

The background of the cover is a photograph of a large body of water, likely a bay or harbor, with a large ship in the distance. Power lines are visible in the foreground, stretching across the water. The sky is overcast.

CMC

CMC CONSULTANTS INC.

QULLIQ ENERGY CORPORATION

EXTERNAL REVIEW

FINAL REPORT

PREPARED FOR:
QULLIQ ENERGY CORPORATION

PREPARED BY:
CMC CONSULTANTS INC.

MARCH 2006

Table of Contents:

	Executive Summary	
	Key Conclusions	
	Summary of Findings and Recommendations	
1.0	Introduction	18
2.0	Study Team & Methodology	18
3.0	Corporate Strategy	19
4.0	Regulation & Regulatory Compliance	29
5.0	Government & QEC Policies & Procedures	33
6.0	Performance Measurements & Benchmarking	35
7.0	Executive Functions	38
8.0	Customer Service Function	40
9.0	Human Resources Function	43
10.0	Financial Function	50
11.0	Operations & Operating Strategy	53
12.0	Information Systems Function	59
13.0	Engineering Function	61
14.0	Demand Side Management	67
	APPENDICES	
	Appendix 1 – Study Terms of Reference	
	Appendix 2 – Study Principles	
	Appendix 3 – Stakeholder Expectations	
	Appendix 4 – Customer Survey	
	Appendix 5 – Customer Survey Response Matrix	

Executive Summary

Background

Qulliq Energy Corporation (“QEC” or “the Corporation”) is owned solely by the Government of Nunavut. It generates and distributes power to Nunavummiut through the operation of 27 diesel plants in 25 communities.

QEC assumed control of a relatively large operating business from the Northwest Territories Power Corporation (NTPC) in 2001, with only operational staff being transferred. This created the need for the development of a new organization and although much has been accomplished, many tasks remain outstanding, including preparation of a full set of policies and procedures.

QEC filed a General Rate Application (GRA) with the Minister of Energy in September, 2004. The Minister referred the application to the Utilities Rate Review Council (URRC) and the URRC responded in a report to the Minister in January of 2005. The URRC report recommended a series of studies be carried out, including an independent external review of the Corporation. In September of 2005, CMC Consultants Inc. (CMC) was retained to carry out this review.

Methodology

The CMC review examined all major areas and functions of QEC, and makes a number of recommendations for consideration by the QEC Board of Directors. Data was gathered through various means, including a number of personal interviews conducted with members of the QEC External Review Committee which included representatives of the GN and stakeholders. Extensive interviews and information exchanges were conducted with QEC staff at Iqaluit and Baker Lake. Additionally, about a dozen stakeholders were interviewed and a customer survey was sent to approximately 100 customers.

An overview of the planned report was presented to the External Review Committee and Board of Directors of QEC on January 24, 2006. Appropriate revisions were made to ensure that the report was factual, accurate, properly portrayed the evolution of QEC, and presented the most current data available.

Report Findings

Stakeholders and Customer Surveys

Stakeholders and customers made a number of critical observations with respect to the organization including expressing their concerns over the establishment of adequate financial controls, the provision of accurate and timely information, the development of a least cost operational model, the development of long term plans and the need to bring stability to the organization and increased communication.

A number of stakeholders indicated that the operation of the utility, including communications, appeared to have improved over the past year.

The CMC review verified this perception and determined that QEC has in fact achieved a sense of stability and has reduced operating costs significantly. Further reduction in costs, without achieving further efficiencies could negatively affect the operation and reliability of the system.

Report Conclusions

The report recognizes that since its inception in 2001 QEC has made significant improvement in the management and operation of the utility. This is particularly true for the last 12 to 18 month period and QEC is to be commended for its progress.

The report also recommends that QEC be allowed to capture its full approved cost of service plus a return on investment through adequate cost-based rates. This is necessary to provide funds for operations and capital investment and to achieve stable revenue. On this basis, QEC can develop its long-term Corporate Plan.

The CMC report makes a number of recommendations with respect to long-term planning which, while currently improving, remains inadequate. Effective long-term planning should result in capturing further efficiencies in the future.

The report identifies several areas where further efficiencies may be found. These include a revised organization structure to permit the more efficient reporting relationships for personnel and the use of distance education, computer based learning and electronic meeting technologies to reduce travel costs.

A number of recommendations are made with respect to the rate setting process, including use of a “negotiated settlement process” to reduce the cost of the process. The 90 day period from filing of Applications to issuance of a report by the URRC to the Minister should be extended as deemed advisable in the case of major applications.

The report concludes that innovative solutions to the financing of major projects, such as a small hydro plant, should be sought in conjunction with stakeholder input.

Corporate policies and procedures need to be formalized, and along with a long-term Corporate Plan and other long-term plans should be implemented on a priority basis. Many other plans, programs and systems remain to be developed and these should be produced on a priority basis over a period of years.

