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QΔQ^{9b}PL^{9c}

AFUDC	Allowance for Funds Used During Construction
ARO	Asset Retirement Obligation
CAIDI	Customer Average Interruption Duration Index
CAPEX	Capital Expenditure
CEO	Chief Executive Officer
CFO	Chief Financial Officer
COGUA	Canadian Off Grid Utility Association
CWIP	Construction Work in Progress
DCGS	Department of Community and Government Services
DSM	Demand Side Management
FERC	Federal Energy Regulatory Commission
FRSR	Future Removal and Site Restoration
FSR	Fuel Stabilization Rider
FTE	Full Time Equivalents
GDP	Gross Domestic Product
GWh	Gigawatt Hour
GN	ᑭᐱᑲᓄᓂᒃ ᓄᓇᑐᑦ
GRA	ᑭᐱᑲᓄᓂᒃ ᓄᓇᑐᑦ ᐸᑭᑲᓄᓂᒃ ᐸᓄᓄᓂᒃ ᐱᓚᑭᑲᓄᓂᒃ
HDD	Heating Degree Days
HVAC	Heating Ventilation and Air Conditioning
IFRS	International Financial Reporting Standard
KWh	Kilowatt Hour
MPPA	Major Project Permit Application
MWh	Megawatt Hour
NSF	Non-Sufficient Funds
NUL (NWT)	Northland Utilities Limited (NWT)
O&M	Operation & Maintenance
NTPC	Northwest Territories Power Corporation

PPD	Petroleum Products Division
PSA	Public Sector Accounting
QC	Qikiqtaaluk Corporation
QEC	ᖃᑦᑕᑦᑲᑦᑕ ᐅᑭᑭᑦᑕᑦᑲᑦᑕ ᑕᑦᑕᑦᑕᑦᑕ
RFID	Reserve For Injuries and Damages
ROE	Return on Equity
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SRFR	Site Restoration and Future Removal
T&Cs	Terms and Conditions
URRC	ᐅᑭᑭᑦᑕᑦᑕ ᑕᑦᑕᑦᑕᑦᑕ ᑕᑦᑕᑦᑕᑦᑕ ᑕᑦᑕᑦᑕᑦᑕ

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substance of the financial statements and the rates and revenues established by the regulator on the basis of rate-setting and economic principles.

It is also important that the accounting records and reporting systems facilitate accountability on the part of QEC thereby enabling the utility to manage its affairs efficiently and effectively in accordance with expectations under the regulatory compact. For these reasons reporting of actual results on prescribed regulatory format is required. Accordingly, the URRC has recommended a process within the currently implemented PSA model to re-establish certain regulatory deferral accounts.

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1.1 THE APPLICATION

The Utility Rates Review Council (URRC) received an application from Qulliq Energy Corporation for a 2014/15 General Rate Application (GRA), Phases I and II, on December 20, 2013. The Phase I portion of the Application deals with the overall revenue requirement of the utility while the Phase II portion deals with the cost of providing service by rate class and by community as well as the phased move to Territorial rates approved in the last GRA.

Although the application was initially received on November 1, 2013 it was withdrawn on November 7, 2013 and resubmitted on December 20, 2013. The application was forwarded by the Minister Responsible for the Qulliq Energy Corporation (Minister) for the URRC's review and recommendation on December 20, 2013.

The revenue requirement requested by QEC for 2014/15 in its November 1, 2013 application is \$131.2 million. At existing rates this would result in a revenue deficiency of \$5.9 million or a 5.1% increase in energy rates, effective April 1, 2014. The 5.1% average increase reflects a level of rates that included a Fuel Stabilization Rider (FSR) of 5.31 cents per kWh which was in place in November 2013. The FSR was subsequently reduced to 3.92 cents per kWh effective December 1, 2013, on an interim refundable basis. This means the percentage increase in energy rates requested would be approximately 7.4%. QEC's application indicates the requested increase in rates is required to offset cost increases caused by plant additions and operating and maintenance cost increases.

By letter dated January 29, 2014 the Minister advised the URRC respecting instructions to QEC that would retract a previous instruction to move towards a Territorial rate issued on February 20, 2012 from a former Minister responsible for QEC:

After careful consideration with Executive Council, I have given QEC the following Instructions:

1. To retract the instruction to move towards a territorial rate that was issued to QEC by a letter of instruction on February 20, 2012 from a former Minister responsible for QEC.
2. To remove Phase II of QEC's 2014/15 General Rate Application, currently under review by the Utility Rates Review Council, and seek only implementation of Phase I component of the Application by way of an equal percentage across-the-board increase to current rates. All customers would see the same percentage increase in their current rates.
3. To file a Phase II General Rate Application that provides several Cost of Service study options for consideration in its next General Rate Application, that is expected to be submitted by 2018.

During the recent GN election campaign a strong voice was heard from the customers of QEC concerned about the impact of moving to the Territorial rate. To ensure the decision of moving to a Territory rate is the best option, a second review is warranted. This allows the GN, the new QEC board and the ratepayers another opportunity to engage in the review process for determining the rate design that provides maximum benefit to Nunavummiut.

Furthermore, GN delivered programs such as the Northern Location Allowance (NLA) and electricity subsidies need to be reviewed to determine if any adjustments are necessary in light of a potential change in rate design. It is the GN's view that rate redesign and GN program realignment should be implemented simultaneously. This delay will allow time for QEC and GN to implement a coordinated approach.

In a letter dated February 14, 2014, QEC filed amendments to its application. The February 2014 amendment reflected the impact of the Minister's instruction respecting retraction of the move to Territorial rates as well as changes to reflect diesel fuel cost increases effective January 1, 2014. The February amendment also reflected the FSR rider of 3.92 cents/kWh and, in contemplation of the URRC's current schedule for release of the GRA Report to the Minister, included a request to extend the FSR until April 30, 2014. The February 2014 amendment requested a revenue requirement of \$139.7 million which would result in a revenue shortfall of \$16.8 million. This translates to an increase in energy rates of 14.9%.

On March 19, 2014, the Minister referred further amendments respecting the GRA to the URRC. The March 2014 amendment reflects the removal of GST from the fuel cost forecast and changes to reflect revised price forecasts for nominated fuel purchases. The March 2014 amendment requested a revenue requirement of \$132.6 million which would result in a revenue shortfall of \$9.8 million. This translates to a requested increase in energy rates of 8.6%. QEC provided

Appendix A to the March 19, 2014 letter setting out the supporting Schedules for the GRA as amended.

This is QEC's third GRA since the division of QEC from the Northwest Territories Power Corporation (NTPC) on April 1, 2001. CΔ^a_Q ρ^c_T ΔP^a_Rσ^c Δρⁱ_NL^rΔV^s_C CΔⁿ_PJ^SLΔ^r_V V^bΔ^p_AV^bΔ^D_VJ^a Δ^v_GJ^a Δ[>]_P 1, 2004Γ^c, L^r_F 1, 2005J^a (2004/05 V^bΔ^p_AV^bΔ^D_VJ^a Δ^v_GJ^a). C^bdΔ^c Δ^L_LV^bdⁿ_C ΔP^a_Rσ^c P^rΓ^cγ^p_Z bⁿL^aV^rΓ^c D^oσ^b_bV^r Γ^oσ⁻_CJ^a bL^aΔ^D_VJ^a Λⁿr^eN^vb^vΔ^c Δ^r_LL^oΔ^v_Oσ^c D^vbD^rΔ^r_Vσ^c V^d^c_T Δ^D_CΔ^r_ODⁿC^L_N^bd^c N^rΓ^ddⁿ_S 2004/05Γ^c Δ^L_LV^bdⁿ_C ΔP^a_Rσ^c Δρⁱ_NL^rΔV^s_CN^c_ΔΓ^c Δ^oσⁿΔ^r_VV^b I^o_MΔ^c 27, 2005Γ^c, L^c_TV^bC^D_ΔΔ^oΔ^o P^a_V^j_CΔ^c_VΔ^r_NJ^a D^oσ^b_bJ^a Δ^x_PΔ^r_L 18, 2005Γ^c. The second GRA was for the test year 2010/11 which was followed by URRRC Report 2011-01 dated March 2, 2011 respecting Phase I matters and URRRC Report 2012-01 dated January 27, 2012 which dealt with Phase II matters.

Following the 2010/11 GRA, QEC requested and received approvals for adjustment of fuel stabilization riders (FSR) from time to time. The most recent FSR applications covered the period from November 1, 2013, to April 30, 2014. These applications were approved by the responsible Minister based on URRC Reports 2014-01 dated February 20, 2014 and 2014-03 dated March 14, 2014.

The URRC's consideration of the November 1, 2013 application as amended on February 2014 and March 2014 (Application) is discussed in the sections that follow.

1.2 CORPORATE BACKGROUND

[illegible]

In the case of Major applications, such as the current GRA, the URRC is required to report to the responsible Minister within 150 days following receipt of a Request for Advice. The report is to indicate whether:

- [illegible]

[illegible][illegible]

- [illegible]

[illegible]

Where the URRC considers QEC should be directed by the Minister to carry out an action or task as part of the regulatory process, the URRC will use the phrase “the URRC directs” in the rest of this Report for ease of understanding, although the Minister in turn must approve the directions pursuant to the Act.

