



Prospective IPP Application Guideline for Independent Power Producer

QEC Power Plant Data

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1. BACKGROUND

1.1 Introduction

The Qulliq Energy Corporation (QEC) owns and operates 25 standalone diesel power generating stations throughout Nunavut. These power generating stations have engine/generator sets (“Genset”) ranging in various capacities as mentioned below as per community energy requirement and load growth projected. Genset ratings for Grise Fiord and Kinngait plants are for new plants that were commissioned in Dec 2018.

1.2 Plant Description - Baffin Region

1.2.1 Iqaluit power plant- 701

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	3,000 (Wartsila 9R32) Sr No 5880	720	9,707 kW 59,646 MWh (2017) 10,946 kW 65,901 MWh (2025) Average generation 2017 - 4,901,305 kWh	63°44'55" N 68°31'11" W
G2	2,500 (EMD20V645) Sr No 75C1042	900		
G3	3,300 (CAT D3612) Sr No 9RC114	720		
G4	2,000 (Wartsila 12V200) Sr No 120071	1,200		
G5	4,300 (Wartsila 12V32) Sr No 5337	720		
G6	5,000 (Wartsila 12V32) Sr No 227817	720		
G7	5,000 (Wartsila 12V32) Sr No 227818	720		
G8	330 (Series 60 Detroit Diesel) Sr No 06R0874156	1,800		
G9 - EM	320 (D 3406 CAT) Sr No 1LS01153	1,200		
Total	25,430			

1.2.2 Pangnirtung power plant – 702

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	1,100 (Cummins DQGAF) QSK-50-G5 Sr No 25415690	1,800	1,208 kW 6,418 MWH (2017) 1,302 kW 6,720 MWH (2025)	66°08'52" N 65°41'58" W
G2	1,100 (Cummins DQGAF)QSK-50-G5 Sr No 25415035	1,800		
G3	680 (Cummins DQGAA)QST-30-G5 Sr No 37268145	1,800		
G4 - EM	550 (C27 Caterpillar MJE03777 Sr No C27HGDGS00402	1,800		
Total	2,880			

1.2.3 Kinngait power plant – 703

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	1,100 (16V4000G73 MTU)	1,200	1,488 kW 5,509 MWH (2017) 1,600 kW 6,087 MWH (2025)	64°13'54" N 76°32'25" W
G2	1,100 (16V4000G73 MTU)	1,200		
G3	525 (8V4000M63 MTU)	1,200		
G4	830 (12V4000G73 MTU)	1,200		
Total	3,555			

1.2.4 Resolute Bay power plant – 704

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	320 (Series 60 Detroit Diesel) Sr No 06R1025516	1,800	829 kW 4,580 MWH (2017) 810 kW 4,419 MWH (2025)	74°41'51" N 94°49'56" W
G2	350 (F2895 Waukesha) F2895 Sr No 230803	1,200		
G3	500 (8V400 Detroit Diesel) 8V4000 Sr No 524101744	1,200		
G4	320 (CAT D3406E) Sr No 17300670	1,200		
G5	320 (CAT D3406E) Sr No 9NN00445	1,200		
Total	1,810			

1.2.5 Pond Inlet power plant – 705

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	720 (CAT D 3512) Sr No 67Z00917	1,200	1,168 kW 6,402 MWH (2017) 1,356 kW 7,170 MWH (2025)	72°41'57" N 77°57'33" W
G2	850 (Detroit 12V4000) Sr No 5262011374	1,200		
G3	550 (Gauscor F360TA) Sr No 76937	1,200		
G4	550 (Gauscor SF360TA) Sr No 76936	1,200		
Total	2,670			

1.2.6 Igloolik power plant – 706

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	850 (Detroit Diesel 12V4000) Sr No 5262011373	1,200	1,247 kW 6,771 MWH (2017) 1,471 kW 7,759 MWH (2025)	69°22'34" N 81°47'58" W
G2	480 (CAT D 3508) Sr No 70Z00838	1,200		
G3	720 (CAT D 3512) Sr No 67Z01250	1,200		
G4 - EM	320 (Series 60 Detroit Diesel) 06R0842989	1,800		
Total	2,050			

1.2.7 Sanirajak power plant – 707

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	165 (CAT D3406) 90U15752	1,200	681 KW 3374 MWH (2017) 764 KW 3831 MWH (2025)	68°46'38" N 81°13'27" W
G2	550 (D3508B) Sr No CTC00294	1,200		
G3	330 (Series 60 Detroit Diesel) 06R1010847	1,800		
G4	550(CAT 3508B) Sr No 2HW00394	1,200		
Total	1,525			