The report recommends that a Performance Measurement and Benchmarking System be developed. This should also be done as soon as reasonably possible using the Canadian Off Grid Utilities Association (COGUA) as a peer group, while recognizing the uniqueness of QEC.

With respect to Customer Service, the review indicates that a number of stakeholders raised a concern with timeliness and accuracy of billings. QEC management believes that a new billing system now in place will correct past problems. The report recommends that the billing system be reviewed regularly to ensure that it is operating effectively. A customer complaint system is currently being implemented. This will permit the tracking of complaints by type and community.

Stakeholders expressed concerns with respect to communication in the past, while noting that this had improved over the past year. The report recommends that QEC continue with and enhance its internal and external communications programs targeting customers, stakeholders, management, staff, the URRC and the GN.

Among the major recommendations respecting Human Resources are that appropriate measures be established to compare staffing levels at QEC with NTPC and other off-grid utilities, ensure 100% compliance in the completion of performance appraisals, and that all training travel outside Nunavut continue to be approved by the CEO. Documentation of corporate compensation and benefit strategies, the continuation of the employee housing program, and the development of a 2005-2010 Inuit Employment Plan are recommended.

With respect to the Corporation's Financial Function, the report notes that six senior staff manage the activities of the Division under challenging conditions including a high degree of organizational change in the past. The principal recommendations include the development of an integrated financial forecast which combines the details of the Corporation's operating forecast with its capital spending estimates, a review by the GN to determine whether its approach to deficit financing of QEC is prudent, and the enhancement of the budgeting system to provide appropriate financial information on a division by division basis across all functions of the Corporation. The report expresses concern that while financial statements for the year ended March 31, 2005 were released to the public on October 21, 2005, the Annual Report was provided to the legislature in March 2006.

The Executive Functions review recommended changes to the Organization Structure to promote the more effective reporting structures and to enable the CEO to devote more time to long-term planning and meeting the goals and objectives of the Corporation.

It is noted with approval that the Board of Directors is composed of members with a broad range of expertise, including electric utility and other relevant experience. It is, however, recommended that Director's terms be staggered to ensure continuity of the Board. The importance of the internal auditor's role reporting directly to the Audit Committee is noted, as is the importance of an effective internal and external communications strategy.

The Operations and Operating Strategy review concluded that QEC records indicate an excellent safety record. It is recommended that a comparison of key safety statistics with others in the industry be developed and maintained.

Concern was expressed by some customers regarding system reliability. This type of concern would very much depend on the experience in a particular community in any one year. QEC provided information that their reliability index from April 1, 2003 to March 31, 2005 was 99.86%. Given QEC's service area this compares well with the composite of Canadian utilities for 2001 of 99.96%.

The Information Systems Function review concluded that the IT Division of QEC has done an excellent job of demonstrating competence in implementing key information systems and supporting infrastructure in a short period of time with limited resources and significant geographic considerations. Recommendations focus on increasing formal inter-departmental

involvement in the Information Systems Department strategic quality assurance and priority setting processes and to finalize the Information Systems Disaster Recovery Plan.

With respect to the Engineering Function, it is noted that a 5-year capital projection has been prepared. It is recommended this be continued on an annual basis and that it be increased to a 10-year projection at some point in the future. A critical recommendation is that QEC should continue to ensure on an ongoing basis that its generating capacity criteria is met for each community. The importance of comprehensive project planning is emphasized given the conditions in QEC's service territory. While a number of sound documents have been developed by the new Director of Engineering, it is recommended that all project management documents be reviewed to provide clearer management and control of projects.

It is concluded that the possible development of a hydro site(s) near Iqaluit offers the best immediate potential opportunity for reducing dependency on diesel generation.

The Nunavut Energy Centre is about to commence operations to implement Demand Side Management programs. Included in the report recommendations are the development of an education program for customers and all stakeholders, and auditing and upgrading the energy efficiency of QEC's facilities to serve as a model for customers. The implementation of the street light conversion program has been in effect for the past three years after pilot projects were undertaken in four communities.

It is recommended that progress with implementation of the recommendations included in the review be monitored and reported back to the Board of Directors on a regular basis.

Key Conclusions

Although the report contains numerous conclusions and recommendations, the following four areas are the key conclusions of this report.

1. It is critical that QEC's approved revenue requirement include an allowed overall rate of return that consists of actual financing costs and an allowed return on the equity component of Rate Base. The allowed return on equity is currently 9.6%. Rate Structures and Rates should be designed so as to recover the approved revenues to allow for transparency and to ensure that all customers and stakeholders are aware of the true costs of supplying power to all communities in Nunavut. GN subsidies should be clearly indicated, on a per unit basis, on all customer bills where subsidies are applicable.

Under such a regime, QEC will eventually attain financial integrity and stability, and will not require ad-hoc cash injections by GN. As well, a clear understanding of revenue sources and streams, in conjunction with a well documented long-term capital plan will allow for sound financial planning, including projected necessary rate adjustments over the planning cycle.