- Hearing cost reserve and reserve for injuries and damages
- Reserve for Site Restoration and Future Removal

As a result of QEC's transition to the PSA standard, separate regulatory record keeping (outside the financial records) is required for category 1 items for rate making purposes. Further, as a result of QEC's transition to the PSA standard and the consequent changes in the accounting treatment for category 2 items, application of the matching principle with respect to certain costs is no longer possible. In essence, since the premise of economic regulation is different from the premise of costs and revenue recognition prescribed under the PSA standard there is a basic dichotomy between the economic substance of the financial statements and the rates and revenues established on the basis of economic principles.

Use of regulatory deferral accounts is the mechanism by which other jurisdictions have bridged the dichotomy between financial reporting based on accounting standards such as PSA and rate making based on regulatory principles. The Northwest Territories Power Corporation, for example, which transitioned to International Financial Reporting Standards (IFRS)¹ in 2012 continues to use each of the regulatory deferral accounts referred to under categories 1 and 2.

The Guidelines require the cost of providing service to be determined using principles commonly applied in Canada to regulated utilities. The actions of the URRC have economic impacts since these actions create rates and/or changes to rates for electricity consumers in Nunavut. Use of regulatory deferral accounts in the rate setting process is part and parcel of the use of principles commonly applied in Canada to regulated utilities in order to establish rates.

As noted in Section 5.6 of this Report the fact that QEC no longer maintains regulatory deferral accounts for contributions raises concerns over validation and verification of memorandum records used to track contributions. As well, regulatory inefficiencies may arise from having to make adjustments to the audited accumulated amortization balances to reflect amortization of contributions.

¹ The PSA standard is the public sector version under the umbrella of IFRS

[illegible]

Given the significance of QEC to the Nunavut economy, it is imperative that accounting records of the Corporation reflect the economic character of the underlying transactions. Further, it is important that the accounting records and reporting systems facilitate accountability on the part of QEC thereby enabling the utility to manage its affairs efficiently and effectively in accordance

with expectations under the regulatory compact. For these reasons reporting of actual results on prescribed regulatory format is required.

Reporting based on a standardized system of accounts incorporating regulatory deferral accounts is not only required to reflect the economic characteristic of rate regulation but would also allow comparability of QEC's performance with other Canadian utilities.

Having regard to the foregoing, the URRC recommends as follows:

- That the Minister direct QEC to initiate a process within the currently implemented PSA model to re-establish regulatory deferral accounts. This process will require QEC and other GN stakeholders to develop a standardized system of accounts based on the PSA accounting standard which would include changes, as necessary, to accommodate regulatory deferral accounts for QEC. Further, in conjunction with the development of a standardized system of accounts, QEC shall develop a prescribed format for reporting QEC's actual finances and operations results consistent with regulatory principles. The re-establishment of regulatory deferral accounts within the PSA model is to be developed by QEC in consultation with QEC's auditors, and any GN departments that may contribute to the matter. Further, the URRC strongly recommends that QEC consult with the URRC's advisory personnel, specifically on the accounting treatment of costs and revenues with multi-year impacts, to ensure that proposed solutions will meet both the rate-setting requirements of the URRC and the operational/accounting standards required by the GN and QEC.. Once developed, QEC shall apply to the Minister who will seek the advice of the URRC for review and recommendations.
- That the Minister direct QEC to take necessary steps, including proactive planning/forecasting of costs and revenues and timely rate applications, to remain accountable to the Regulator (the Minister with advice from the URRC) for generating the necessary revenues to match the utility's total cost of providing service in accordance with the regulatory principles and process established in the Act and the Guidelines.

3.0 CORPORATE DIRECTION

QEC states in order to continuously supply safe and reliable power, QEC needs to work on long term capital planning to determine which plants require upgrades and expansions or need to be completely rebuilt as they have reached the end of their useable lifespan.

QEC indicates it also researches emerging alternative energy technologies to determine if they can be incorporated into the capital planning cycle. QEC states the Corporation remains committed to reducing Nunavut's dependency on fossil fuels. QEC states it is exploring sustainable, efficient alternative energy solutions for use throughout the territory. One such endeavour is the continued work on a potential hydroelectric development outside of Iqaluit.

QEC states one of the strategic goals is to improve overall operating efficiency and the effective delivery of energy through enhanced engineering and operating practices:

Operating Cost Efficiencies: The Corporation's Strategic Plan for the 2012 - 2015 fiscal years established seven strategic goals that define the long-term objectives of the Corporation. One of the strategic goals is to improve overall operating efficiency and the effective delivery of energy through enhanced engineering and operating practices. The Corporation is undertaking the following activities with respect to this strategic goal:

- Design and implement a SCADA system to continuously monitor and record production data on a corporate-wide basis;
- Complete the automation of all power plants to allow for the automated economic dispatch of gensets;
- Monitor, record and identify plants with high station service and line losses and implement procedures to reduce losses;
- Develop a corporate equipment specification to optimize energy production and fuel efficiency;
- Develop power plant design standards, including subsystems, to optimize engineering and construction costs; and
- Develop a 40-year Capital Infrastructure Plan to provide a road map for sustainable capital replacement/development for major corporate infrastructure.

Improved Fuel Efficiency: QEC's corporate-wide fuel efficiency has improved since the last GRA (2014/15 forecast at average of 3.71 kWh/litre compared to average of 3.69 kWh/litre in 2010/11 GRA), which reduces the fuel consumption by approximately 426,000 litres (or \$495,000) for the 2014/15 test year. The Corporation has also undertaken certain distribution system and plant upgrades to minimize line losses (2014/15 forecast at 4.2% of generation compared to 5.7% in 2010/11 GRA), which also result in approximately 734,000

litres² (or \$782,000) fuel consumption savings for the 2014/15 test year. [Application p2-4, 2-5]

In its Application QEC indicated that the Corporation is in the process of implementing a levelized monthly customer payment plan; the plan is expected to be rolled-out by the end of 2013/14 fiscal year. When questioned the specifics on implementing the levelized payment plan QEC stated:

At this time, more work needs to be done to understand IT infrastructure and programming implications along with work flow changes that would be necessary to move this plan forward. The Corporation is aware that there are bottlenecks in its larger communities with the time it takes for collection of meter reads and QEC is investigating automation and new methods that allow it to improve these situations without adding additional FTE. [URRC QRC26h]

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The URRC notes the the Corporation's continuing efforts to improve efficiency of operations and these efforts are commendable.

However, there appears to be considerably less emphasis on the part of QEC management on efficiently managing and controlling capital costs including site restoration and removal of decommissioned assets. QEC states it intends to develop a 40-year Capital Infrastructure Plan to provide a road map for sustainable capital replacement/development for major corporate infrastructure. Given the extent of capital replacements and growth including ongoing and outstanding site restoration and decommissioned asset removal issues, the importance of prudently managing capital and related costs cannot be overemphasized. The URRC's specific concerns respecting the major projects completed during the 2010/11 to 2014/15 period are set out in Section 5.3 of this Report.

In the URRC's view, emphasis on prudently managing both capital and operating costs with a view to improving total factor productivity while maintaining acceptable levels of reliability, safety and customer service is a necessary component of good utility practice.

QEC indicates it researches emerging alternative energy technologies to determine if they can be incorporated into the capital planning cycle and that the Corporation remains committed to reducing Nunavut's dependency on fossil fuels. While these are commendable initiatives, the URRC notes other northern jurisdictions such as Yukon and the Northwest Territories have moved in the direction of also facilitating distributed renewable generation (solar power in particular) through regulatory mechanisms such as net metering. In the URRC's view such mechanisms may also assist in reducing dependence on expensive fossil fuels and need to be considered.

The URRC notes QEC's intent to offer a levelized payment plan in its initial Application. However, the Corporation appeared to be backing away from these plans when questioned on the timing of implementation. [URRC QEC26h)] This type of uncertainty over when projects or initiatives will be completed appears to be symptomatic of inadequate or lack of comprehensive planning and resourcing on the part of QEC's management.

Other areas where QEC has failed to meet expectations as to timely completion of commitments made previously include the delay, since 2004/05, in the implementation of service quality measures (Section 11.4) and the delay in the development and implementation of policies and practice with regard to Asset Retirement Obligations (ARO). The matter of the consideration of ARO is dealt with in Section 10 item 12 of this Report.

While it is recognized the Northern environment in which the corporation operates, presents certain unique challenges, not the least of which is the weather, adequate planning, prioritizing and resourcing of initiatives/projects would clearly facilitate accomplishing objectives within expected timeframes.

4.0 3.0 ሊገኝላቸው ይችላሉ ለጋራ ርዕሰ ስራዎች ማሳሰቢያ

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ᓶᓴᓴᓏᓐ ᐸᓐᓰᓵᐸᓷᓐ ᓍᓴᓴᓏᓐ ᐸᓐᓰᓵᐸᓷᓐ ᐸᓐᓰᓵᐸᓷᓐ ᐸᓐᓰᓵᐸᓷᓐ ᐸᓐᓰᓵᐸᓷᓐ. At the commencement of the proceeding the URRC determined that the Application, as amended, will be treated as a major application. As a major application, Section 13 (1.2) of the URRC Act allows 150 days for the URRC to review the Application and provide its recommendations. The URRC process includes the examination of the evidence through information requests and responses as well as written submissions from the public.

Notice of the Application was published in newspapers having general circulation in Nunavut from January 17, 2014 – February 19, 2014 and was published online until the end of April 2014.

