March 25, 2024

Hon. John Main

Minister Responsible for the Qulliq Energy Corporation

Legislative Assembly of Nunavut

 926 Sivumugiaq, 2nd Floor,

Iqaluit, Nunavut X0A 3H0

Dear Minister Main,

RE: The Major Capital Project Permit Application Respecting Genset Replacements in Kugaaruk, Coral Harbour, Chesterfield Inlet, Whale Cove and Pond Inlet, Utility Rates Review Council of Nunavut’s Report 2024-01.

By letter dated November 23, 2023, the Qulliq Energy Corporation (QEC) applied to the Minister Responsible for QEC for approval of major capital project permits for genset replacements in the communities of Kugaaruk, Coral Harbour, Chesterfield Inlet, Whale Cove and Pond Inlet. By letter dated December 1, 2023, the Minister Responsible for QEC requested advice from the Utility Rates Review Council of Nunavut (URRC) with respect to QEC’s application.

In response to the application and the Minister’s request, please find attached the URRC’s Report 2024-01, respecting QEC’s major project permit application.

Yours truly,



Graham Lock, Vice-Chair

Utility Rates Review Council of Nunavut

CC: Premier P.J. Akeeagok, Minister Responsible for the URRC

Anna Fowler, Deputy Minister, Executive and Intergovernmental Affairs

Bill Nippard, Interim President and CEO, Qulliq Energy Corporation

Laurie-Anne White, Executive Director, URRC

P.O. BOX 1000, STN 200, IQALUIT, NU, X0A 0H0, URRC@GOV.NU.CA [www.URRC.gov.nu.ca](http://www.URRC.gov.nu.ca/)



**Report to the Minister Responsible for the Qulliq Energy Corporation on:**

**The Major Capital Project Permit Application Respecting**

**Genset Replacements in Kugaaruk, Coral Harbour, Chesterfield Inlet, Whale Cove and Pond Inlet**

**Report 2024-01**

**March 25, 2024**

1. EXECUTIVE SUMMARY
2. Qulliq Energy Corporation (QEC), as a designated utility, is required pursuant to Section 18.1 of the *Qulliq Energy Corporation Act*, to seek approval from the responsible Minister prior to undertaking a major capital project.
3. On November 23, 2023, QEC applied to the responsible Minister for approval of major capital project permits for genset replacements in the communities of Kugaaruk, Coral Harbour, Chesterfield Inlet, Whale Cove and Pond Inlet (the Application). By letter dated December 1, 2023, the Minister requested advice from the Utility Rates Review Council of Nunavut (URRC) with respect to the Application.
4. The URRC’s consideration of these matters and recommendations are set out in the report. In summary, the URRC recommends:
	1. That the major capital project permit approvals for genset replacements in the communities of Kugaaruk, Coral Harbour, Chesterfield Inlet, Whale Cove and Pond Inlet, be approved subject to the following:
		1. That, if, for any of the communities, the projected costs after tendering exceed the proposed costs by more than 25 per cent, that QEC be instructed to prepare and submit a new major project permit application (MPPA) to the Minister responsible for QEC.
		2. That, if, after tendering, the proposed in-service date will differ from the proposed in-service date by more than one year for any of the communities, QEC be instructed to advise the Minister responsible for QEC in a timely manner.
	2. In addition to the above, the URRC recommends the following:
		1. That, in light of the critical safety concerns raised in the December 2021 MPPA regarding the Kugaaruk and Chesterfield Inlet power plants, the URRC recommends that QEC provide detailed reporting to the Minister responsible for QEC on the specific actions taken to address what were portrayed as critical safety and reliability concerns, and/or standard (code) non-compliance to ensure that community well-being and worker safety is not compromised.
	3. Further recommendations are included in Section 6.0 URRC Recommendations at the end of the report.