2. As the sole shareholder of QEC, GN should establish long-term goals and objectives, in conjunction with QEC management, for QEC to achieve. The QEC Board should then be given the authority and autonomy to develop and implement appropriate operating plans and programs and to assume responsibility for the success or failure of the implementation.
3. Since the split from NTPC, the predecessor corporation of QEC, the utility has faced many significant challenges in continuing to distribute power to all 25 communities during a period of significant management instability, corporate restructuring, legislative changes and numerous other factors. It is to the credit of the management and staff of the Corporation that much has been accomplished in striving to create a dynamic entity necessary to meet future challenges and achieve the corporate goals and objectives. That having been said many activities and tasks still remain to be implemented or completed. It should be pointed out that QEC management has been and continues to be aware and are responding to the majority of these issues.
4. There needs to be a clear definition and understanding of the respective roles and responsibilities of GN, Ministers of GN, the URRC, QEC, and other interested parties with respect to the rate setting process. Additionally it is vital that two-way communication be the norm, rather than the exception. To this end, a continuing dialogue between QEC and URRC and other parties must be encouraged, especially with respect to major rate applications. Adequate public notices, community meetings and schedules for various elements of the rate setting process must be jointly developed by URRC and QEC. This is important so that all parties are given adequate time to review and analyze applications and prepare and respond to additional information requests, prior to public hearings. It is further suggested the QEC and URRC develop and agree to Minimum Filing Requirements for major rate applications. Finally, QEC should designate, develop and train a staff person with responsibility for the co-ordination of all rate applications.

Summary of Findings and Recommendations

Corporate Strategy

Mission, Goals and Strategy

QEC should consider incorporating “the effective and efficient management of personnel” as an additional objective to be incorporated in to the Mission Statement when carrying out the proposed review of the Corporate Vision, Mission and Values

Organizational Structure

QEC should consider adjustments to the organizational structure consistent with accepted electricity organizational practice and QEC’s mandate, to increase the effectiveness of staff reporting.

Short and Long Term Planning Cycles

QEC should give priority to developing a long-term Corporate plan. This plan should be developed in conjunction with a Nunavut Energy Policy incorporating long-term GN goals and objectives

QEC should continue to develop short-term three to five year business and capital projections

Regulation and Regulatory Compliance

Reporting Requirements

A clear delineation of Minister/GN/URRC reporting requirements should be developed in cooperation with stakeholders.

URRC Expectations

QEC should designate, develop and train a senior manager with responsibility for the co-ordination of all aspects of the regulatory process.

Rate Setting Process

The 90 day limit from filing of applications to issuance of a report to the Minister should be reviewed for each application and extended as advisable

Consideration should be given to refining the regulatory process using available rules and procedures to include a pre-hearing conference, minimum filing requirements, technical conference as appropriate, and a form of negotiated settlement option

Rate design must ensure that the rate structure and the individual rates recover an approved revenue requirement including a return on investment, based on a reasonable customer cost allocation prior to any customer subsidies.

Subsidy Setting Process

In establishing customer subsidies, the GN should ensure that the subsidies address the gap between the approved revenue requirement and the customer's ability to pay

Government and QEC Policies and Procedures

Government Energy Policy

QEC should take the lead in the development of a Nunavut Energy Policy and be reimbursed for the cost of developing this policy. The policy should be funded by the GN and developed in 2006-2007, leading to a complementary QEC long-term Corporate plan

QEC Policies and Procedures

QEC needs to accelerate the development, review and approval of operational policies to ensure consistency across functional areas and regions

GN as a Shareholder

The process for transferring information from QEC to the working level of the GN should be streamlined

QEC should continue to work with the GN, the Federal Government and stakeholders to explore means of financing major capital projects

Performance Measurement and Benchmarking

QEC should use the membership of COGUA as a Peer Group in order to develop benchmarks, while recognizing the uniqueness of QEC's operations.

QEC should continue to contribute as a member of COGUA in the development and documentation of appropriate financial measures.

QEC should develop, track and monitor various customer-related statistics to formulate and document key indicators, performance measures and targets related to overall customer satisfaction with QEC's operations.

Internal performance measures as well as results of comparisons with Peer Groups should be included in the Annual Report.

Key indicators, benchmarks and targets should be periodically reviewed and updated to reflect all changes in operating or other circumstances.

Executive Functions

Board Functions and Support

The GN should establish staggered terms for Directors at the earliest opportunity to ensure a degree of continuity.

A comprehensive Director's manual should be developed, based on existing orientation materials.

Communications

QEC should continue with and enhance its external and internal communications programs targeting customers, stakeholders, management, staff, the URRC and the GN. This is especially important given QEC's structure of two regional offices, three regional centres and twenty-five widespread service areas.

Customer Services Function

Customer Relations Management

QEC should ensure that a permanent customer complaint handling system is in place by the fall of 2006.

Billings Process

QEC should conduct regular reviews to ensure that the new billing system, as well as the customer complaint system currently being installed, are operating effectively.