As part of the process for examination of the Application, the URRC issued information requests to QEC. Responses to information requests were received on February 14, 2014, February 21, 2014 and March 28, 2014. The deadline for public written submissions was April 11, 2014 and the URRC Report is due to the Minister responsible for the QEC on or before May 19, 2014.

The examination of the components of the 2014/15 forecast revenue requirement and revenues is discussed in the Sections that follow. Each section summarizes and sets out the URRC's findings and recommendations to the Minister.

The increase in the mid year gross plant in service shown in the above table is due to significant plant additions during the period 2010/11 to 2014/15 partially offset by depreciation and certain other adjustments implemented by QEC in its 2010/11 financial statements, concurrent with the transition to the PSA accounting standard. The following table shows the adjustments to gross plant in service that occurred in 2010/11:

2010/11 Other Adjustments to Gross Plant in Service	
	\$000
2010/11 Actual closing balance	212066
Government and Customer Contributions netted against gross plant	-22775
PSA Related Adjustment-Spare parts transfer to inventory	-3520
Removal of assets no longer in service	-28689
Addition of assets that were not in QEC's books	5643
Other	-62
2010/11 Actual closing balance after adjustments	162663
Source: URRC QEC14 and URRC QEC 35	

As indicated in the above table, QEC commenced netting Government and customer contributions against gross plant in 2010/11 as opposed to showing such contributions as a separate item in the calculation of rate base. Contributions were shown separately in the calculation of rate base in the 2010/11 GRA forecast and were not netted against gross plant.

An amount of \$3.5 million related to spare parts was transferred from plant in service to inventory (working capital), a requirement under the PSA standard.

Certain assets totalling \$28.7 million, previously considered as part of plant in service were removed from gross plant in service and, certain asset items, amounting to \$5.6 million, that were previously expensed, were brought back as assets and included in gross plant in service. These adjustments were all implemented in conjunction with QEC's transition to the PSA standard. In URRC QEC 35 Attachment 2 QEC provided details of the adjustment for assets no longer in service and the addition for assets that were not previously in QEC's books.

All of the foregoing adjustments are in accordance with the 2010/11 audited financial statements.

As a result of the above noted adjustments the 2010/11 closing gross plant balance, was reduced by \$49.4 million relative to the 2010/11 GRA. The 2014/15 rate base continuity provided in Schedule 6.1 reflects these adjustments.

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The URRC notes the adjustments to the gross plant balances in 2010/11 indicate the 2010/11 GRA rate base was overstated by \$2.9 million as per the following table:

	Gross Plant	Accumulated Amortization	Net Book Value
	\$000	\$000	\$001
Removal of assets no longer in service	-28689	-22246	-6443
Addition of assets that were not in QEC's books	5643	2141	3502
Net	-23046	-20105	-2941

It is of concern to the URRC that QEC's procedures and practices respecting asset retirements were not robust enough to ensure assets that are no longer in service were duly retired and assets that should be capitalized were treated accordingly. These types of one time adjustments, post 2010/11 GRA, raise concerns as to the veracity of the 2014/15 GRA forecast plant balances.

With respect to the 2010/11 adjustments to the gross plant in service, the URRC notes the adjustments have been accepted by the Auditors for purposes of the financial statements. Subject to the comments in Section 4 of this Report the URRC accepts the gross plant in service opening balances for 2014/15 as filed.

5.3 ᐱᓐᓂᓐ ᐱᓐᓂᓐᓂᓐ

QEC provided details of capital additions from 2010/11 to 2014/15 in Appendix C of the Application. The following are issues arising from major capital additions during the 2010/11 to 2014/15 period.

Iqaluit Main Plant Expansion

QEC applied for a Major Project Permit Application (MPPA) for the Iqaluit main plant expansion on November 8, 2010. In Report 2011-02 dated March 11, 2011 the URRC recommended approval of the MPPA for QEC's recommended option for the Iqaluit main plant expansion based on review of the alternatives presented and having regard to community consultations and rate impacts. The community consultations and rate impact assessments were all premised on a forecast capital cost of \$28.3 million for the project. In this Application QEC proposes to add \$40.3 million to rate base in 2013/14 with respect to the cost of Iqaluit main plant expansion; this reflects an adverse cost variance of about 42% between the project permit forecast and actual/ update costs.

At the time of the MPPA, QEC stated there will be various cost control measures in place for the project execution phase:

Based on the size and complexity of this project, particularly the logistical challenges, QEC will have a dedicated Project Manager lead the project. It will be this individual's responsibility to ensure sound project management principles are utilized to control costs and foresee problems and mitigate risks.

In addition, a Steering Committee will be formed that will meet on a regular basis to deal with any issues that will significantly impact schedule or cost. This Committee will consist of the CFO, Director of Engineering; Director of Operations; Project Manager, and President & CEO (if necessary). [URRC QEC 5d) from the Iqaluit Main Plant Expansion MPPA Proceedings]

In URRC QEC 18, QEC was requested to explain why there has been a significant increase in the cost of the Iqaluit main plant expansion. In response QEC stated as follows:

The cost comparison by major cost category as set out in the project permit application for the Iqaluit Main Plant Expansion Upgrade is not available, as the Corporation's accounting system tracks costs by FERC and expense code (i.e., salaries and wages; 13 supplies and services; travel and accommodation), as summarized in Table 2.

Cost increases for this project were driven by the following factors:
Tender specifications were only 75% complete when tendered, which caused multiple change orders.

- Revision of additional drawings post contract award resulted in additional design costs.
- QEC received a bid for the Phase 1 – Architectural / Structural / HVAC / Electrical Building Services work from only one qualified bidder. The tender bid came in higher than budgeted. A change order was also required due to design package revisions and this resulted in approximately \$2.5 million additional cost.
- QEC received a bid for the Phase 2 – Mechanical / Electrical:... from only one qualified bidder. The costs estimates were at \$3.5 million, whereas the tender bid came at approximately \$6.5 million.
- Asbestos abatement was more extensive and costly than anticipated.
- There were unforeseen issues with excavation work – bedrock not where anticipated; buried concrete pillars from old construction in the way.
- Excessive rain and water inundation / water treatment during civil works
- Adverse weather conditions – ice packed the bay in late July / August delaying delivery of materials negatively impacting the project schedule.
- Delays in completing the 25 kV conversion project due to weather conditions, which delayed the removal of the Power Distribution Module (PDM) at the Main Power Plant.
- Upgrade / renovation integration with new section and equipment is more extensive than originally scoped.
- Engine and Ancillary Equipment Procurement. Engines were procured from Finland; a consistent Wartsila engine line-up was implemented.

In a follow up information request URRC QEC 38c), QEC was asked to explain more fully why QEC is unable to provide a further break out of the actual cost of Iqaluit main plant expansion and identify the costs by major cost category as reflected in the MPPA. In response QEC states:

The Corporation currently does not have a project accounting module in place that allows actual project costs to be broken out by job cost category. The Corporation intends to implement a project accounting module in the future for this purpose. The cost control for change orders have been carried out by the Project monitor, who was on site during the construction. As well, management implemented contractor cost claim reviews, which for example identified an error in one of the claims, where the contractor included overtime charges in the claim. This item was disputed by the Corporation in order to ensure only eligible and reasonable claims are covered. Overall cost control however was affected by a turnover of QEC personnel, as there were two managers, two engineers, a director, a technician, and a project coordinator that were involved in this project but left the Corporation prior to the project's completion. [URRC QEC 38c)]

**FERC Account Breakout of Cost Estimates for Iqaluit Main Plant Upgrade Project
(\$000)**

FERC	As per Major Project Permit Application	Updated Cost (URRC-QEC-18, Attachment 1)	Variance
341 Structures & Improvements	8,888	16,490	7,602
342 Fuel Holders, Prod., & Access.	815	102	-712
343 Prime Movers	362	420	58
344 Generators	12,656	17,288	4,632
345 Accessory Electric Equip.	951	1,179	228
346 Misc. Power Plant Equip.	1,212	341	-871
Capital Overhead	2,239	2,432	192
Interest During Construction	1,043	2,086	1,042
Total	28,166	40,338	

With respect to the major variances shown in the above table, QEC states cost variances in the Structures & Improvements FERC account (341) are explained by the additional design costs; higher than budgeted Phase 1 bid; unforeseen excavation work; excessive rain and other factors as discussed in the response to URRC-QEC-18 (a) and (c).

With respect to cost variances in the generators, FERC account (344), QEC states, cost variance is explained by higher than budgeted Phase 1 bid and procurement of Wartsila engines for consistency in engine line-up as discussed in the response to URRC-QEC-18 (a) and (c).

QEC also states interest charges during construction have increased by approximate \$1.0 million due to unavoidable project schedule delays and higher overall cost of the project.

Iqaluit Distribution System Upgrade to 25 kV

The Iqaluit distribution system upgrade actual/update rate base additions as per Schedule C are \$6.551 million in 2011/12 and \$15.727 million in 2012/13, totalling \$22.3 million over two years. The corresponding MPPA approval for the project in URRC Report 10-3 (April 2010) reflects an estimated cost of \$14.1 million. This reflects an adverse cost variance of about 58% between the project permit forecast and actual costs.

