



**Report to the Responsible Minister for the Qulliq Energy Corporation On:  
The Major Capital Project Permit Application Respecting Construction of a  
New Power Plant in Cape Dorset**

**Report 2011-03**

**June 6, 2011**

**THE UTILITY RATES REVIEW COUNCIL**

**MEMBERS**

Ray Mercer	Chairman
Vivienne Aknavigak	Vice Chair
Gordon Rennie	Member
Graham Lock	Member

**SUPPORT**

Laurie-Anne White	Executive Director
Raj Retnanandan	Consultant

## **LIST OF ABBREVIATIONS**

ARO	Asset Retirement Obligation
GRA	General Rate Application
MW	Megawatts
PSA	Public Sector Accounting
QEC	Qulliq Energy Corporation
URRC	Utilities Rates Review Council

## TABLE OF CONTENTS

<b>1.0</b>	<b>BACKGROUND .....</b>	<b>5</b>
<b>2.0</b>	<b>PARTICULARS OF THE APPLICATION.....</b>	<b>7</b>
<b>3.0</b>	<b>PROCESS .....</b>	<b>9</b>
3.1	MAJOR OR MINOR APPLICATION.....	9
3.2	PUBLIC CONSULTATION PROCESS .....	9
<b>4.0</b>	<b>EXAMINATION OF THE APPLICATION.....</b>	<b>10</b>
4.1	NEED FOR THE PROJECT .....	10
4.2	AVAILABILITY OF RESOURCES FOR TIMELY COMPLETION OF PROJECTS .....	10
4.3	RATE IMPACTS.....	11
4.4	ACQUISITION OF LAND-CAPE DORSET .....	12
4.5	DECOMMISSIONING .....	12
<b>5.0</b>	<b>URRC RECOMMENDATION .....</b>	<b>15</b>

## 1.0 BACKGROUND

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

(2) 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

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

### Corporation to provide information

(4) The Corporation shall provide the Minister and the Utility Rates Review Council with any information necessary for the Minister to decide whether permission should be granted.

### What Minister may do

(5) The Minister may

- (a) grant permission for undertaking the major capital project, with or without conditions; or
- (b) refuse permission.

### Order

(6) Permission granted by the Minister under paragraph (5)(a) shall be in the form of an order."

QEC applied to the responsible Minister for approval of a major capital project permit for a new power plant in the community of Cape Dorset. This application was submitted concurrent with major capital project permit applications for construction of power plants in the communities of Taloyoak and Qikiqtarjuaq.

By letter dated March 18, 2011, the responsible Minister requested advice from the URRRC with respect to QEC's Application. The URRRC consideration of the matter is set out in this Report.

## 2.0 PARTICULARS OF THE APPLICATION

QEC proposes the construction of a new power plant in the community of Cape Dorset to replace the existing plant, at a cost of \$12.6 million. QEC indicates the age of the existing plant is approaching 50 years whereas the design life of the plant is 40 years. The installed generation capacity at the existing site is not sufficient to meet the required firm capacity in 2010/11. QEC states the Cape Dorset plant, which was constructed in 1964, suffers from several deficiencies, including failing building foundation, unreliable superstructure, aging systems and equipment.

QEC states constructing a new plant at a site adjacent to the existing site is the preferred alternative to upgrading the plant at the existing site. Constructing the new plant adjacent to the existing site would minimize distribution system upgrades and allow for the export of heat to nearby buildings.

QEC states the land that has been identified as a suitable location for the new power plant is in dispute with respect to ownership. This issue is currently before the courts. QEC indicates it is not directly involved in the land issue but does require the Hamlet to identify a piece of land that is considered mutually acceptable for the construction of a new facility. In QECs view, if the issue cannot be resolved in a timely fashion, QEC and the Hamlet will need to identify another piece of land that meets these conditions.

With regard to upgrading at the existing plant site, QEC indicates, based on high level estimates, the cost of upgrading the plant while trying to maintain around the clock operations is between \$10-\$12 million. The costs to build on the adjacent lot versus on the existing lot will not be significantly different cost wise. However, project management, logistics, and operational issues will be significantly greater when trying to build on the existing site while attempting to maintain around the clock operation. QEC states, the existing site is already congested and several items, such as the two temporary gensets, would need to be relocated to a temporary site. Re-fuelling, safety and environmental issues would increase because numerous systems would need to be installed temporarily while trying to maintain a reliable supply of energy to the community. QEC states the existing superstructure and ancillary support systems cannot accommodate larger

gensets due to increased foundation loading and the unit's inability to physically fit within the plant.

QEC states by maintaining the existing facility for the next 2.5 to 3 years, the new facility can be constructed with minimal interference on existing operations and minimal risk to the supply of energy to the community.

QEC indicates the estimated cost of \$12.6 million for the new power plant includes \$0.45 million in costs related to residual heat. QEC indicates its estimate of costs is accurate within plus or minus 25%. The estimated cost of \$12.6 million includes \$2.3 million for addition of three gensets with a combined capacity of 2800 kW. The proposed commissioning date of the new plant is the fourth quarter of the 2013/14 fiscal year.