Collections Process

QEC should reinforce its efforts to ensure that bills are issued on a timely basis. If bills are issued on a cyclical basis, this should be explained from time to time in bill stuffers. A bill stuffer explaining the complete billing and collection process should be considered.

QEC should commence a dialogue with its customers to encourage bill payments by means other than cheques, using one of the payment options listed above.

QEC should consider retaining a collection agency to collect the accounts of transient customers

Human Resources Function

Staffing Levels and Requirements Across the Company

QEC should continue to work with COGUA in establishing benchmarks for staffing off grid utilities.

Document and standardize processes to confirm that staff additions are fully scrutinized with justification and cost/benefit information.

Track changes in EFT's from year to year and analyze result. Track and measure turnover from year to year and review causes.

Fill vacant Payroll and Compensation Administrator position to allow HR Director to work on policy development and strategy issues. Consider hiring a labour relations specialist (two year term) to establish labour relations practices and procedures, administer collective agreement provisions and address grievance and arbitration matters.

Skill Levels and Requirements Across the Company

QEC should develop a specific annual agreement with each mentor and mentee that articulates current skill or knowledge level, required skill or knowledge level, and specific activities, experience, or learning outcomes.

Directors should be responsible for ensuring 100% compliance in completion of Performance Appraisal. Appraisals should include a specific annual development plan that identifies current skill, knowledge or performance gaps and plans to address those gaps.

The Directors should be responsible for completion of the documentation of all job descriptions to clearly articulate the education, skill, and experience requirements of all company positions.

Each Director should conduct an occupational skills audit which would identify the current and desired state with respect to workforce skill levels required today and into the future. This audit would then be an input into the annual training requirements addressed in the following Section 9.3.

Training Requirements

As stated earlier, Directors should be responsible for ensuring 100% compliance in completion of Performance Appraisals. Appraisals should include a specific annual development plan that identifies current skill, knowledge or performance gaps and training plans to address those gaps.

Directors should be responsible for developing an Annual Training Plan with financial forecasts to be submitted to the President and CEO and to be reviewed by the senior management team for priority setting.

All training requiring travel outside of Nunavut should continue to be approved by the President and CEO.

QEC should:

Develop and/or purchase a Corporate Training Record Keeping system to centralize the tracking of training activity and correlate with the training expenditures captured in the current financial system.

Develop an annual individual Leadership Development Plan for each member of the senior management team to be approved by the President and CEO.

Maximize distance learning and computer-based instruction to compensate for high travel and accommodation costs.

Recruiting Processes

QEC should customize and document the recruitment process for the needs of QEC, and communicate to line management. Conduct training sessions or workshops, if required, or educate staff via computer based training (CBT's).

QEC should develop an employment strategy for the recruitment of external candidates.

Current job descriptions are required as a basis for recruitment activities. Selection criteria are derived from information on the job descriptions. QEC should continue to require current job descriptions to be supplied prior to initiating the recruitment process.

QEC should include additional behaviour based interview questions to assess performance based on actual past demonstrated behaviours versus hypothetical future: what would you do "if" questions.

QEC should track the number of external hires and the number of employees promoted from within the corporation annually.

Compensation and Classification

QEC should:

Document a corporate compensation philosophy. This should establish what the corporate goals are related to paying employees, describe what compensation is, establish desired competitive positioning in the marketplace, address cash and non cash items and establish appropriate comparator groups for benchmarking purposes.

Track aggregated year to year benefit cost changes and the benefit costs per employee. If required, implement appropriate measures to contain employee benefit costs.

Document a corporate benefit strategy. This would include identifying objectives related to design, cost (for example, as a percentage of payroll), administration and communication. The scope of what is considered an employee benefit should also be defined.

Continue pursuing the goal of establishing a job evaluation system. As part of that process, establish job descriptions for all jobs at QEC. Start with the senior jobs.

Reinstate an incentive compensation scheme for senior positions. This program should be carefully linked to desired behaviours/results and should be designed to include components for individual and corporate performance. Performance objectives should be SMART (specific, measurable, attainable, relevant and trackable).

Continue to use an employee benefit consultant to negotiate cost changes with carriers. Require this company or the benefit carriers themselves to provide an annual presentation to review relevant benefit information and information on future trends and cost implications.

Benchmark total compensation levels for senior positions with those in other electric utilities, particularly NTPC.

Employee Housing

QEC should retain the current employee housing policy in place at QEC.

QEC should develop positive approaches to support employees who elect home ownership

Inuit Employment

QEC should contact successful business and service organizations across the territory to identify relevant practices that have been successful. Implement those practices into the IEP as is possible.

Development of the 2005-2010 IEP plan be given priority by QEC.

The IEP plan should identify specific annual targets, measures, and actions to:

- increase beneficiary employment in excluded or management positions*
- increase beneficiaries employed in trades, skilled, accounting and management positions in the corporate and regional offices*
- implement structured mentoring programs in the professional accounting, management, trades, and engineering functions*

Each Division Director should be responsible for contributing to the goals and objectives of the Corporate plan. Specific annual initiatives with goals, measures, and targets should be cascaded to each department.