At the time of the MPPA, QEC provided the following assurances respecting procedures for cost control:

With respect to budget management, QEC has implemented a capital expenditures tracking system “CAPEX Tracking Report”. The reporting system is jointly maintained between the Finance and Engineering departments and allows QEC to track the following budget and spending characteristics:

- approved capital budget
- budget revisions
- actual capital spending to date
- expected capital spending
- budget remaining/project overruns [URRC QEC 6 from the Iqaluit Distribution System Upgrade MPPA Proceedings]

At the time of the MPPA, QEC estimated the costs of various components of the project as follows:

	\$million
25 kV Main Substation	7.0
25 kV Federal Plant Substation	0.7
Phase I Line Construction	5.1
Phase II Line Construction	1.3
Total	14.1

Despite the assurance of cost control at the time of the MPPA, QEC could not provide a breakout of the cost variances by project component as reflected in the MPPA and the actual update numbers:

The requested information cannot be accommodated within the time allowed in this process. [URRC QEC 37a)]

Instead, QEC provided a different breakout of the variance between MPPA forecast and the actual/update costs as follows:

Table 1: Iqaluit Distribution System Upgrade Cost Summary (\$000)

	As per Major Project Permit	Updated Cost	Difference
Substation			
Contractor/Consultant - Labour	4,665	4,314	-352
Contractor Meals and Incidentals	2	20	18
Contractor Travel and Accomodations	4	75	71
Freight	31	154	122
Payroll overtime	5	11	7
Payroll Regular	191	68	-123
Materials	1,025	1,095	70
Meals and Incidentals	1	1	0
Travel and Accomodations	8	8	0
Capital Overhead Allocation	584	806	-333
AFUDC	554		
Subtotal for Substation	7,070	6,551	-519
Distribution System			
Contractor/Consultant - Labour	4,074	6,862	2,788
Contractor Meals and Incidentals	0	3	3
Contractor Travel and Accomodations	0	38	38
Freight	31	338	307
Payroll overtime	0	147	147
Payroll Regular	13	158	145
Materials	1,232	6,091	4,860
Meals and Incidentals	0	6	6
Travel and Accomodations	0	7	7
Capital Overhead Allocation	531	2,077	414
AFUDC	1,131		
Subtotal for Distribution System	7,013	15,727	8,714
Total	14,083	22,278	

Notes:

1. Capital Overhead Allocation line in the Updated Cost column includes actual AFUDC charges.

With respect to the overall reasons for variance between MPPA forecast and actual costs of the project QEC states:

The project cost for the Substation component of the project came under budget. With respect to the Distribution System component, it is noted that at the time of project cost estimates the Corporation did not have in detailed knowledge on the condition of each

[illegible]

QEC states the Iqaluit distribution system upgrade project was a major undertaking involving large quantities of poles and transformers. QEC states at the time of project cost estimates the Corporation did not have detailed knowledge on the condition of each pole and transformer. QEC did not have the capacity to investigate the condition of each one of these items. As such, it was not feasible for the Corporation to accurately forecast the extent of poles and transformer replacements at the time of project permit application. [URRC QEC 37c)]

When requested in URRC QEC 37b) to provide the unit costs and number of pole replacements as well as the unit costs and number of transformer replacements contemplated at the time of project permit application and the corresponding actual numbers QEC states:

The Corporation maintains many poles and transformers in Iqaluit and identifying unit costs for each of those items requires going through and sorting through significant amount of information. [ibid b)]

Taloyoak and Qikiqtarjuaq Plant Replacements

In URRC QEC 18, the Corporation states it is revising the cost estimates for the Taloyoak and Qikiqtarjuaq project additions to rate base forecast for 2014/15.

QEC states the projects were initially designed and tendered as Modular Power Plants (constructed, commissioned then disassembled, shipped to the site, reassembled, commissioned on the site). However, the tendering costs for these projects, which were reflected in the Application, came in significantly higher than anticipated. Based on these materially higher unanticipated costs for the Modular Power Plant design, QEC states, the Corporation investigated alternative design options for these plants. QEC states the Corporation worked with

an engineering consultant to develop a new plant design which reduces power plant footprints in size and modifies the construction approach such that the plants will be erected and commissioned on site, not in the South.

The forecast costs for these two plant replacements as per the MPPA and the revised GRA forecast are as follows:

	MPPA Report #	MPPA Forecast \$ million	GRA Forecast \$ million
Taloyoak Diesel Plant Replacement	2011-04	10.8	10.2
Qikiqtajjuaq Diesel Plant Replacement	2011-05	8.2	10.2
Note: The 10.2 million in Qikiqtarjuaq is forecast to be reduced by a contribution of \$0.5 million			

At the time of the MPPA, QEC indicated the cost estimates for the above power plant projects were accurate within plus or minus 25%.

Corporate Building

QEC proposes to add \$5.7 million with respect to acquisition of a corporate building in Iqaluit. Since the Corporation previously owned the land on which the building was constructed the cost of \$5.7 million does not include the cost of land. QEC states it is a major Crown corporation in Nunavut which leases and owns several offices in Iqaluit. Prior to the implementation of this project, the costs to the corporation of operating, maintaining and renovating numerous office spaces, owned and leased, were high and were subject to market fluctuations.

QEC states the budget for this project was \$4.8 million and the major reason for difference between the budget and actual cost is due to the omission of overhead recovery from the budget forecast. [ᐅᐱᐱ ᑭᐅᐃᐱᐱ ᐱᐱᐱᐱᐱ ᐱᐱᐱᐱᐱ ᐱᐱᐱᐱᐱ ᐱᐱᐱᐱᐱ ᐱᐱᐱᐱᐱ ᐱᐱᐱᐱᐱ ᐱᐱᐱᐱᐱ 19]

URRC Findings on Capital Additions:

The URRC is concerned by the significant variances between the project cost forecasts prepared at the time of the respective MPPAs and the actual/ update costs for the Iqaluit main plant expansion and Iqaluit distribution system upgrade projects included in the application, since notice to customers, consultations, the rate impact assessment and the URRC's MPPA Report recommending approval of the projects were all predicated on significantly lower costs of construction. The 43% (or \$12 million) and 58% (or \$8.1 million) increases in costs for the Iqaluit main plant expansion and the Iqaluit distribution system upgrade to 25kV projects respectively, post MPPA approval, provide grossly misleading signals to customers of QEC and effectively nullifies the premises used for testing alternatives in the context of the MPPA process. On major capital projects where significant funds are forecast and the resultant rates will be assessed against the consumers, overruns of 43% and 58% are clearly outside acceptable norms.

Having reviewed the evidence, the URRC's findings with respect to the planning and execution of the Iqaluit main plant expansion project are as follows:

- The due diligence and scoping of the project carried out at the time of the MPPA appear to have been inadequate as evidenced by the need for additional drawings and the incurrence of significant additional design costs;
- The estimation of contractor costs for work to be carried out and the pre-contract negotiations with a single bidder appear to lack preparatory due diligence work on the part of QEC personnel. This is evidenced by the significantly higher than expected bids from electrical and mechanical contractors;
- The procedures for monitoring and controlling project costs during the execution phase of the project appear to be inadequate. For example, there is no comparison of budget with actual costs by project component and project milestones, for a multi-year project such as this one. QEC indicates it is planning to implement a project module that would allow tracking the actual construction schedule by project milestone in the future; [URRC QEC 18b)]

- There is inadequate analysis, reporting and accountability for actual costs and budget variances. For example, QEC provides a variety of reasons for cost increases. However, QEC was not able to quantify cost increase of about \$5.5 million² due to a number of miscellaneous factors, in any specific manner.

The URRC's findings with respect to the planning and execution of the Iqaluit distribution system upgrade to 25 KV project are as follows:

- The due diligence and scoping of the project carried out at the time of the MPPA appear to have been inadequate as evidenced by the inadequate scoping of the extent of pole and transformer replacements;
- The estimation of contractor/consultant costs for work to be carried out appears to lack preparatory due diligence work on the part of QEC personnel. This is evidenced by the significantly higher than expected contractor/consultant-labour costs (about \$2.8 million increase) for construction of the distribution system;
- The procedures for monitoring and controlling project costs during the execution phase of the project appear to be inadequate. For example, there is no data on forecast and actual number of pole replacements or transformer replacements.

The URRC finds significant weaknesses in the procedures and practice for planning and execution of these projects. In the URRC's view the inadequacy of project cost control measures increases the probability of imprudent expenditures. It is therefore urgent and important for QEC to take note of the above weaknesses in project planning and execution and take necessary corrective action. More specifically, the URRC directs QEC to implement the following changes to improve project costing and management practices:

- Establish a plus or minus 20% MPPA project costing threshold that will trigger a review of the project expenses by QEC's governing body as soon as QEC becomes aware that it

² Based on \$12 million overall cost variance-\$2.5 million for design package revision-\$3 million for Phase 2 contract increase - \$1 million generator cost increase=\$5.5 million.

will exceed these thresholds.; this would require an appropriate level of due diligence work on scoping and preparation of cost estimates;

- Implement effective due diligence efforts including full completion of internal estimates of contractor costs prior to contract negotiations to mitigate the risk of high contract bids and surprises, particularly where there are limited number of qualified bidders within the local marketplace;
- That QEC commence with the following project controls for the approved MPPAs for the Taloyoak, Qikiqtarjuaq and Grise Fiord power plants and all subsequent MPPAs;
 - Develop and implement effective procedures for monitoring, reporting, variance analysis and control of project costs and documentation of the outcome of these activities at every stage of project planning, development and implementation;
 - Prepare post completion reports summarizing the documented activities related to project monitoring, reporting, variance analysis and control of project costs;
 - Implement accountability measures including clear lines of responsibility and accountability for economic, efficient and effective planning and execution of capital projects.