**UTILITY RATES REVIEW COUNCIL OF NUNAVUT**

**MEMBERS**

Graham Lock Vice-Chair

Nadia Ciccone Member

Bill Williams Member

**SUPPORT**

Laurie-Anne White Executive Director

Wade Vienneau Consultant

**LIST OF ABBREVIATIONS**

|  |  |
| --- | --- |
| AEF | Arctic Energy Fund |
| genset | Generator Set |
| GN | Government of Nunavut |
| GRA | General Rate Application |
| IC | Installed Capacity |
| IFC | Installed Firm Capacity |
| IR | Information Request |
| kW | Kilowatt |
| kWh | Kilowatt-Hour |
| MPPA | Major Project Permit Application |
| N-1 | N-1 planning criteria**[[1]](#footnote-1)** |
| QEC | Qulliq Energy Corporation |
| QEC Act | *Qulliq Energy Corporation Act* |
| RFC | Required Firm Capacity |
| URRC | Utility Rates Review Council of Nunavut |
| URRC Act | *Utility Rates Review Council Act* |

**TABLE OF CONTENTS**

[1.0 EXECUTIVE SUMMARY 1](#_Toc162016718)

[2.0 BACKGROUND 6](#_Toc162016719)

[3.0 PARTICULARS OF THE APPLICATION 8](#_Toc162016720)

[3.1 OVERVIEW 8](#_Toc162016721)

[3.2 KUGAARUK 9](#_Toc162016722)

[3.3 CORAL HARBOUR 9](#_Toc162016723)

[3.4 CHESTERFIELD INLET 10](#_Toc162016724)

[3.5 WHALE COVE 11](#_Toc162016725)

[3.6 POND INLET 11](#_Toc162016726)

[4.0 PROCESS 13](#_Toc162016727)

[4.1 MAJOR OR MINOR APPLICATIONS 13](#_Toc162016728)

[4.2 PUBLIC CONSULTATION PROCESS 13](#_Toc162016729)

[5.0 EXAMINATION OF THE APPLICATION 15](#_Toc162016730)

[5.1 OVERVIEW AND FINANCIAL MATTERS 15](#_Toc162016731)

[5.2 KUGAARUK 16](#_Toc162016732)

[5.3 CORAL HARBOUR 17](#_Toc162016733)

[5.4 CHESTERFIELD INLET 18](#_Toc162016734)

[5.5 WHALE COVE 19](#_Toc162016735)

[5.6 POND INLET 20](#_Toc162016736)

[5.7 APPLICATION COMPLETENESS REGARDING THE ASSESSMENT OF NEED AND FACILITY OPTIONS 21](#_Toc162016737)

[5.8 EMERGENCY GENERATORS 22](#_Toc162016738)

[6.0 URRC RECOMMENDATIONS 23](#_Toc162016739)

1. BACKGROUND
2. Qulliq Energy Corporation (QEC), as a designated utility, is required pursuant to Section 18.1 of the *Qulliq Energy Corporation Act* (QEC Act), to seek approval from the responsible Minister prior to undertaking a major capital project. In this regard, Section 18.1 of the QEC Act provides as follows:

Definition

* + 1. In this section, “major capital project” means a capital project that has a total cost that exceeds $5,000,000.

Major capital project

* + 1. The Corporation shall not undertake, nor permit any of its subsidiaries to undertake, a major capital project unless it applies in advance to the Minister for an order giving permission for the project.

Minister may seek advice

* + 1. Before responding to an application for permission made under subsection (2), the Minister may seek the advice of the Utility Rates Review Council (URRC) established under the *Utility Rates Review Council Act*.

Corporation to provide information

* + 1. The Corporation shall provide the Minister and the URRC with any information necessary for the Minister to decide whether permission should be granted.

What Minister may do

* + 1. The Minister may
			1. grant permission for undertaking the major capital project, with or without conditions; or
			2. refuse permission.