Strategic Alignment

The Senior Management Team, led by the President and CEO should participate in a goal setting exercise to incorporate specific goals, measures, targets and strategic actions into the current Corporate Plan.

Each Director should be responsible for contributing to the Corporate plan that articulates department goals, measures, targets, and strategic actions

General

QEC should:

Establish a documented business continuity plan for paying employees at QEC.

Complete the documentation of all policies and procedures to ensure consistent application.

Implement activities to build the relationship with the union, for example climate surveys, regular meeting with senior officers, etc

Develop an Employee Communication Plan to increase understanding and commitment to company direction, policies, and priorities. This might include company intranet, monthly newsletter, and quarterly performance review meetings.

Investigate electronic meeting technology to facilitate meetings via the web or company intranet to reduce travel costs and increase communication.

Identify opportunities for sharing resources and/or competencies with other off-grid utilities.

Financial Function

Operations and Maintenance Budgeting

The Corporation must enhance the budgeting system to provide timely and accurate information on a division-by-division basis across all functions of the Corporation and not just at the corporate level. Divisional financial information should be readily available to managers with a reasonable amount of time and effort.

Capital Expenditure Budgeting

The Corporation should develop an integrated forecast that combines the details of its operating forecast with the results of its capital spending estimates. This forecast should be for a period of at least ten years. The forecast must include the underlying financial strategies of the Corporation that are formally agreed to by the Board and stakeholders while addressing revenue deficiency.

The Corporation should enhance the current budgetary and financial systems to accommodate the informational needs of all stakeholders.

The Corporation should develop a future capital resource plan to address the significant dollars necessary for various capital-intensive projects such as the hydro-electric projects currently being studied. These plans should include the possibility of federal government assistance and its availability.

Cash Flow Forecasting

The Corporation should review, and where possible improve, their cash receipts processes.

Financial Reporting

The Board has instructed the Corporation to meet the standards set in the Financial Administration Act in terms of its financial reporting. A review of current processes must be undertaken to shorten the time needed to meet the requirements of this Act.

Variance Reporting and Analysis

The Corporation should initiate a review of its current variance and analysis systems so that it accommodates all requests. An effective variance and reporting system must be able to report variances at all levels throughout the Corporation.

Revenue Management

Metering

The Corporation should initiate a study to determine if there are any potential cost savings by implementing a process when meters would be read every second month with estimated consumption being determined every other month.

Billing

The Corporation should develop a method to quantify and track billing error rates and include this information in its annual report. This information should address the negative perception that appears to exist with some of its stakeholders that remain as the result of errors that occurred some time ago.

The Corporation's future network expansion plans, should present several new options in regards to how meter read sheets, reports and bills are printed and distributed.

Management of Real Property and Leases

QEC has both a Housing Policy for leasing residential property and a Lands Policy setting out the terms of any other acquisition of land interests. Both are recently revised and Board approved.

QEC should own or lease property based on documented economic analysis

Operations and Operating Strategy

Safety

In future QEC should provide a comparison of key safety statistics with others in the industry. Target measures commonly used in the industry include:-

- The accident frequency rate*
- The accident severity rate*
- The number of high-risk accidents.*

Reliability

It is important that QEC, operating in such extreme winter weather conditions, record reliability statistics on a seasonal basis.

While reliability problems tend to stem from the reliance on single generation sources, rather than from the limited transmission/distribution systems, the calculation of typical industry performance indicators could allow comparisons to be made with similar utility diesel generator systems. Such indicators would typically include the following:

IOR: Index of Reliability

IOR = (8760-SAIDI)/8760 [where 8760 is the number of hours in a year]

SAIFI: System Average Interruption Frequency Index

SAIFI = (No. of customers interrupted) x (No. of interruptions)/Total No. of customers

SAIDI: System Average Interruption Duration Index

SAIDI = Total customer hours of interruptions/Total No. of customers

CAIDI: Customer Average Interruption Duration

CAIDI = Σ Customer interruption durations/Total No. of customer interruption.

The applicability of these measures should be reviewed through the COGUA process.

Efficiency

QEC should continue designing and updating the Programmable Logic Controllers (PLCs) program to improve efficiency by optimizing the operation of the diesel generators to their most economic fuel consumption.

QEC should continue to look to residual heat recovery installations to improve the efficiency of the diesel generation operations.

Distribution Asset Management

QEC should continue to monitor its inventory in order to be in a position to perform quick and effective repairs.