The URRC notes that although the probability of imprudent project expenditures is high when control systems are inadequate, there is no specific evidence to suggest the adverse cost variances or any portion thereof were imprudent. Therefore, for the purposes of this Report, the URRC recommends approval of the addition to rate base of the Iqaluit main plant expansion at a cost of \$40.3 million in 2013/14 and the Iqaluit distribution system upgrade to 25 kV at a cost of \$6.551 million in 2011/12 and \$15.727 million in 2012/13.

With respect to the Taloyoak and Qikiqtarjuaq plant replacements, the URRC notes the project scope has changed post MPPA. As noted in the case of the Iqaluit main plant expansion and Iqaluit distribution system upgrade projects, the URRC is concerned that QEC did not carry out adequate due diligence work at the time of the respective MPPAs to mitigate the risk of major scope changes. In the future, the URRC expects this concern to be addressed through compliance with the directions set out above.

Based on QEC's revised forecasts for the Taloyoak and Qikiqtarjuaq Plant Replacements, the URRC has no evidence to suggest the proposed costs are imprudent. Accordingly, the URRC recommends approval of the addition to rate base of the Taloyoak plant replacement at a cost of \$10.2 million in 2014/15 and the Qikiqtarjuaq plant replacement at a cost of \$10.2 million also in 2014/15.

With respect to the corporate building, the URRC notes the actual costs were close to the budget. In the absence of any evidence that would suggest the proposed Iqaluit corporate building costs are imprudent the URRC recommends approval of the proposed \$5.7 million addition to rate base in 2011/12.

5.4 RETIREMENTS, DISPOSALS AND TRANSFERS

QEC's rate base calculation in Schedule 6.1 does not reflect any asset retirements. However, as noted in Section 5.2 of this Report QEC retired approximately \$29 million gross plant assets in 2010/11 and reinstated approximately \$5.6 million of assets which had been previously written off.

In URRC QEC 15f) the Corporation was asked to explain how interim retirements from the various asset accounts are treated for regulatory and accounting purposes. In response QEC stated the Corporation does not currently have the necessary systems in place to recognize interim asset retirements. The Corporation is working on developing systems that would allow it to recognize interim retirements of different asset components.

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The URRC considers the lack of procedures for retiring plant that is not used or required to be used can result in the overstatement of the asset balance used for amortization calculations. The URRC notes this actually happened in the 2010/11 GRA when the gross plant in service was overstated by \$2.9 million as discussed in Section 4.2.

URRC directs QEC to take immediate steps to institute procedures to identify and retire assets that are no longer in service. Once such procedures are instituted retirements should be reflected in the actual results and test year forecasts.

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The following table shows the mid year accumulated amortization as reflected in the 2010/11 GRA forecast and, as reflected in the 2014/15 GRA Application:

	2010/11 GRA	2014/15 GRA
Accumulated Amortization	\$000	\$000
Opening Balance	105562	97186
Additions	6979	8644
Disposals		
Adjustments		
Closing Balance	112541	105830
Mid Year Balance	109052	101508
Source: Appendix A, Schedule 6.1		

[illegible]

The decrease in the mid year accumulated amortization shown in the above table is due to significant adjustments implemented by QEC in its 2010/11 financial statements, concurrent with the transition to the PSA accounting standard offset by amortization expense added to accumulated amortization during the period 2010/11 to 2014/15. The following table shows the adjustments to accumulated amortization that occurred in 2010/11:

2010/11 Other Adjustments to Accumulated Amortization	
	\$000
2010/11 Actual closing balance	85299
Future Removal and Site Restoration fund	21922
2010/11 Actual closing balance consistent with 2010/11 GRA	107221
Government and Customer Contributions netted against accumulated amortization	-8020
Removal of assets no longer in service-accumulated amortization	-22246
Addition of assets that were not in QEC's books-accumulated amortization	2141
Other	-63
2010/11 Actual closing balance after adjustments	79033
Source: URRC QEC14 and URRC QEC 35	

As indicated in the above table QEC commenced netting Government and customer contributions against gross plant in 2010/11 as opposed to showing such contributions as a separate item in the calculation of rate base. As a result, QEC netted the accumulated amortization on contributions in the amount of \$8.0 million against the accumulated amortization balance in 2010/11.

An amount of \$21.9 million related to Future Removal and Site Restoration (FRSR) was included as part of accumulated amortization. The inclusion of the FRSR fund as part of accumulated amortization is similar to the treatment of this item in the 2010/11 GRA.

The accumulated amortization on certain assets totalling \$22.2 million, previously considered as part of plant in service were removed from accumulated amortization and, accumulated amortization on certain asset items, amounting to \$2.1 million was restored since the corresponding assets were brought back and included in gross plant in service. These adjustments were all implemented in conjunction with QEC's transition to the PSA standard in 2010/11. In URRC QEC 35 Attachment 2 QEC provided details of the adjustments to accumulated amortization for assets no longer in service and the accumulated amortization on assets that were brought back into gross plant in service.

All of the foregoing adjustments are in accordance with the 2010/11 audited financial statements.

As a result of the above noted adjustments the 2010/11 closing gross plant balance, was reduced by \$28.2 million relative to the 2010/11 GRA. The 2014/15 rate base continuity provided in Schedule 6.1 reflects these adjustments.

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The URRC's concerns respecting the 2010/11 adjustments to the gross plant in service and accumulated amortization are set out in Section 5.2.

The URRC accepts QEC's calculation of accumulated amortization balances for the 2014/15 test year as filed.

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The treatment of Government and customer contributions changed in 2010/11 in conjunction with the transition to the PSA standard. QEC states all contributions are recognized as revenue in the year of occurrence and related assets are added to property, plant and equipment at full value for accounting purposes.

For regulatory purposes QEC states, all contributions are netted against the corresponding assets. In URRC QEC 12, QEC states, the Corporation will maintain the ability to identify customer contributed assets in Gross Plant in service accounts. This will allow QEC to make adjustments to the calculation of rate base as described in this Application and illustrated in the response to URRC-QEC-13.

In URRC QEC 13 Attachment 1, QEC provided continuity schedules of Government and customer contributions. This attachment does not reflect any forecast of contributions for 2013/14 and 2014/15.

With regard to customer contributions QEC states:

Distribution extension projects, which typically have associated customer contributions, are generally small in dollar value and very difficult to forecast. Therefore the Corporation does not include forecasts of capital additions related to distribution extension projects or associated customer contributions in its test year rate base forecasts. This is consistent with the approach employed by the Northwest Territories Power Corporation (NTPC). [ᐃᑭᓂᕈᖅ ᔨᒃᑐᖅ ᔩᕋᓇᓄᖅ ᔫᕆᓁᕐᓴᓏᕐ ᔪᓚᕐᓲᕐᓱᕐ ᔢᕐᓵᕐᓳᕐ ᔦᕐᓰᕐᓯᕐ ᔥᕐᓴᕐᓴᕐᓴᕐ ᔩᑭᓂᕈᖅ ᔬᕐᓴᕐᓴᕐᓴᕐ ᔮᕐᓴᕐᓴᕐᓴᕐ ᔮᕐᓴᕐᓴᕐᓴᕐ 34]

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The Corporation's approach to tracking contributions for regulatory purposes is to reconstruct a memorandum record of contributions and amortization outside of the system of accounts. Under OEC's system of accounts, all contributions are treated as part of revenues.

In the URRC's view, maintaining memorandum records for contributions outside the system of accounts presents verification and validation issues since these records are not part of the system of accounts which are subject to audit attestation. Further, tracking contributions outside the system of accounts means that certain adjustments to the audited accumulated amortization balance would be required to reflect amortization of contributions for regulatory purposes. In essence, the maintaining of memorandum records for tracking contributions outside the system of accounts results in cumbersome adjustments to opening balances resulting in regulatory inefficiencies.

In addition to the above noted concerns over verification and regulatory inefficiencies, there are other philosophical issues respecting the absence of a regulatory deferral account for contributions. In Section 2.0 of this Report, the URRC has set out the concerns respecting the absence of a regulatory deferral account for contributions.

With regard to customer contributions, the URRC notes QEC did not forecast customer contributions in 2013/14 or in 2014/15. QEC states these amounts are generally small in dollar

value and very difficult to forecast. The URRC notes, the customer contributions for the distribution projects set out in Appendix C are primarily upgrades to existing distribution systems that may not attract significant contributions. Accordingly, QEC's zero forecast of customer contributions for 2013/14 and 2014/15 is accepted for the purposes of this Report.

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Schedule 6.4 shows the calculation of working capital, by component. The total amount of working capital increased from \$13.6 million in the 2010/11 GRA forecast to \$22.1 million forecast for 2014/15.

QEC states, cash working capital has been calculated based on the results of a lead-lag study provided in the 2010/11 GRA. Other components of working capital are supplies inventory, fuel inventory and pre payments of rent and insurance.

A major reason for the increase in working capital is the increase in mid year supplies inventory. QEC provided the following reasons for the increase in supplies inventory which increased from a mid year balance of \$1.1 million in the 2010/11 GRA forecast to \$7.7 million in the 2014/15 forecast:

It is noted that the 2014/15 beginning and closing balance of \$7.7 million does not refer to only significant spare parts – it refers to supplies inventory, which includes significant spare parts, lubricants inventory and other items. This balance is calculated as a simple average of 2010/11 – 2012/13 actual ending balances for supplies inventory.