Order

* + 1. Permission granted by the Minister under paragraph (5)(a) shall be in the form of an order.
1. Section 7(e) of the *Utility Rates Review Council Act* (URRC Act) states, among others, the purposes of the URRC are to advise the Minister responsible for QEC regarding applications for permission for major capital projects under Section 18.1 of the QEC Act.
2. On November 23, 2023, QEC applied to the responsible Minister for approval of major capital project permits for genset replacements in the communities of Kugaaruk, Coral Harbour, Chesterfield Inlet, Whale Cove and Pond Inlet (the Application). On December 5, 2023,**[[2]](#footnote-2)** the Minister requested advice from the URRC with respect to the Application. The URRC’s consideration of these matters is set out in this report.
3. PARTICULARS OF THE APPLICATION
	1. OVERVIEW
4. QEC applied for genset replacements in five communities in order to meet reliability and capacity issues (details are provided in the sections that follow). QEC submitted that the replacements were needed to meet its capacity planning criteria, address units that are at or beyond their useful life based on age or hours of service, and resolve reliability issues related to the unavailability of spare or replacement parts.
5. QEC stated that it uses a required firm capacity (RFC) planning formula for its diesel plants, so that 110 per cent of the forecast peak load for a community can be met with the largest single unit out of service (N-1). The total installed capacity (IC) is reduced by the largest single unit, resulting in the installed firm capacity (IFC). QEC does not consider an emergency unit to be part of the power plant when comparing RFC and IFC.
6. QEC estimated that the cost to complete the five genset replacements is $32.4 million. QEC submitted that the budget estimates for the projects were based on recent experience with pricing for similar projects.
7. QEC estimated there would be a $2.791 million increase in revenue requirement due to the five genset replacements; $1.295 million for amortization expense related to the capital cost of the replacements, and $1.495 million for return on the additional rate base (capital cost of the replacements). QEC estimated the increased revenue requirement would result in an estimated 1.47 cents/kilowatt-hour (kWh) increase in territory-wide rates, assuming the projects are completed by the 2026/27 fiscal year.
8. QEC submitted that genset replacement projects typically take about two years to complete based on the need to order equipment and schedule construction. QEC anticipated the projects would be completed by the 2025/26 fiscal year.
	1. KUGAARUK
9. QEC stated that Kugaaruk is located in the Kitikmeot region of Nunavut with a population of 1,033 in the 2021 census, an increase of 10.7 per cent from the 2016 census. Access to the community is primarily by air or by sealift.
10. The power plant has three gensets with IC of 1,420 kilowatts (kW) and IFC of 770 kW. QEC submitted that unit G1 was installed in 2004 and that QEC projects that the existing plant will not meet the RFC criterion by approximately 2025. QEC provided additional details regarding the condition of the power plant in the December 2021 major project permit application (MPPA). QEC noted that there is also a 500‑kW emergency generator located in the community.
11. QEC proposed to replace the 320-kW unit G1 with a 550-kW unit, thereby increasing the IC to 1,650 kW and the IFC to 1,100 kW. Based on QEC’s peak load forecast the IFC of the upgraded power plant would meet the peak load and RFC criterion for the foreseeable future.
12. QEC noted that the project requires various upgrades to the foundation and support structures, fuel system and equipment necessary for the power plant to operate safely and reliably.
13. QEC did not provide any other options to address the situation other than deferral of the genset replacement.
14. The estimated cost for the project is $5.409 million.
	1. CORAL HARBOUR
15. QEC stated that Coral Harbour is located in the Kivalliq region of Nunavut with a population of 1,035 in the 2021 census, an increase of 16.2 per cent from the 2016 census. Access to the community is primarily by air or by sealift.
16. The power plant has three gensets with IC of 1,560 kW and IFC of 840 kW. QEC submitted that unit G2 was installed in 2005 and that the existing plant does not meet the RFC criterion. QEC did not provide additional details regarding the condition of the power plant. QEC noted that there is also a 500-kW emergency generator located in the community.
17. QEC proposed to replace the 420-kW unit G2 with a 720-kW unit, thereby increasing the IC to 1,860 kW and the IFC to 1,140 kW. Based on QEC’s peak load forecast the IFC of the upgraded power plant would meet the peak load and RFC criterion for the foreseeable future.
18. QEC noted that the project requires various upgrades to the foundation and support structures, fuel system and equipment necessary for the power plant to operate safely and reliably.
19. QEC did not provide any other options to address the situation other than deferral of the genset replacement.
20. The estimated cost for the project is $7.499 million.
	1. CHESTERFIELD INLET
21. QEC stated that Chesterfield Inlet is located in the Kivalliq region of Nunavut with a population of 397 in the 2021 census, a decrease of 9.2 per cent from the 2016 census. Access to the community is primarily by air or by sealift.