### **3.0 PROCESS**

#### **3.1 MAJOR OR MINOR APPLICATION**

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 in determining the time required for the review and recommendation process for that application. The URRC has determined to treat the subject Application as a minor Application.

#### **3.2 PUBLIC CONSULTATION PROCESS**

The URRC caused notice of the Application to be published in newspapers having general circulation in Nunavut for the month of April 2011. The Mayor of Cape Dorset was notified of the Application by letter dated March 24, 2011.

The URRC also provided an opportunity for the public to make written comments respecting the major capital project permit application by the deadline of May 6, 2011. No written submissions or comments were received from the public or any other party with respect to the Application by that date.

QEC responded to information requests from the URRC on April 21, 2011.

## **4.0 EXAMINATION OF THE APPLICATION**

### **4.1 NEED FOR THE PROJECT**

The URRC notes the existing plant at Cape Dorset would have reached the design life of 40 years by 2013/14. In addition, capacity increases are immediately needed to meet the generation reliability criteria.

The URRC concurs that upgrades to accommodate capacity increases at the existing plant site is not feasible. QEC states the existing superstructure and ancillary support systems cannot accommodate larger gensets due to increased foundation loading and the unit's inability to physically fit within the plant. QEC indicates upgrading the existing site while maintaining power supply to the community presents logistical problems.

Having considered the foregoing, and the analysis presented by QEC, the URRC is satisfied that there is a need for the proposed new power plant, at a new site, in Cape Dorset, in 2013/14.

### **4.2 AVAILABILITY OF RESOURCES FOR TIMELY COMPLETION OF PROJECTS**

The project permitting and construction timelines appear to run almost concurrently for the three projects (Power plants in Cape Dorset, Taloyoak and Qikiqtarjuaq) as well as for the two Iqaluit projects (Iqaluit main plant upgrade and 25 kV upgrade) for which project permit approvals were previously recommended by the URRC. QEC was questioned on whether the Corporation has the necessary resources to manage all of the projects in order to complete them cost effectively, on time and to the required specifications.

In response QEC states as follows:

"QEC will be utilizing in-house resources as well as engineering consultants to undertake the construction of the new Cape Dorset, Taloyoak and Qikiqtarjuaq power plants. The substation work (located at the Iqaluit Main Plant) will be completed in 2011 so there should not be any significant interference between the projects at the Iqaluit Main Plant

site. The Iqaluit Distribution System Upgrade project will be completed by September 2012.

Initial priorities include the Iqaluit Main Plant Upgrade project completion and of a modular / pre-fabricated design for the Qikiqtarjuaq plant. It is anticipated that this design will be used by QEC for future small power plants. The modular power plant will be constructed and tested at the manufacturing site and shipped to the site in sections for on-site reassembly. This will mitigate some of the risks associated with stick built construction in small remote communities.

The Cape Dorset and Taloyoak plant designs will be modeled after the existing Baker Lake power plant. Using the existing design and proven systems will eliminate some of the costs and risks associated with a new plant design." [URRC QEC 2d)]

The URRC considers any delays in construction due to potential resource constraints can impact the completed costs of the projects. The URRC expects QEC to plan the projects so as to mitigate the risk of cost overruns due to potential resource constraints. The prudence of actual project costs for the Cape Dorset plant will be examined at the time the project is proposed to be included in rate base.

### **4.3 RATE IMPACTS**

QEC quantified the combined rate impacts of the Iqaluit distribution system upgrade, the Iqaluit main plant upgrade, the Cape Dorset, Taloyoak and Qikiqtarjuaq power plant projects, in each of 2012/13, 2013/14, 2014/15 and 2015/16. QEC's analysis indicates the following estimated revenue requirement impacts of the above projects relative to the 2010/11 test year revenue requirement:

- 0.7% increase over 2010/11 in 2012/13;
- 4.3% increase over 2010/11 in 2013/14;
- 7.1% increase over 2010/11 in 2014/15; and
- 6.9% increase over 2010/11 in 2015/16.

QEC states rate impacts for specific customers and communities will depend on other factors including cost-of-service studies and rate design. QEC submits, rate impacts associated with major capital projects are an inherent problem of a strict community based approach to rate

setting. In order to address this issue, QEC indicates it is assessing several alternative rate approaches for consideration as part of the Corporation's 2010/11 Phase II General Rate Application. QEC states territory-wide or levelized rates are anticipated to be included among the options assessed.

The URRC expects QEC to put forward rate design proposals that would mitigate the impact of increases in costs due to the major capital projects planned for Iqaluit, Cape Dorset, Taloyoak and Qikiqtarjuaq under each of the rate design options, including the community based rate design options, as part of the 2010/11 Phase II GRA filing.

#### **4.4 ACQUISITION OF LAND-CAPE DORSET**

The URRC notes QEC's statement that the land that has been identified as a suitable location for the new power plant is in dispute with respect to ownership. This issue is currently before the Courts. If the issue cannot be resolved in a timely fashion, QEC and the Hamlet will need to identify another piece of land that meets these conditions.