The year-end significant spare parts balances for the actual years were as follows:

- 2010/11: \$3.520 million;
- 2011/12: \$5.963 million; and
- 2012/13: \$7.434 million.

With respect to the changes in the levels of spare parts, the change from 2010/11 to 2011/12 was caused by a decision to remove items previously expensed but still on hand from expense and transferred them into inventory. The change from 2010/12 (sic) to

2012/13 is related to increasing the inventory in preparation for the expected capital projects.

The Corporation cannot provide the break out of the composition of the spare parts within the time allowed in this review process. It is extremely difficult to break out the composition of Inventory Spare Parts by category for prior years. Limitations in the reporting capability of the Great Plains Inventory Module make this a time-consuming and difficult exercise.

The Inventory System in Great Plains was implemented in 2010/11 and since then has undergone continuous improvement. A significant number of items were added to the system so that all items on the Standard Master List (as per design drawings) were included, resulting in an increase in the value of inventory on hand (off-set by a reduction in Inventory-Other or Materials Purchased expense accounts). [ᐅᓕᓕᓐᓂᓐ ᐱᓕᓕᓐᓂᓐ ᓕᓕᓐᓂᓐ ᐅᓕᓕᓐᓂᓐ ᐱᓕᓕᓐᓂᓐ ᐱᓕᓕᓐᓂᓐ 42]

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The URRC notes the more than doubling of the spare parts inventory value in 2012/13 relative to 2010/11. Part of the increase in spare parts inventory appears to be temporary in view of QEC's statement that the change in the level of inventory from 2010/11 to 2012/13 is related to increasing the inventory in preparation for the expected capital projects.

Although some of the major capital projects (Iqaluit main plant expansion, Iqaluit distribution system upgrade to 25kV) were completed by 2013/14, the GRA forecast supplies inventory for 2014/15 still reflects levels comparable to those that were held during the heavy construction phase. The URRC notes the value for spare parts inventory increased by \$3.9 million from 2010/11 to 2012/13.

The URRC considers the spare parts inventory included in working capital should reflect a level that is required for operating purposes only and not inventory held for capital construction purposes. Therefore, the URRC recommends that the 2014/15 supplies inventory be reduced from \$7.7 million to \$5.8 million (\$5.4 million as of year-end 2010/11 escalated by 2% inflation over 3.5 years) to reflect operating inventory levels. The URRC's adjustments to supplies

inventory and rate base are reflected in the calculation of the revenue shortfall in Appendix 1 of this Report.

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The following table shows QEC's proposed capital structure, long term embedded cost of debt and return on equity for 2014/15:

Revised Schedule 4.4 Qulliq Energy Corporation 2014/15 General Rate Application Return on Rate Base - Mid Year (in thousands of dollars)					
	Mid-Year Capitalization	Deemed Mid-Year Capital Ratios ¹	Mid-Year Rate Base	Mid-Year Cost Rate	Return
2014/15 Forecast					
Common Equity	104,998	40.00%	76,268	9.30%	7,093
Long Term Debt	128,176	59.13%	112,738	5.20%	5,860
No Cost Capital	2,052	0.87%	1,664	0.00%	0
TOTAL	\$ 235,226	100.00%	\$ 190,670	6.7936%	\$ 12,953

QEC states the URRC considered a 40% equity ratio in the capital structure financing the rate base to be appropriate for the determination of a fair return in its Report 2011-01 respecting the 2010/11 test year. Accordingly QEC proposed a 40% equity ratio for 2014/15.

With respect to cost of new debt, QEC indicates it is forecasting long term debt additions of \$30 million in 2013/14 and a further \$30 million 2014/15 both at a forecast interest rate of 4.24%. Schedule 4.6 shows the calculation of the average cost of long-term debt. A detailed calculation of the embedded cost of debt was provided in URRC QEC 10 Attachment.

QEC states the proposed no cost capital includes the GN no-cost loan, and hearing cost reserve account balances. This loan bears no interest and will be repaid to the GN over 10 years with annual payments of \$0.510 million that started October 1, 2006. The hearing cost reserve account reflects the combined hearing cost reserve/Reserve for Injuries and Damages (“RFID”) balances.

With respect to cost of equity capital, QEC states the Northwest Territories Public Utilities Board approved a ROE of 9.30% for Northland Utilities (NWT) Ltd. for each of the 2011-2013 Test Years in Decision 17-2011. QEC submits, the Corporation operates in a harsher environment than other Canadian utilities due to the isolated nature of its communities (i.e. no road or rail interconnections with southern jurisdictions); the smaller size of its communities and the lack of access to hydro-electric or natural gas generation. Therefore QEC believes its ROE should at a minimum be consistent with the levels approved for NUL (NWT), and that there likely could be an argument that its business risks would support a higher ROE. QEC proposed a rate of return on equity of 9.30% for the 2014/15 test year consistent with the most recently approved ROE for the NUL (NWT).

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With respect to the cost of debt calculation provided in URRC QEC 10 Attachment, the URRC notes the interest expense respecting each debt instrument reflects the debt service schedule of QEC rather than the mid-year cost of debt. The embedded cost of debt based on the mid-year convention is calculated as shown below:

	2014/15 Embedded Cost of Debt									
	(Thousands of Dollars)									
	2001	2007	2007	2010	2012	2011	2012	2013	2014	
	Debt	Facility B	Facility C	Facility D	Facility E	Facility F	Facility G	New Loan	New Loan	Total
	6.809%	4.240%	4.240%	2.400%	4.240%	4.240%	2.500%	4.240%	4.240%	
	61000	7000	8000	8000	4800	13000	20000	30000	30000	
Opening Balance	42259	3089	3943	5539	4454	10043	18667	29500		117494
Issue									30000	30000
Repayments	2867	378	481	671	171	1194	1000	1033	840	8635
Closing Balance	39392	2711	3462	4868	4283	8849	17667	28467	29160	138859
Mid Year Balance	40826	2900	3703	5204	4369	9446	18167	28984	14580	128177
Interest Expense	2780	123	157	125	185	401	454	1229	618	6072
	6.809%	4.240%	4.240%	2.400%	4.240%	4.240%	2.500%	4.240%	4.240%	4.7369%

On December 20, 2013, the Department of Community and Government Services (DCGS) announced fuel price increases effective January 1, 2014. These fuel price increases were reflected in the revised revenue requirement schedules submitted to the URRC on February 21, 2014. The March 2014 amendment to the Application reflects the removal of GST from the fuel cost forecast and changes to reflect revised price forecasts for nominated fuel purchases.

As shown in Schedule 4.2.5, the weighted average price per liter of fuel is \$1.10/l for 2014/15. At the time of the last GRA the weighted average price of fuel was \$0.91/l for 2010/11.

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In FSR Report 2013-03 the URRC noted the following concern:

Further, nominated fuel purchases are being made because QEC's storage does not have adequate capacity to supply its fuel requirement for a full year. In Iqaluit alone, the shortage of fuel tank capacity caused QEC to incur additional charges from February 2013 forward which, on an annualized basis, would amount to a fuel cost increase of more than \$1 million.

With regard to the costs and benefits of making nominated purchases at higher costs versus expenditure on expanded fuel storage capacity, the URRC considers that QEC must be accountable for the prudence of any capital versus fuel purchase decisions.

As a result, the URRC directed QEC to provide an assessment of the costs and benefits of making nominated purchases, at higher costs, versus expenditure on expanded fuel storage capacity for QEC at Iqaluit and any other community where QEC is experiencing limitations of fuel storage capacity.

While the URRC recognizes QEC is a price taker when it comes to fuel purchases from DCGS, the issue the URRC wished to understand further in Report 2013-03 was whether QEC had any flexibility to increase fuel storage capacity in order to mitigate the risk of nominated purchases at significantly higher prices than supplies from bulk deliveries.

In response, QEC states it does not have the required information and resources to prepare the requested cost/benefit analysis in the current time frame. QEC states it proposes to address this recommendation at the time of the next Phase I GRA.

The URRC expects that a cost benefit analysis along the lines requested in Report 2013-03 may be useful in planning capital additions such as fuel storage facilities, prior to the next GRA. Accordingly, rather than require the cost benefit analysis be submitted to the URRC at the next GRA, the URRC considers the matter is best left to management for consideration in the context of the various operating efficiencies discussed in Section 3.0 of this Report. However, in view of the potential for efficiencies in fuel costs, it is the URRC's view that this issue should be examined as a matter of priority as opposed to deferring it to the next GRA

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The weighted average fuel efficiency proposed by QEC is \$3.71 kWh/liter for 2014/15 as shown in Schedule 4.2.5. At the time of the last GRA the weighted average fuel efficiency was \$3.69 for 2010/11.

In URRC QEC 8c) the Corporation was questioned about the merits of reflecting expected fuel efficiencies rather than those calculated based on the proposed formula, in those communities such as Iqaluit, where there has been a complete replacement of the generation plant.

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The plant expansion upgrade project in Iqaluit is not yet completed. Therefore the Corporation does not have any operating experience for the upgraded plant at this time. While the Corporation noted during the review of the Iqaluit Main Plan (sic) Upgrade major project permit application that some improvement in fuel efficiency may be achievable with the new plant, how QEC (sic) also notes a concern that new engines may be less efficient due to requirements to meet emission standards in the USA.