22. The power plant has three gensets with IC of 1,040 kW and IFC of 640 kW. QEC submitted that unit G1 was installed in 2010 and that the unit is approaching the end of its useful life based on engine hours of service. The current power plant meets the RFC criterion. QEC provided additional details regarding the condition of the power plant in the December 2021 MPPA. QEC noted that there is also a 500‑kW emergency generator located in the community.
23. QEC proposed to replace the 320-kW unit G1 with a new 320-kW unit, thereby improving the reliability of the power plant. Based on QEC’s peak load forecast the IFC of the upgraded power plant, without an increase in capacity, would meet the peak load and RFC criterion for the foreseeable future.
24. QEC noted that the project requires various upgrades to the foundation and support structures, and equipment necessary for the power plant to operate safely and reliably.
25. QEC did not provide any other options to address the situation other than deferral of the genset replacement.
26. The estimated cost for the project is $5.3 million.
	1. WHALE COVE
27. QEC stated that Whale Cove is located in the Kivalliq region of Nunavut with a population of 470 in the 2021 census, an increase of 8.0 per cent from the 2016 census. Access to the community is primarily by air or by sealift.
28. The power plant has four gensets with IC of 1,070 kW, and IFC of 750 kW. QEC submitted that unit G1 was installed in 1991 and that the unit has reached the end of its useful life based on engine hours of service and unavailability of spare parts. The current power plant meets the RFC criterion. QEC did not provide additional details regarding the condition of the power plant. QEC noted that there is no emergency generator located in the community.
29. QEC proposed to replace the 300-kW unit G1 with a 400-kW unit, thereby increasing the IC to 1,170 kW and the IFC to 770 kW. Based on QEC’s peak load forecast the IFC of the upgraded power plant would meet the peak load and RFC criterion for the foreseeable future.
30. QEC noted that the project requires various upgrades to the foundation and support structures, fuel system and equipment necessary for the power plant to operate safely and reliably.
31. QEC did not provide any other options to address the situation other than deferral of the genset replacement.
32. The estimated cost for the project is $5.996 million.
	1. POND INLET
33. QEC stated that Pond Inlet is located in the Qikiqtaaluk region of Nunavut with a population of 1,555 in the 2021 census, a decrease of 3.8 per cent from the 2016 census. Access to the community is primarily by air or by sealift.
34. The power plant has four gensets with IC of 2,670 kW, and IFC of 1,820 kW. QEC submitted that unit G3 was installed in 2009 and is no longer a reliable unit due to frequency of breakdown. The current power plant meets the RFC criterion. QEC did not provide additional details regarding the condition of the power plant. QEC noted that there is no emergency generator located in the community.
35. QEC proposed to replace the 550-kW unit G3 with a 750-kW unit, thereby increasing the IC to 2,970 kW and the IFC to 2,020 kW. Based on QEC’s peak load forecast the IFC of the upgraded power plant would meet the peak load and RFC criterion for the foreseeable future.
36. QEC did not identify other upgrades or improvements included in the project necessary to maintain reliability of the power plant.
37. QEC did not provide any other options to address the situation other than deferral of the genset replacement.
38. The estimated cost for the project is $8.176 million.
39. PROCESS
	1. MAJOR OR MINOR APPLICATIONS
40. Under the URRC Act, it is directed that at the sole discretion of the URRC, the URRC shall determine whether an application is either minor or major for the purposes of determining the time required for processing of the application; a minor application provides for a time limit of 90 days for the URRC to report to the responsible Minister while a major application provides a time limit of 150 days. The URRC considered the significant level of investment proposed in the subject Application, the need for information requests (IRs) and responses, and the need for an opportunity for the public to make submissions. As a result, the URRC determined to treat the Application as a major application.
41. The URRC determined that the 150-day deadline for submitting its report to the Minister would be May 3, 2024.
	1. PUBLIC CONSULTATION PROCESS
42. On January 5, 2024, the URRC caused notice of the Application to be provided in each of the affected communities and across Nunavut. A notice of the Application was prepared and made available to the residents and customers in all communities, including the communities of Kugaaruk, Coral Harbour, Chesterfield Inlet, Whale Cove and Pond Inlet. The notices were posted on the URRC website and advertised on Nunatsiaq news online in addition to social media. QEC wrote letters to each Member of the Legislative Assembly of Nunavut and mayors across Nunavut and made public service announcements for the Application noting both the opportunity and deadline for making a submission regarding the Application to the URRC.
43. The URRC also provided an opportunity for the public to make written comments respecting the MPPAs by the deadline of February 5, 2024. One public submission was received from the Minister for Baker Lake, dated February 5, 2024. The matters raised in the submission were addressed by QEC in its response dated February 7, 2024, which was considered by the URRC in this report.