1.2.8 Qikiqtarjuaq power plant – 708

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	300 (MTU8V1600B3OS) Sr No 1HTMMAA2AH261600	1,800	1,100 kW 2,765 MWH (2017) 1,195 kW 3,029 MWH (2025)	67°33'29" N 64°01'29" W
G2	550 (CAT D3508B) Sr No S2A00177	1,200		
G3	550 (CAT D3508B) Sr No S2A00178	1,200		
G4	370 (CAT C15) Sr No FTH04668	1,800		
Total	1,770			

1.2.9 Kimmirut power plant – 709

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	360 (Volvo TAD 1344GE) Sr No 201333041	1,800	385 kW 2,004 MWH (2017) 389 kW 1,985 MWH (2025)	62°50'48" N 69°52'07" W
G2	300 (Series 60 Detroit Diesel) Sr No 06R0793390	1,800		
G3	330 (CAT D 3412) Sr No 81Z11897	1,200		
G4	350 EM (CAT D3406) 1DZ03760	1,200		
Total	990			

1.2.10 Arctic Bay power plant – 710

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	480 (CAT D3508) Sr No 70Z00908	1,200	690 kW 3,361 MWH (2017) 759 kW 3,661 MWH (2025)	73°02'11" N 85°09'09" W
G2	290 (CAT D 3406) Sr No 9FF01874	1,200		
G3	330 (Series 60 Detroit Diesel) Sr No 06R0976524	1,800		
G4 - EM	320 (Series 60 Detroit Diesel) Sr No 06R0984997	1,800		
Total	1,100			

1.2.11 Clyde River power plant – 711

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	480 (CAT 3508B) Sr No 70Z00857	1,200	796 kW 3,792 MWH (2017) 886 kW 4,319 MWH (2025)	70°28'26" N 68°35'10" W
G2	550 (CAT D 3508B) Sr No 2HW00389	1,200		
G3	330 (Series 60 Detroit Diesel) Sr No 06R1043819	1,800		
G4 - EM	550 (CAT D 3508B) Sr No 2HW00390	1,800		
Total	1,910			

1.2.12 Grise Fiord power plant – 712

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	255 TAD1344GE-WDC255D6CSW	1,800	168 kW 1,251 MWH (2017) 173 kW 1,067 MWH (2025)	76°25'03" N 82°53'38" W
G2	255 TAD1344GE-WDC255D6CSW	1,800		
G3	225 TAD1344GE-WDC255D6CSW	1,800		
G4	170 TAD1350GE-HCI434DIH	1,800		
Total	905			

1.2.13 Sanikiluaq power plant – 713

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	330 (Series 60 Detroit Diesel) Sr No 06R1043819	1,800	725 kW 3,837 MWH (2017) 804 kW 4,112 MWH (2025)	56°32'34" N 79°13'30" W
G2	550 (CAT D 3508B) Sr No 2HW00388	1,200		
G3	550 (CAT 3508B) Sr No CTC00281	1,200		
Total	1,430			

1.3 Plant Description - Kivalliq Region

1.3.1 Rankin Inlet power plant – 601

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	950 (CAT D3516) Sr No 73Z00621	1,200	<p>3,348 kW 18,490 MWH (2017)</p> <p>3,344 kW 18,749 MWH (2025)</p>	<p>62°48'35" N 92°05'58" W</p>
G2	1500 (CAT D3606) Sr No 8RB01008	900		
G3	1450 (EMD 8V710) Sr No 06-E 1 - 1030	900		
G4	2150 (EMD L12V710) Sr No 01-L1 - 10130	900		
G5 - EM	820EM (Detroit 12V4000) Sr No 5262003102	1,200		
Total	6,870			

1.3.2 Baker Lake power plant – 602

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	1100 (Cat D 3516B) Sr No GZT00177	1,200	<p>1,100 kW 8,906 MWH (2017)</p> <p>2,055 kW 9,224 MWH (2025)</p>	<p>64°19'05" N 96°01'03" W</p>
G2	850 (Cat D 3512B) Sr No CTB00184	1,200		
G3	1050 (Cat D 3516B) Sr No CTA00152	1,200		
G4	550 (Cat D 3508B) Sr No CTC00295	1,200		
Total	3,550			

1.3.3 Arviat power plant – 603

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	850 (CAT D 3512B) Sr No LE600186	1,200	<p>1613 kW 8,661 MWH (2017)</p> <p>1988 kW 10,348 MWH (2025)</p>	<p>61°06'29" N 94°03'25" W</p>
G2	550 (CAT D 3508B) Sr No CTC0292	1,200		
G3	1100 (CAT D 3516B) Sr No GZT00178	1,200		
G4	800 (CAT D 3512B) Sr No 9GZ00571	1,200		
Total	3,300			