Based on this consideration, QEC does not see merit in adjusting the forecast fuel efficiency for Iqaluit at this time. [URRC QEC 8c]

QEC indicates its forecast of fuel efficiency for each community is calculated by taking the efficiency for the 3 most recent actual years (2010/11, 2011/12 and 2012/13) and calculating a weighted average. QEC indicates its current practice, which is consistent with the approach used in the 2010/11 GRA, is to calculate forecast fuel efficiency as a weighted average of the three most recent actual years. QEC notes this method is consistent with regulatory practice in other jurisdictions.

With respect to a request to update the fuel efficiency calculation to reflect 2013/14 year to date fuel efficiencies QEC states:

The fuel efficiencies shown in Table 1 of the URRC-QEC-8 are based on a partial year of actual results. In the Corporation's view calculating GRA fuel efficiencies based on partial year results is not appropriate or meaningful, as it is not reflective of a full year load duration curve.[URRC QEC 32a) and b)]

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The URRC notes an improvement in fuel efficiencies since the last GRA from 3.69 kWh per liter to 3.71 kWh per liter. Having considered the efforts made by QEC to improve fuel efficiencies, the URRC accepts the fuel efficiencies as proposed by QEC for the purposes of this Report.

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QEC forecasts O&M of \$54.5 million. [Schedule 4.1] These expenses include Salaries and Wages of \$26.9 million, Supplies and Services expenses of \$22.2 million, Travel and Accommodation expenses of \$5.2 million and site restoration expenses of \$0.161 million.

7.2.1 Salaries & Wages Expense-Vacancy Rates

Table 3 of URRC QEC 5e suggests the employee vacancy rates in prior years were significantly higher than the vacancy rate forecast for 2014/15 as shown below:

vacancy rate of 10.0% for 2014/15 would be more realistic than the approximately 8.2% proposed by QEC.

The following table shows the salaries and wages for 2013/14 forecast and 2014/15 forecast as proposed by QEC and as adjusted by the URRC to reflect a 10% vacancy rate:

Salaries and Wages	2013/14 Forecast	2014/15 Forecast	2014/15 Adjusted
	\$000	\$000	\$000
Regular Salaries and Wages	19747	20339	20339
Employee Benefits	8535	8791	8791
Sub total	28282	29130	29130
Capital Overhead Adjustment	-2537	-2613	-2561
Net O&M Salaries and Wages	25745	26517	26569
Regular Overtime	2469	2543	2543
Casual	695	716	716
Sub total	28909	29776	29828
Adjustments			
Residual Heat	-362	-373	-373
GN Funding for Apprenticeship	-76	-78	-78
Vacancy Adjustment	-2315	-2384	-2913
Total adjustments	-2753	-2835	-3364
Vacancy rate	-8.2%	-8.2%	-10.0%
Net O&M Salaries and Wages	26156	26941	26464
Vacancy Adjustment as per the URRC			477

Based on a 10% vacancy rate estimate, the URRC will reflect a reduction of \$0.477 million in the salaries and wages expense for 2014/15 in the calculation of the 2014/15 revenue requirement and the required rate increase as reflected in Appendix 1 to this Report.

7.2.2 Supplies & Services Expense-Plant Maintenance

In URRC QEC 6c), QEC was asked whether the 2014/15 forecast engine overhaul expense includes any items that may be considered betterment expenditures by virtue of the need to replace them in order to preserve the expected life of the plant unit. Examples of such replacement components include engine heads, fuel injectors, pumps, coolers, pistons etc.

In response, QEC indicates replacement components referenced by the URRC are not upgrades or enhancement, and are not considered betterments. Overhaul expenses relate to replacement of these and similar components, and are considered repair and maintenance costs, which are not capitalized.

[illegible]

QEC's response to URRC QEC 6c) indicates all overhaul expenses are treated as expense. However, it is the URRC's view that retirement of certain major components and replacements with new ones at the time of major engine overhaul may well qualify as interim retirements requiring capitalization rather than expensing. Treatment of such components of diesel plant as interim retirements would be consistent with the prescribed amortization parameters (Iowa curves) for diesel plant that are used to arrive at amortization rates.

The URRC notes from URRC QEC 15f) that the Corporation does not currently have the necessary systems in place to recognize interim asset retirements. The Corporation indicates it is working on developing systems that would allow it to recognize interim retirements of different asset components. As part of the development of systems to recognize interim retirements, QEC is directed to examine the appropriate regulatory treatment of interim retirements during major overhaul of diesel plant and report the findings at the next GRA.

The URRC accepts the supplies and service expense plant maintenance as submitted, for the purposes of this Report.

In Table 1 of the response to URRC QEC 7a), QEC provided a breakout of travel and accommodation expenses as follows:

	2010/11	2010/11	2011/12		2012/13		2013/14		2014/15	
	GRA	Actual	Actual	Change	Actual	Change	Forecast	Change	Forecast	Change
Business Travel and Meals	2,980	2,551	2,509	48	2,515	(84)	3,430	915	3,499	69
Training Travel	713	348	427	79	509	142	743	174	758	15
Medical Travel and Meal	302	622	647	25	921	274	698	(223)	712	14
Relocation Travel and Meals	-	526	257	(269)	351	93	209	(142)	213	4
Total	4,054	4,047	3,933	(118)	4,356	426	5,080	725	5,182	102

In URRC QEC 31b), the Corporation was asked to explain why the implementation of the proactive engine maintenance program results in \$0.9 million additional business travel and accommodation expense in 2013/14.

- Increased senior management travel between regional offices;
- Increased travel for staff to attend corporate workshops;
- Increased travel by HR staff for public relations and senior management hiring;
- Increased travel by operational technicians for plant inspections; and
- Increased travel by IT staff required to upgrade the community internet/communication networks.

QEC states travel and accommodation expenses have increased since the proactive maintenance program; however the Corporation undertakes efforts to minimize such expenses including combining charters required for maintenance crews with other trades staff.

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The URRC notes the average actual business travel expense over the 3 years 2010/11 to 2012/13 was approximately \$2.6 million $((\$2.6 + \$2.6 + \$2.5)/3)$. The URRC notes QEC has not provided any specific support for the increase in the forecast business travel expense from the average level of approximately \$2.6 million to a level of approximately \$3.5 million in 2013/14 and 2014/15, other than to suggest it is required for increased business travel to address various initiatives. In the absence of supporting evidence with respect to the business travel increase, the URRC determines that the business travel portion of travel and accommodation should be reduced by \$0.5 million in 2014/15. This reflects a 2% per annum inflation rate applied to the historical business travel average of \$2.6 million plus an additional 5% per annum for increased travel activity to address new initiatives in each of 2013/14 and 2014/15.

The URRC will reflect a reduction of \$0.5 million in the travel and accommodation expense for 2014/15 in the calculation of the 2014/15 revenue requirement and the required rate increase as reflected in Appendix 1 to this Report.

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QEC no longer maintains separate accounts for Reserve for Injuries and Damages (RFID) and Hearing Costs Reserve for accounting purposes, following the transition to the PSA accounting standard. However, for regulatory purposes QEC provided a notional continuity schedule of the two regulatory reserve accounts in Table 1 of the response to URRC QEC33a as follows:

Table 1:

	2009/10 Actual	2010/11 Actual	2011/12 Actual	2012/13 Actual	2013/14 Forecast	2014/15 Forecast
Reserve for Injuries and Damages						
Opening Balance	1,050					
Additions	150					
Charges	<u>0</u>					
Closing Balance	1,200					
Hearing Reserve						
Opening Balance	800					
Additions	100					
Charges	<u>(116)</u>					
Closing Balance	784					
Notional Reserve Account						
Opening Balance		1,984	1,770	1,570	1,486	1,276
Additions		0	0	0	0	0
Charges		<u>(214)</u>	<u>(200)</u>	<u>(84)</u>	<u>(210)</u>	<u>0</u>
Closing Balance		1,984	1,770	1,486	1,276	1,276

The combined reserve balance of \$1.276 million is included as part of no cost capital in Schedule 4.5 for purposes of calculating return on rate base. The 2014/15 forecast operations and maintenance expense of \$54.436 million, does not include any hearing costs or expenses related to injuries and damages. However, QEC continues to charge forecast and actual hearing costs against the notional reserve balance. For example, the 2013/14 forecast reflects a charge of \$0.210 million against the reserve with respect to forecast spending on external consultants for support related to the GRA preparation and review process. [URRC QEC 33e)]

QEC states the 2014/15 forecast residual balance in the notional reserve account is \$1.276 million. QEC states, once this residual balance is drawn down, the treatment of hearing costs can be addressed in a future rate application.

[illegible]

The URRC accepts the proposed charges for costs associated with rate proceedings against the notional combined reserve account, for purposes of this Report. The URRC's findings with respect to maintenance of regulatory deferral accounts in general, are set out in Section 2.0.

7.4.1 Amortization Expense

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The URRC considers that had the amortization expense been calculated based on the correct mid year property plant and equipment balance of \$270.0 million, net of all applicable contributions, the amortization expense would have been lower. Based on applying an average amortization rate of 3.19% calculated from URRC QEC 9 Attachment 1 to the mid year plant balance of \$270.0 million, the URRC estimates the 2014/15 amortization expense to be \$8.5 million ($\$270.0 \times .0319 = \0.078).