The URRC notes the site that is ultimately selected for the new plant would have an impact on the distribution lines connecting the plant to the community and the ultimate cost of the project. If the site that is presently under consideration is not the site that is finally chosen, QEC should identify the additional costs associated with the site change as a scope change when it proposes to include the cost of the new plant in rate base.

#### **4.5 DECOMMISSIONING**

QEC indicates it has not yet developed a schedule or estimates related to future decommissioning costs in relation to the plant sites that are being retired.

In the URRC's view appropriate and timely action on site restoration and environmental clean up in accordance with the applicable laws is part of QEC's corporate responsibilities and is in the

public interest. The URRC considers a plan for site restoration and environmental cleanup in accordance with the applicable laws including an estimate of the costs for which QEC is responsible should be developed forthwith. QEC is directed to address the decommissioning and environmental cleanup plan for the existing site as well as the corresponding costs at the time the new Cape Dorset project is proposed to be included in rate base.

In GRA Report 2011-01 the URRC directed QEC as follows:

"The URRC notes the responsibility for environmental liabilities related to site clean-up may not rest entirely with QEC. Accordingly, QEC is directed to carry out an amortization study for the next GRA that provides a realistic assessment of future removal and site restoration costs. QEC is to include these costs and estimates for positive or negative salvage, by account, in the amortization rates." [URRC Report 2011-01;Page 55]

In his letter dated May 26, 2011 the responsible Minister states as follows with respect to the above direction:

QEC will carry out an amortization study to address whether there is a need for an ARO provision and provide additional information at the time of its next GRA. [Responsible Minister's letter dated May 26, 2011;Item 12]

The URRC also notes QEC's view that potential environmental liabilities may be recognized as part of the Asset Retirement Obligation (ARO) provisions, under Public Sector Accounting (PSA):

"Decommissioning costs are not included in the capital cost estimates for the project. As noted during the QEC Phase I GRA – QEC is adopting new amortization procedures consistent with Public Sector Accounting effective April 1, 2011. As such QEC no longer has a reserve for future removal and site restoration and ordinarily decommissioning costs would be considered operations and maintenance expenses in the year incurred. However, QEC understands Public Sector Accounting does allow for the recognition of Asset Retirement Obligation (ARO) provisions, related to potential environmental liabilities, into amortization rates. QEC will be undertaking analyses related to the potential magnitude of environmental liabilities and the appropriate accounting treatment for such liabilities as part of the transition to Public Sector Accounting." [URRC QEC 4f)]

The URRC considers the intent of the ARO provisions under PSA is to create a liability account for legal obligations related to future site restoration and environmental clean up costs and amortize those costs over the life of the asset. As the URRC understands, the following is an overview of ARO accounting:

- Recognize a liability for all legal obligations associated with the retirement of tangible long-lived assets;
- Recognize the liability at fair value and capitalize an equal amount as a cost of the asset and depreciate it over the estimated remaining useful life of the asset;
- Increase the liability for the passage of time (accretion) and report the change as an operating expense (accretion expense);
- Adjust the liability for changes in the timing or the amount of the estimated undiscounted cash flows with a corresponding change to the carrying amount of the asset;
- Recognize a gain or loss on the settlement of the obligation, which generally occurs when the associated asset is retired; and
- Recognize a liability for all existing asset retirement obligations and the associated asset retirement costs at the date of adoption.

In the URRC's view the recognition of negative net salvage under depreciation accounting as previously used by QEC and the ARO method as described above are both intended to achieve the same purpose. Both approaches are intended create a fund/liability account for future site restoration and environmental costs and to amortize those costs over the life of the asset.

Although the methodology used to arrive at the liability amount and the annual amortization amounts under ARO is prescribed by PSA, the net effect will be the creation of a liability and an annual amortization of costs. Accordingly, the URRC considers its direction in Report 2011-01 that site restoration and environmental clean up costs should be included in the annual amortization rates and amortization expense is appropriate under PSA and for regulatory purposes.

The URRC recognizes there may not be a clear understanding of QEC's liability for site restoration and environmental clean up costs, if any, prior to the date the Federal ownership of the electric utility was transferred to Territories. However, it must be recognized QEC will be the party responsible for carrying out the site restoration and environmental clean up and, to the extent there are legal liabilities for site restoration and environmental clean up costs on the part

of QEC, those liabilities should be included in the ARO and the amortization rates, at the time of the next GRA, in accordance with URRC Report 2011-01.

## **5.0 URRC RECOMMENDATION**

1. Having considered the foregoing matters, the URRC recommends that the major capital project permit approval for construction of the new power plant in Cape Dorset be granted, in accordance with the Application.
2. The URRC recommends the prudence of the cost of construction of the project be examined at the time the project is proposed to be included in rate base.
3. The URRC recommends QEC be directed to address the decommissioning and environmental cleanup plan for the existing site as well as the corresponding costs at the time the new Cape Dorset project is proposed to be included in rate base, and further, that site restoration and environmental clean up costs be included in the annual amortization rates and amortization expense for regulatory purposes, following the transition to PSA.
4. 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**

A handwritten signature in blue ink, appearing to read 'Ray Mercer', is positioned above a horizontal line.

---

**DATED: June 6, 2011**

**Raymond Mercer**

**Chair**