Information System Function

QEC has an excellent Information System in place. In order to continue to develop this system QEC should:

- *Increase formal inter-departmental involvement in the Information Systems Department's strategic, quality assurance, and priority-setting processes*
- *Finalize the Information Systems Disaster Recovery Plan, ensuring the inclusion of complete and concise information*
- *Ensure system documentation (including standards, policies, and procedures, and system and network support material) is current and complete, and reviewed on appropriate bases*
- *Increase formal inter-departmental involvement in system testing, training, change management, and strategic planning*
- *Continue planned expansion of Information Technology landscape (including evaluation and implementation of new systems and/or functionality)*
- *Evaluate enterprise-level software (Enterprise Resource Planning, collaboration, document management) and integration (Enterprise Application Integration) platforms
Examine technology purchasing methodology*

Engineering Function

Capital Planning Process

The engineering department should continue with the inventory of capital assets and set a reasonable deadline for its completion. Asset management software should be acquired to assist in the management of existing generation and distribution assets.

The development of a 5-year capital projection should be continued on an annual basis with the projections being extended to 10 years at some point.

QEC should continue to ensure that its generation capacity criteria is met for each community.

QEC should continue to ensure that all applicable codes and technical standards are met in each community.

QEC should continue to consult with affected communities and stakeholders as an integral part of major capital projects.

Tender and Project Management

QEC Engineering should continue to implement relevant project software.

QEC internal project contracting documents should be reviewed to ensure that all relevant details appear on the document including clear management and control of projects.

QEC should establish a document control list to ensure that all changes to contracts are properly described, justified and authorized.

QEC should proceed with the hiring of an AutoCAD technician.

Generation Alternatives and Approaches

The possible development of hydro sites near Iqaluit offers the best immediate opportunity for reducing the almost total dependency on diesel fuel. QEC should continue to investigate alternative generation developments that could reduce their dependency on diesel generation.

Demand Side Management

QEC should continue with its street lighting replacement program.

In the area of DSM, QEC should take the lead in developing and documenting the policies and respective operating roles of GN, QEC, and other governments and stakeholders.

QEC should develop and implement an accurate, interesting and understandable education program for its consumers and all other stakeholders.

To serve as a leader in DSM implementation, QEC should ensure that all of its facilities are audited, and all applicable energy efficient measures are implemented.

QEC, through NEC, should consider developing the following DSM initiatives:

- *conversion of household lights and showerheads to higher efficiency units*
- *cooperate with the private sector to ensure that higher efficiency lights and other units are made locally available.*

QEC should recommend to the GN that a review of existing housing be conducted to determine the level of insulation and identify buildings where upgrading would be cost effective.

1.0 Introduction

Qulliq Energy Corporation (“QEC” or “the Corporation”) is a Crown Corporation owned 100% by the Government of Nunavut (GN). QEC was originally incorporated as Nunavut Power Corporation (NPC) under the Nunavut Power Utilities Act upon division from the Northwest Territories Power Corporation in April of 2001. NPC was renamed Qulliq Energy Corporation and the Nunavut Power Utilities Act was renamed the Qulliq Energy Corporation Act in March, 2003.

QEC generates and distributes power to Nunavummiut through the operation of 27 diesel generation plants in 25 communities, provides mechanical, electrical and line maintenance from three regional centres, and administers the Corporation’s business activities from offices in Iqaluit and Baker Lake. It has an emerging energy conservation function in the Nunavut Energy Centre.

The Corporation operates in accordance with the Objects set out in the QEC Act and the goals and objectives contained in the document Pinasuaqtavut 2004-2009.

QEC filed a General Rate Application (GRA) with the Minister of Energy in September of 2004. The Minister referred the Application to the Utility Rates Review Council (URRC) and the URRC responded in a report to the Minister on January 27, 2005. The URRC report recommended that a series of reports be prepared by the Corporation. Principal among these was the recommendation that an independent external review of QEC be carried out.

In order to select appropriate contractors and guide this review, an External Review Committee composed of Colin Low A Chee, Committee Chair and QEC Director, Peter Mackey, QEC Director of Operations and IT, Roy Green, GN Department of Finance and Glenn Cousins representing commercial stakeholders, was formed by the QEC Board of Directors. The Review Committee requested and evaluated proposals from interested firms. In September of 2005, CMC Consultants Inc. (CMC) was contracted to carry out this independent review

2.0 Study Team and Methodology

To carry out this study CMC assembled a team of experts in regulatory affairs and utility management and operations. The team consisted of the following personnel:

- David Farlinger P. Eng., CMC Principal and Study Coordinator
- James Sandison B.Sc., C.A.S.I. CMC President and Regulatory Specialist
- Myron Kostelnyk P. Eng., CMC Principal and Regulatory Specialist
- Jack Scriven P. Eng., Former President, Teshmont Consultants
- Don Deviaene, Manitoba Hydro International – Finance Specialist
- Gary Maksymyk, Manitoba Hydro International - Human Resources Specialist
- Harold Falk, Manitoba Hydro International - Human Resources Specialist
- Mark Mandzik, Manitoba Hydro International - Information Technology Specialist
- Jack Christofersen P.E., CeCe Consultants - Former Utility Executive
- Jack Sentala P.E., Managing Principal, United Services Group

CMC commenced data assembly and review in September 2005. Information Requests were developed throughout the course of the study. CMC representatives visited Iqaluit in October and met with External Review Committee members, Peter Mackey, Roy Green and Glenn Cousins as well as with Anne Crawford, QEC President and CEO. They also met with other QEC Executives and a number of Stakeholders while in Iqaluit. Two additional Stakeholders were interviewed in Winnipeg.

