

class diesel units⁶, which would yield a firm capacity of 1,000 kW. The current interior plant arrangement consists of three diesel generators prime rated at 455 kW. The total installed capacity of the facility is currently 1,365 kW giving a firm capacity of 910 kW. Table 1 provides the ages along with other pertinent information for the three installed generating units at the Port Hope Simpson diesel plant.

Table 1: Port Hope Simpson Installed Generation (December 31, 2015)

Unit #		Engine Model #	Capacity (kW)	Year Built	In-Service Date	Unit Age YTD	Unit Hours	Number of Overhauls
G1	2043	Cat. 3412	455	1995	1996	20	85,847	5
G2	2042	Cat. 3412	455	1995	1996	20	101,411	6
G3	2073	Cat. 3456	455	2005	2005	11	62,462	2

3.2.2 Charlottetown

This section will outline the existing system configuration of the Charlottetown diesel plant. Refer to Appendix C and D for a single line diagram and plant layout, respectively.

The Charlottetown Diesel Generating Plant was commissioned in 1987 and consists of three gensets inside the powerhouse and two mobile units located outside. The facility is the sole source of power for the community of Charlottetown and as such, it is required to provide electrical supply to 238 customers on a continuous basis. The genset arrangement in the powerhouse includes one 725 kW genset⁷ (see Table 2 – 20XX), one 545 kW genset, and one 300 kW genset, for an installed total of 1,570 kW. The mobile gensets units at the site include one 910 kW unit and one 725 kW unit, for a total of 1635 kW of mobile capacity. This translates into a total capacity of 3,205 kW. The installed firm capacity of Charlottetown, as defined in Section 3.1.1, is 845 kW. Table 2 provides the ages along with other pertinent information for

⁶ In referring to a size class of diesel unit of 500 kW it should be noted that this refers to the size of an engine bay (or amount of physical space a unit requires physically and ergonomically) for a diesel unit that is approximately 500 kW in capacity. In practical terms a diesel unit in this class could be slightly smaller or larger depending on the foot print of the actual unit. The expected range of capacity for a 500 kW class unit would be roughly 375 kW to 625 kW.

⁷ Project in the execution phase to install this unit, 450 kW temporary unit currently in place.