44. The URRC asked for more information from QEC regarding the Application. This was conducted through two rounds of IRs. The URRC asked a number of general questions, as well as questions specific to each community. QEC responded to the two rounds of IRs from the URRC on February 7, 2024, and on February 20, 2024.
45. EXAMINATION OF THE APPLICATION
46. The URRC has assessed the Application overall, as well as the community-specific components in the sections that follow. The URRC will also address some concerns regarding the content of QEC’s recent application(s) for MPPAs.
	1. OVERVIEW AND FINANCIAL MATTERS
47. The URRC notes that there will be no financial/rate impact on customers until the projects are in service and QEC applies for an increase in its revenue requirement and territory-wide rates. QEC submitted that it provided cost estimates for each genset replacement project based on recent experience; however, no data was provided regarding the projects it was referring to. It would have been helpful to have more information regarding the size, time frame, community and cost of the project(s) QEC was relying on to inform its budgets for the five genset replacements in the Application. Nevertheless, the URRC has no reason to doubt or question QEC’s methods or the budgets submitted in the Application.
48. The URRC also reviewed the estimated revenue requirement increase and the resulting increase in territory-wide rates. The URRC notes that the one public submission regarding the Application was related to the rate increase that would result from the genset replacement projects, and QEC’s ability to obtain federal funding to offset the cost of the projects.
49. Regarding the Arctic Energy Fund (AEF) program and other sources of funding, the URRC understands that the cost of the genset replacements will be fully funded by ratepayers, and that no federal funding is available from the AEF or other programs. QEC provided a helpful update regarding the status of the AEF program (and funds available), as well as its efforts to secure other funding. Until such time as QEC is able to secure other funding, the capital cost must be financed by QEC, and the revenue requirement impacts recovered from ratepayers via rates and the Government of Nunavut directly.
50. The public submission was made by a Member of the Legislative Assembly of Nunavut from a community not included in the Application; it indirectly raises an issue for the URRC related to the need to rank the need for competing projects in a transparent way. Now that QEC is using territory‑wide rates, it is important for QEC to be able to demonstrate that the capital projects it proposes are needed and that all potential alternatives have been considered, since all customers pay for a portion of every capital project. When a community does not directly benefit from a capital project, or QEC is not proposing the project it would prefer, it may require more information be made available to the URRC and the public so that the applied-for need may be justified (and found to be the best use of QEC’s capital expenditures).
51. The URRC considers that the estimated revenue requirement increase and the resulting increase in territory-wide rates appear to be reasonable. However, a final determination will be made when the projects are in service and QEC applies to include the costs in its revenue requirement and set new rates.
52. If, for any of the communities, the projected costs after tendering exceed the proposed costs by more than 25 per cent, the URRC recommends that QEC be instructed to prepare and submit a new MPPA to the Minister responsible for QEC. Further, if after tendering, the proposed in-service date will differ from the proposed in-service date by more than one year, the URRC recommends that QEC be instructed to advise the Minister responsible for QEC in a timely manner.
	1. KUGAARUK
53. The URRC reviewed the need for the proposed genset replacement project in the Kugaaruk power plant. The URRC considered the peak load forecast, RFC criterion, IC and IFC and information provided about the units in the power plant.
54. The URRC accepts that the Kugaaruk power plant does not have adequate firm capacity to meet the RFC criterion beyond 2025 and that increased capacity is required. The URRC notes that Kugaaruk does have a 500-kW emergency generator located in the community, which provides some potential risk mitigation in the event of a unit failure.
55. QEC’s proposal to replace the 320-kW unit G1 with a 550-kW unit appears to be a reasonable solution; however, no other alternatives were provided. The increased IFC of 1,100 kW is needed and urgent, and should be sufficient to meet the needs of the community for many years. The IFC of 1,100 kW is much lower than the 1,660 kW proposed in the December 2021 MPPA.
56. QEC also submitted that it addresses other deficiencies in the power plant using preventative maintenance. Those deficiencies were well documented in the December 2021 MPPA for a new power plant in Kugaaruk. The URRC notes that QEC seems to be satisfied it can maintain the reliability of the power plant for the time being. However, in light of the critical safety concerns raised in the December 2021 MPPA regarding the Kugaaruk power plant, the URRC recommends that QEC provide detailed reporting to the Minister on the specific actions taken to address what were portrayed as critical safety and reliability concerns, and/or standard (code) non-compliance to ensure that community well-being and worker safety is not compromised.