Subsequently, a meeting was held with the Chair of the External Review Committee in Toronto and the Chair of the QEC Board of Directors was interviewed via telephone conference call.

CMC presented the findings of this external review to the QEC External Review Committee, the QEC Board of Directors, management and senior staff in Iqaluit on January 24, 2006.

A copy of the Study Terms of Reference are attached hereto as Appendix 1 and the Study Principles are attached as Appendix 2. The suggested report Table of Contents included in the request for proposal (RFP) formed the basis of CMC's independent review and this report is generally presented in the order of that Table of Contents.

CMC appreciates the cooperation of the many contributors to this report, including QEC directors, management and staff, the GN and stakeholders as well as the contributions of the full CMC team of specialists. The report makes a substantial number of recommendations. Many of these are meant to address concerns raised by stakeholders during the course of the study. Others are prospective, that is, they were developed not from concerns raised but as a result of issues identified by the Study Team and are meant to guide and assist QEC in its future operations.

3.0 Corporate Strategy

3.1 Vision, Mission, Goals and Objectives

The Corporate Vision was formulated at a QEC Vision, Mission and Objectives Workshop held in February of 2003. The Vision was developed taking into account the Corporation's Core Purpose articulated by the group i.e. *To Provide Energy for Nunavummiut* and the Core Values identified by the QEC Board of *safety, reliability, efficiency, and responsiveness to and respect for Stakeholders*. The foregoing was utilized as the framework for developing the following Corporate Vision Statement:

Powering Nunavummiut Into The FutureToday

In developing this Vision Statement, the workshop participants agreed that *Powering* is QEC's core business. The statement also represents empowering employees of QEC, residents of Nunavut and stakeholders, and recognizes QEC as a significant driver and leader of the Nunavut economy.

Nunavummiut represents the people and the unique culture embodied in Nunavut. It essentially reflects the core value, "*Responsiveness to and Respect to Stakeholders*".

Into the Future..... Today means evolving in anticipation of the needs of tomorrow while meeting Nunavummiut needs today.

The Corporate Vision Statement and the logic leading to its development is sound. It is a relevant and “catchy” statement.

Building on the above, the workshop participants produced a Corporate Mission statement as follows:

Nunavut Power Corporation is committed to supplying safe, reliable and efficient energy through responsive and respectful interaction with all stakeholders.

QEC indicates in its 2006-07 Corporate Plan that it intends to review and update the Vision, Mission and Values which have served the Corporation for its first five years of operation. As part of this review it is suggested that QEC consider adding the effective and efficient management of personnel to the mission statement.

Recommendation

QEC consider incorporating the effective and efficient management of personnel as an additional objective of the Mission Statement when carrying out the proposed review of the Corporate Vision, Mission and Values.

3.2 Stakeholder Expectations

Stakeholders of the Corporation encompass a wide range of institutions, businesses and individuals. They include the people of Nunavut, customers, employees, the QEC Board of Directors, managers and supervisors, the Government of Nunavut (GN), unions, communities and community organizations, suppliers, contractors, consultants and environmental agencies. Given the concerns expressed by stakeholders at the GRA with respect to the management and operation of the Corporation, the expectations of stakeholders were considered to be an important element of this study.

During the course of this review, CMC personnel interviewed about a dozen corporate and other stakeholders to learn their concerns and identify their expectations. A customer survey was prepared which was reviewed and finalized with the QEC External Review Team and then e mailed or faxed to about 100 customers. 17 responses were received.

The stakeholders who were interviewed personally, or in a few cases via telephone, were relatively current with respect to the management and operations of the Corporation given their location in Iqaluit or in two cases, in Winnipeg. A number of the interviewees had first hand knowledge of the Corporation through participation at the GRA in 2004.

On the other hand, the respondents to a customer survey conducted by CMC were in almost all cases residents of remote communities. While not as current with respect to management and company activities as those interviewed, they nevertheless provided an important perspective on the company and its local operations.

Many stakeholders indicated they believed that the operations of QEC had improved over the past year or two and were particularly pleased with what they felt was a new attitude towards stakeholder inclusion and consultation. It is their expectation that the issues and concerns expressed to the study team will be addressed over time.

In carrying out its review of QEC, CMC took care to review the areas of the Corporation which stakeholders identified as being of particular concern. Shareholder Expectations are detailed in Appendix 3.