1.3.4 Coral Harbour power plant – 604

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	480 (CAT D 3508) Sr No 70Z00877	1,200	731 kW 3,541 MWH (2017) 780 kW 3,915 MWH (2025)	64°08'13" N 83°09'51" W
G2	420 (CAT D 3508) Sr No CTF00265	1,200		
G3	420 (CAT D 3508) Sr No CTF00264	1,200		
Total	1,320			

1.3.5 Chesterfield Inlet power plant – 605

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	320 (Detroit Series 60) Sr No 06R0793235	1,800	400 kW 2,066 MWH (2017) 412 kW 2,169 MWH (2025)	63°20'27" N 90°42'22" W
G2	320 (Detroit Series 60) Sr No 06R01043820	1,800		
G3	400 (CAT D 379) Sr No 34Z00683	1,200		
Total	1,040			

1.3.6 Whale Cove power plant– 606

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	300 (CAT D 3412) Sr No 81Z11643	1,200	380 kW 1,931 MWH (2017) 441 kW 2,153 MWH (2025)	62°10'22" N 92°34'46" W
G2	300 (CAT D 3412) Sr No 81Z11653	1,200		
G3	150 (CAT D3406) Sr No 2WB10298	1,200		
G4	320 (Detroit Series 60) Sr No 06R1043818	1,800		
Total	1,070			

1.3.7 Naujaat power plant – 607

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	550 (CAT D 3508B) Sr No CTC00282	1,200	871 kW 4,315 MWH (2017) 1,014 kW 5,014 MWH (2025)	66°31'19" N 86°14'06" W
G2	550 (CAT 3508B) Sr No 2HW00391	1,200		
G3	550 (CAT D 3508B) Sr No CTC00280	1,200		
G4 - EM	550 kW Modular unit (CAT 3508B) Sr No 2HW00393	1,200		
Total	1,650			

1.4 Plant Description – Kitikmeot Region

1.4.1 Cambridge Bay power plant– 501

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	1100 (Detroit 16V4000) Sr No 5272003461	1,200	2,265 kW 12,902 MWH (2017) 2,453 kW 13,803 MWH (2025) Average generation 2017 1,010,792 kWh	69°07'02" N 105°03'11" W
G2	550 (CAT D 3508B) Sr No CTC00266	1,200		
G3	1100 (CAT D 3512B) Sr No GZT00174	1,200		
G4	1100 (Detroit 16V4000) Sr No 5272003468	1,200		
G5	1100 (Detroit 16V4000) Sr No 5272001410	1,200		
Total	4,950			

1.4.2 Gjoa Haven power plant – 502

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	720 (CAT D3512) Sr No 67Z-00764	1,200	1,100 kW 5,851 MWH (2017) 1,195 kW 6,642 MWH (2025)	68°37'33" N 95°52'30" W
G2	500 (MTU8V4000M63) Sr No 524101864	1,200		
G3	550 (Gauscor SF360TA) Sr No 76934	1,200		
G4	550 (CAT 3508B)	1,200		
Total	2,320			

1.4.3 Taloyoak power plant – 5031

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	370 (CAT C15) Sr No FTH04674	1,800	730 kW 3,923 MWH (2017) 851 kW 4,478 MWH (2025)	69°32'13" N 93°31'36" W
G2	550 (CAT 3508B) Sr No S2A00179	1,200		
G3	550 (CAT 3508B) Sr No S2A00180	1,200		
G4	370 (CAT C15) Sr No FTH04673	1,800		
Total	1,840			

1.4.4 Kugaaruk power plant – 504

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	320 (Detroit Series 60) Sr No 6R0753348	1,800	669 kW 2,829 MWH (2017) 796 kW 3,330 MWH (2025)	68°31'59" N 89°49'36" W
G2	550 (CAT D 3508B) Sr No CTC00284	1,200		
G3	550 (CAT D 3508B) Sr No CTC00283	1,200		
Total	1,420			

1.4.5 Kugluktuk power plant – 505

Genset	Rating (kW) and Make	RPM	Peak Load & Generation 2017 & Forecast 2025	Geographic Location
G1	875 (Detroit DD4000) Sr No 5262000511	1,800	1,077 KW 5,796 MWH (2017) 1,155 KW 6,318 MWH (2025)	67°49'32" N 115°05'42" W
G2	320 (Detroit Series 60) Sr No 6R0649412	1,800		
G3	320 (Detroit Series 60) Sr No 6R0812721	1,800		
G4	720 (CAT D 3512) Sr No 67Z-00939	1,200		
Total	2,235			

NOTE: This is a live document, as equipment configuration will change with time as per community needs and life cycle of the equipment. New plants may be built with different equipment configuration and location at the same community. All above information provided by QEC is to be verified by the proponent for admissibility, accuracy and updated as required at the time of use. Load and capacity projections also need to be further extrapolated and extended for the projected life of the new power plant based on the trend and data to be collected by the Proponent. QEC does not guarantee the accuracy of the information provided.