57. It is concerning to the URRC when the approach in the Application is compared to the approach taken in the December 2021 MPPA. The URRC understands that the genset replacement may only be a temporary solution, until a new power plant can be constructed in the community; however, it seems obvious that QEC should have had other viable options in both this Application and the December 2021 MPPA. Further, the URRC recommends that QEC provide the Minister with the strategies QEC will employ to prevent the genset replacement assets from becoming stranded, in the event financing/funding for a new power plant materializes before their end of life.
58. The URRC recommends approval of the proposed genset replacement in Kugaaruk.
	1. CORAL HARBOUR
59. The URRC reviewed the need for the proposed genset replacement project in the Coral Harbour power plant. The URRC considered the peak load forecast, RFC criterion, IC and IFC and information provided about the units in the power plant.
60. The URRC accepts that the Coral Harbour power plant does not have adequate firm capacity to meet the RFC criterion and that the peak load is expected to continue increasing. The URRC notes that Coral Harbour does have a 500-kW emergency generator located in the community, which provides some potential risk mitigation in the event of a unit failure.
61. QEC’s proposal to replace the 420-kW unit G2 with a 720-kW unit appears to be a reasonable solution; however, no other alternatives were provided. The increased IFC of 1,140 kW is needed and urgent, and should be sufficient to meet the needs of the community for many years.
62. QEC also submitted that it addresses other deficiencies in the power plant using preventative maintenance. The URRC notes that QEC seems to be satisfied it can maintain the reliability of the power plant for the time being.
63. The URRC recommends approval of the proposed genset replacement in Coral Harbour.
	1. CHESTERFIELD INLET
64. The URRC reviewed the need for the proposed genset replacement project in the Chesterfield Inlet power plant. The URRC considered the peak load forecast, RFC criterion, IC and IFC and information provided about the units in the power plant.
65. The URRC accepts that the Chesterfield Inlet power plant has potential reliability issues, and that there is sufficient IFC to meet the RFC criterion beyond 2029/30. The URRC notes that Chesterfield Inlet does have a 500-kW emergency generator located in the community, which provides some potential risk mitigation in the event of a unit failure.
66. QEC’s proposal to replace the 320-kW unit G1 with a new 320-kW unit appears to be a reasonable solution; however, no other alternatives were provided. The increased reliability appears to be needed, while there is no need to increase the IFC based on QEC’s forecast of peak load for Chesterfield Inlet. The IFC of 640 kW is much lower than the 1,270 kW proposed in the December 2021 MPPA.
67. QEC also submitted that it addresses other deficiencies in the power plant using preventative maintenance. Those deficiencies were well documented in the December 2021 MPPA for a new power plant in Chesterfield Inlet. The URRC notes that QEC seems to be satisfied it can maintain the reliability of the power plant for the time being. However, in light of the critical safety concerns raised in the December 2021 MPPA regarding the Chesterfield Inlet power plant, the URRC recommends that QEC provide detailed reporting to the Minister on the specific actions taken to address what were portrayed as critical safety and reliability concerns, and/or standard (code) non-compliance to ensure that community well‑being and worker safety is not compromised.
68. It is concerning to the URRC when the approach in the Application is compared to the approach taken in the December 2021 MPPA. The URRC understands that the genset replacement may only be a temporary solution, until a new power plant can be constructed in the community; however, it seems obvious that QEC should have had other viable options in both this Application and the December 2021 MPPA. Further, the URRC recommends that QEC provide the Minister with the strategies QEC will employ to prevent the genset replacement assets from becoming stranded, in the event financing/funding for a new power plant materializes before their end of life.
69. The URRC recommends approval of the proposed genset replacement in Chesterfield Inlet.
	1. WHALE COVE
70. The URRC reviewed the need for the proposed genset replacement project in the Whale Cove power plant. The URRC considered the peak load forecast, RFC criterion, IC and IFC and information provided about the units in the power plant.
71. The URRC accepts that the Whale Cove power plant has potential reliability issues; however, it is less clear that additional IFC is required to meet the RFC criterion for many years beyond 2029/30. The URRC notes that Whale Cove does not have an emergency generator located in the community. The absence of an emergency generator increases the risk of outages in the event of a unit failure.
72. QEC’s proposal to replace the 300-kW unit G1 with a 400-kW unit appears to be a reasonable solution; however, no other alternatives were provided. The increased reliability and IFC of 770 kW is needed and urgent, and should be sufficient to meet the needs of the community for many years. The proposed IFC exceeds the forecast peak load and RFC until 2029/30 by 300 kW and should reduce the risk of outages in the community in the absence of an emergency generator.
73. QEC also submitted that it addresses other deficiencies in the power plant using preventative maintenance. The URRC notes that QEC seems to be satisfied it can maintain the reliability of the power plant for the time being.
