaging the radiator. This unit failed again in Jan 2015. The generator was damaged due to snow exposure.
	Charlottetown Diesel Plant (CHT)	2089	725	C27	Cat	2012	600	Connected at CHT. Separate transformer installed for 2088 & 2089	Unit is currently installed in a semi-permanent state and is required to meet peak demand period.	
	Mary's Harbour Diesel Plant (MSH)	2090	725	C27	Cat	2013	600	Connected at MSH	Customized, winterized unit (40 week delivery) installed in a semi-permanent state and is required to meet peak period.	
TRO Central	Bishop Falls (BIF)	2071	225	D-3306	Cat	1997	600	Unit currently not mounted on trailer. 2 to 3 days work required to make mobile.	This is a mobile unit used for emergency purposes. Normally available for emergency power in other locations. Currently installed in Postville.	This unit was sent to BKT in 2012. Suffered a generator failure due to snow exposure in May 2012.
	Bishop Falls (BIF)	2072	225	D-3306	Cat	1999	600	Unit is on a skid and requires a boom lift.	This is a mobile unit used for emergency purposes. Normally available for emergency power in other locations. Currently down for repairs.	
TRO Labrador	Black Tickle (BKT)	Rental G1	320	C15	Cat	Rental	600	Unit rented for plant restoration work in 2012	Rental units are not readily available for harsh winter conditions.	Rental mobile G1 experienced a generator failure Nov 20, 2012 due to salt spray/snow exposure.
	Black Tickle (BKT)	Rental G2	320	C15	Cat	Rental	600	Unit rented for plant restoration work in 2012	Rental units are not readily available for harsh winter conditions.	Rental mobile G2 lost voltage and suffered a generator failure on Nov 25, 2012.