The issue of the recovery of costs related to Future Removal and Site Restoration is discussed in Section 2.0 respecting regulatory deferral accounts.

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The URRC accepts QEC's proposed financing cost amortization expense for the 2014/15 Test Year.

In view of the material variance between forecast and actual sales in 2010/11 the URRC considers further refinements to QEC's forecasting method would be appropriate. For the next GRA, URRC directs QEC to consider the following refinements to its forecast method:

- Customer count forecast to be determined taking into consideration independent drivers of customer growth such as Housing starts, GDP growth, Population growth forecasts, Average customer growth in the past 3 years and known commercial customer additions, all as may be relevant and as applicable to QEC's service territory;
- Regression analysis to be used to forecast usage per customer rather than to total sales.

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The following table shows the forecast and actual sales, number of customers and revenues at base rates from 2010/11 to 2014/15:

Description	2010/11	2010/11	2011/12	2012/13	2013/14	2014/15
	GRA Forecast	Actual	Actual	Actual	Forecast	Forecast @ Existing Rates
Total						
Sales (MWh)	155,283	159,278	163,366	162,575	168,255	172,669
Customers	12,792	13,298	13,434	13,919	14,337	14,672
Revenue (000s)	98,656	80,181	104,833	105,351	109,643	112,462
Cents /kWh	63.53	50.34	64.17	64.80	65.16	65.13

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The URRC accepts QEC's forecast of electric sales revenues for the purposes of this Decision.

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The following Table (Table 3.3 of the Application) shows the losses and station service percentages as forecast for the 2014/15 GRA and the corresponding numbers reflected in the 2010/11 GRA:

Generation, Losses and Station Service - 2010/11 GRA forecast compared to 2014/15

	2010/11 <u>GRA Forecast</u>	2014/15 <u>Forecast</u>	<u>Average Annual Growth</u>
Generation (MWh)	171,037	187,160	2.3%
Losses (MWh)	9,726	7,917	-5.0%
<i>Losses as % of Generation</i>	5.7%	4.2%	
Station service (MWh)	6,028	6,574	2.2%
<i>Station Service as % of Generation</i>	3.5%	3.5%	

[illegible]

The URRC notes and commends QEC for significant improvements in the losses percentage since the last GRA and notes that station service percent has remained unchanged. The URRC accepts QEC's proposed losses and station service calculation for the purposes of this Report.

requirement offset and mitigates the rate impact on customers. The 2014/15 forecast is developed by applying 2% inflation factor over the 2013/14 forecasts. [URRC QEC4h)]

QEC states, consistent with the URRC's recommendation, the government contribution towards apprentice salaries for 2014/15 is included as an offset to salaries and wages expense in Schedule 4.1. This approach is similar to the treatment of the housing recoveries from employees, which is credited to the supplies and services expense category.

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Having regard to the forecast method used by QEC, the URRC accepts QEC's forecast of non electric revenues for the purposes of this Report.

10.0 **ပညာရေးနှင့် ဖွံ့ဖြိုးရေး ဝန်ကြီးဌာနမှ ပူးပေါင်းဆောင်ရွက်သည့် URRRC-၏ ပုံစံပြောင်းလဲမှုများ**

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10. QEC-ድ በራሳቸው በበጥንቃቄ ለጥናትና ለፍትሕ ምርመራ ማድረግ ለሚችሉ ሰነዶች ላይ ባለው ጥንቃቄ በጥንቃቄ ማረጋገጥ ይገባል።

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11. ለፋይናንስ ማረጋገጫ፣ QEC-ድ በራሳቸው በጥንቃቄ ለጥናትና ለፍትሕ ምርመራ ማድረግ ለሚችሉ ሰነዶች ላይ ባለው ጥንቃቄ በጥንቃቄ ማረጋገጥ ይገባል።

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12. ለፋይናንስ ማረጋገጫ፣ QEC-ድ በራሳቸው በጥንቃቄ ለጥናትና ለፍትሕ ምርመራ ማድረግ ለሚችሉ ሰነዶች ላይ ባለው ጥንቃቄ በጥንቃቄ ማረጋገጥ ይገባል።

የሰነድ ማረጋገጫ፣ ራሱ ያለውን ጥንቃቄ በጥንቃቄ ለጥናትና ለፍትሕ ምርመራ ማድረግ ለሚችሉ ሰነዶች ላይ ባለው ጥንቃቄ በጥንቃቄ ማረጋገጥ ይገባል።

[illegible]

ርዕሴ ኤፌድሮችና ልዩ ልዩ ስራዎች ለጥራት ማረጋገጫ ስራዎች 2012-01-11 ለጥራት ማረጋገጫ ስራዎች QEC-ወ ለጥራት ማረጋገጫ ስራዎች II-11 ለጥራት ማረጋገጫ ስራዎች 2010/11-11.

17. QEC-ድ በሩካኑድ ለበርብድነታቸው ደርጋዎች ለጋራነት ለሚገኝ የሥራ ምክር ቤቱ QEC-ድ ውስጥ ለሚገኙት የሥራ ምክር ቤቱ COGUA-ጋ ለሚገኙት የሥራ ምክር ቤቱ GRA-ጋ የሚገኙት የሥራ ምክር ቤቱ

ርዕሷ ልብገብነቷና ህገብነቷን በበጎና/ረጅም 11.2-ፖ ርዕሷ ይገኛል። URRC-ወር ልብገብነቷንም ርዕሷ ይገኛል።

[illegible]

ርዕሷ ልብጥኝነትን፣ ልብጥኝነትን በጥናት/ሥራው 11.3-፣ ርዕሷን ይጥቅማል። URRC-ወር ልብጥኝነትን፣ ርዕሷን ይጥቅማል። ርዕሷን ይጥቅማል።

[illegible]

ርዕሷ ልብጠኝነትንና የልማት ዓመቱን በበጎ አገልግሎት 11.4-፣ ርዕሷም ያስተላለፈችው URRC-ወር ልብጠኝነትንና ርዕሷ ከአዲስ አበባ ደህንነት ቢሮ ማሳተፍ ጀመረች.

11.3 $\Delta^c C_{\alpha}{}^{\beta} \gamma_{\alpha} \sigma^{\beta}$

[illegible][illegible][illegible]

13.0 በበጥንቃቄ የጥናት ዓላማዎች ለማረጋገጥ የሚያስፈልጉትን ሰነዶች ይጻፉ

[illegible]

ΔΛ^αε^βσ^ατ^βΠC^β⊃σ, URRC-δ^c ΠC^α/ε^β⊃ QEC-δ^ασ^β ΔC^αε^βΠC^αδ^β⊃Γ^c▷δσ^αε^β ΔΓ^αΓ^βσ^αε^β▷Δ^cσ^α Λ▷Γ^αΓ^βε^αΠC^βΔ^cσ^α
 ΛC^αε^βΔ^cΓ^αΔ^c ΔΠ^αΓ^βC^αΓ^β⊃ Δ▷C^αΠC^αΓ^β⊃ ΔC^αε^βC^αε^β⊃δ^c:

- [illegible]

[illegible][illegible][illegible][illegible]

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ወደብ ስራ ማስፈጸሚያ ለሥራ ማስፈጸሚያ ስራ ማስፈጸሚያ



ፌብሩዋሪ 28, 2014

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Appendix 1					
2014/15 GRA Revenue Requirement and Rate Increase					
			QEC Proposed	URRC Recommended	
			\$000	\$000	
1	Mid Year Gross Plant	Schedule 6.1	270032	270032	
2	Mid Year Accumulated Amortization	Schedule 6.1	101508	101408	Note 4
3	Mid Year Net Plant in Service	Schedule 6.1	168524	168624	
4	Working Capital	Schedule 6.1	22146	20246	Note 1
5	Rate Base	Schedule 6.1	190670	188870	
6	Weighted Average Cost of Capital	Schedule 4.4	6.7936%	6.4009%	Note 2
7	Return on Rate Base	L5*L6	12953	12089	
8	Operating and Maintenance Expenses	Schedule 4.1	54436	53459	Note 3
9	Fuel and Lubricants	Schedule 4.1	56362	56362	
10	Amortization	Schedule 4.1	8893	8693	Note 4
11	Revenue Requirement		132644	130603	
12	Revenue at Existing Rates:				
13	Customer Charge and Demand Revenue	Schedule 2.2.3	6061	6061	
14	Energy Charge Revenue	Table 5.4	106402	106402	
15	FSR Revenue	Table 5.4	6769	6769	
16	Sub total		119232	119232	
17	Non Electric Revenues	Table 5.4	3650	3650	
18	Total Revenues		122882	122882	
19	Revenue Shortfall		9762	7721	
20	% increase in Energy Rates		8.6%	6.8%	
Note 1:				\$000	
	Working capital per QEC			22146	
	Adjustment to Supplies Inventory			-1900	
				20246	
Note 2:			Per QEC	As Adjusted	
	Cost of Equity		9.3000%	9.0000%	
	Cost of Debt		5.2000%	4.7369%	
	Weighted Average cost of capital 59.13% Debt:40% Equity		6.7948%	6.4009%	
Note 3:				\$000	
	Salaries and Wages-Vacancy Rates			477	
	Business Travel			500	
	Total O&M			977	
Note 4:				\$000	
	Reduction in amortization expense			200	
	Reduction in mid year accumulated amortization			100	