74. The URRC recommends approval of the proposed genset replacement in Whale Cove.
	1. POND INLET
75. The URRC reviewed the need for the proposed genset replacement project in the Pond Inlet power plant. The URRC considered the peak load forecast, RFC criterion, IC and IFC and information provided about the units in the power plant.
76. The URRC accepts that the Pond Inlet power plant has potential reliability issues and may require additional firm capacity to meet the RFC criterion beyond 2029/30. The URRC notes that Pond Inlet does not have an emergency generator located in the community. The absence of an emergency generator increases the risk of outages in the event of a unit failure.
77. QEC’s proposal to replace the 550-kW unit G3 with a 750-kW unit appears to be a reasonable solution; however, no other alternatives were provided. The increased reliability and IFC of 2,020 kW is needed and urgent, and should be sufficient to meet the needs of the community for many years.
78. QEC also submitted that it addresses other deficiencies in the power plant using preventative maintenance. The URRC notes that QEC seems to be satisfied it can maintain the reliability of the power plant for the time being.
79. The URRC recommends approval of the proposed genset replacement in Pond Inlet.
	1. APPLICATION COMPLETENESS REGARDING THE ASSESSMENT OF NEED AND FACILITY OPTIONS
80. The URRC notes again that the Application contained limited information regarding the specific need in each community and the viable options for addressing need. In recent MPPAs, QEC’s approach (for the most part) has been to state what the problem with the current facilities is (e.g., insufficient firm capacity, deterioration of the buildings/infrastructure, generating units etc.), but then not specifically provide an analysis to support the needed capacity or operational requirements (i.e., in terms of RFC, IFC or any other operational criteria QEC considers relevant).
81. The URRC understands that perhaps the level of information needed for a genset replacement is somewhat lesser than for a new power plant; however, the requirement for viable alternatives, analysis and supporting data remains. The URRC also notes that QEC’s “standard” approach to meeting the vaguely defined need continues to be to present a “do-nothing” option, perhaps another option that is not viable, and the preferred option. The URRC is usually provided with only one viable option, and little else to review or consider.
82. The URRC is then required to obtain other useful information via IRs that could have, and should have been provided in the application itself. The URRC’s approach has been to ask for more information about the application and/or to ask about other options or alternatives that QEC may have considered. The URRC does not consider QEC’s standard approach as set out above to be the best practice in terms of application content.
83. The URRC notes that QEC must have had many options and/or sizes to consider for the five genset replacements included in the Application. However, the only options for each community were the preferred option and the “do-nothing” option. If QEC only considered those contrasting options, the URRC questions the rigor of QEC’s analysis. If, on the other hand, as the URRC expects, QEC considered many other viable options, it is concerning that QEC is reluctant to provide any insight or transparency regarding the reason(s) why the preferred option is superior to other options it may have considered (other than to do nothing).
84. The URRC does not doubt that, in the current application, the preferred option is better than the do-nothing option. However, it is not clear that the preferred option is the best option available to QEC, because no other options were provided for comparison. In most cases the URRC is left with questions whether a different sized replacement genset would/could have been a better option considering all factors (i.e., financial and non-financial).
85. The URRC considers that including sufficient and relevant information in the application would reduce review time and reduce the need for many IRs. Similarly, including multiple viable options in the application could enable a more flexible decision-making process for the Minister. The URRC notes that other Canadian jurisdictions have application information requirements in an effort to reduce the regulatory burden (“red tape”).
86. The URRC considers that it would be beneficial for QEC to provide better information in its MPPAs for the benefit of the URRC, the Minister, and ratepayers, and recommends that QEC be directed to do so.
	1. EMERGENCY GENERATORS
87. The URRC notes that three of the five communities represented in the Application have an emergency generator installed in the community. The URRC also notes that QEC makes every effort to redeploy used gensets for emergency units (as per URRC‑QEC-1-3e); however, QEC does not include emergency gensets in the installed firm capacity line-up of QEC’s power plants (as per URRC-QEC-1-5b). It seems clear that an emergency generator must reduce the risk of outages in a community; however, it is not clear how the presence or absence of an emergency generator is reflected in QEC’s planning criteria.
88. The URRC considers that there must be some benefit associated with installing an emergency generator; however, it is not clear how QEC justifies the need and cost of installing one. The URRC recommends that QEC clarify how it considers emergency generators in its planning criteria.
89. URRC RECOMMENDATIONS
90. Having considered the foregoing matters, the URRC recommends as follows:

**Project-specific recommendations**

That the major capital project permit approvals for genset replacements in Kugaaruk, Coral Harbour, Chesterfield Inlet, Whale Cove and Pond Inlet, be approved subject to the following recommendations:

* + That if the projected costs after tendering exceed the proposed costs for any of the five communities (for the alternative approved by the Minister) by more than 25 per cent, that QEC be instructed to prepare and submit a new MPPA to the Minister responsible for QEC.
	+ That, if after tendering, the proposed in-service date will differ from the proposed in-service date by more than one year for any of the five communities, QEC be instructed to advise the Minister responsible for QEC.
	+ That the prudence of the actual cost of each of the replacements be examined at the time each is proposed to be included in rate base.
	+ That, in light of the critical safety concerns raised in the December 2021 MPPA regarding the Kugaaruk and Chesterfield Inlet power plants, the URRC recommends that QEC provide detailed reporting to the Minister on the specific actions taken to address what were portrayed as critical safety and reliability concerns, and/or standard (code) non-compliance to ensure that community well-being and worker safety is not compromised.
	+ That QEC provide the Minister with the strategies QEC will employ to prevent the genset replacement assets in Kugaaruk and Chesterfield Inlet from becoming stranded, in the event financing/funding for new power plants materializes before their end of life.

**General recommendations**

* + That QEC provide information to the URRC about the statuses of the five genset replacements in the next applicable general rate application (GRA).
	+ That future MPPAs provide “standard” information that the URRC would otherwise need to obtain via IRs.
	+ That future MPPAs provide an assessment of other feasible approaches/options rather than replace or not (with the latter always being unacceptable nor feasible given current/future demand and/or reliability concerns).
	+ The URRC recommends that QEC clarify how it considers emergency generators in its planning criteria.
1. Nothing in this report shall prejudice the URRC in its consideration of any other matters respecting QEC.

**ON BEHALF OF THE**

**UTILITY RATES REVIEW COUNCIL OF NUNAVUT**



**DATED: March 25, 2024**

**Graham Lock, Vice-Chair**

**Utility Rates Review Council of Nunavut**

1. N-1 in this context refers to planning for the outage of the largest generator in the power plant. [↑](#footnote-ref-1)
2. The Minister’s letter requesting a review of the Application was dated December 1, 2023, but it was not received by the URRC until December 5, 2023. The deemed date of receipt, for the purposes of the 150-day deadline for a final report, was December 5, 2023. [↑](#footnote-ref-2)