Following is a summary of key concerns expressed by stakeholders:

- Adequate financial controls need to be in place to ensure that actual costs are in line with those budgeted except in exceptional circumstances
- The QEC Board of Directors needs to demonstrate that it is taking a proactive role in monitoring the finances and operation of the utility
- QEC needs to develop a long-term business plan that includes both financial and capital planning
- Financial information provided by QEC needs to be timely and accurate
- Government policies and directives must not unfairly result in increased costs to customers
- QEC needs to develop a least cost organizational structure capable of managing and operating the Corporation without the need for inordinate rate increases in the future
- Turnover of management staff needs to be reduced to an acceptable level
- QEC needs to continue the development of a consultation program acceptable to stakeholders
- Demand Side Management programs (DSM) need to be developed through the newly established Energy Centre including programs to educate existing customers and students
- QEC needs to explore the possibility of greater cooperation with other northern utilities for sharing resources both on a regular basis and during emergencies

The expectation of stakeholders is that the above concerns will be addressed by QEC on a priority basis.

3.3 Customer Survey

A customer survey was developed by CMC and reviewed by members of the External Review Team who suggested several changes. The purpose of the survey was to obtain input from “typical” customers in communities remote from Iqaluit while the stakeholder comments reported above tended to represent the thinking of Companies or groups such as Housing Organizations. The survey was forwarded to about 100 customers in communities outside of Iqaluit. 17 responses were received. A questionnaire, as well as a copy of the detailed summary of the responses is included as Appendix 4 and 5.

Following is a summary of the major conclusions which can be drawn from the survey. In observing these conclusions, it should be noted that the respondents have little direct contact with QEC other than through their local service personnel and receipt of their monthly bill. They are much less likely to be aware of any changes to the management and performance of the utility demonstrated over the past year.

Summary of Customer Survey Results

Customers surveyed expressed the following opinions:

- There is a need for increased communication with customers
- While the majority of customers felt that rates should not be automatically adjusted for increases in costs such as fuel, there was agreement that a series of frequent rate adjustments was preferable to periodic large increases
- Unlike the stakeholders interviewed, there was no consensus that management was making progress with respect to improving the operation of QEC, however a majority of customers agreed that they received good value for service from QEC
- A large majority of customers felt that the GN should provide more direction to QEC
- There was limited support for the management and financial administration of the utility, justification of capital projects and size of staff, all issues which directly affect rates which respondents considered to be too high.
- The operation of the utility and reliability of service generally received a more favourable rating.

To place this report in perspective, it is important to note at the outset that a number of the stakeholder and customer concerns and expectations set out above are not supported by the external review findings. There are several reasons for this discrepancy between stakeholders and the findings of the external review.

Many of the concerns expressed to the Study Team were based on valid but potentially outdated prior knowledge and experience. At the time of the interviews in October and November of 2005, stakeholders, while recognizing that the organization has stabilized and that operations have improved over the past year, had not been given an opportunity to review detailed financial and operating data of the Corporation since the 2004 GRA. Since that time, the Corporation has released the 2004-05 financial statements for public review. The Annual Report has been filed in the Assembly.

For the most part, stakeholders cannot see inside the corporation and were not aware that many of their issues are in the process of being addressed by the Corporation.

Some of the principal CMC findings which could respond to stakeholder perceptions are as follows:

- QEC has achieved significant progress in developing the lowest cost operational model and reducing the turnover of senior management personnel. These two issues were both major concerns of the stakeholders interviewed.

This is not meant to suggest that there are no further areas where savings can be achieved, however further capital and operational cost reductions without offsetting

efficiencies will begin to impact on the long-term operations and reliability of the system.

- Examples of areas where savings may continue to be achieved include the increased effectiveness of personnel through implementing a more efficient reporting structure with Iqaluit staff concentrated in one building. The use of tools such as distance education and training in order to further reduce travel costs is another example.
- QEC has improved their planning horizon with the preparation of a 2005-2006 and subsequently a 2006-2007 Corporate Plan and development of five year capital projections. Further efficiencies may be achieved by development of a long-term Corporate plan with input from all departments.
- Consultation with stakeholders has been initiated by the current CEO. Stakeholders are hopeful that this will continue and grow over time.
- A number of areas still require improvement. Some stakeholders were concerned that QEC financial forecasting did not reflect the substantial savings in operations achieved in 2004-2005. While this is true, the company should be commended for achieving these savings as a result of more efficient management. With more years of operating experience in place, financial forecasting should improve in the future.
- A number of plans, policies and procedures and other documentation remain to be developed by QEC. Over the next five or more years, QEC should assign priority to the development of this documentation.
- For a number of reasons, responses to the review team's information requests were often slow in being developed. This will require improvement before the next GRA.

In addition to the above, it is noted that a number of customers were of the opinion that the GN should provide more direction to QEC. CMC recommends elsewhere in this report that the GN establish the framework within which QEC is to operate, and that the QEC Board of Directors and management be given the authority to operate the utility autonomously and take responsibility for their actions.

3.4 Organizational Structure

Introduction

The typical organization structure for a small utility is based on a functional orientation. By orienting people toward a special activity, these structures concentrate competence in particularly effective ways. Grouping specialists together reinforces the technical expertise of the engineer, the accountant, the environmentalist and the communications specialist. A study conducted by the Massachusetts Institute of Technology concluded that those firms which employ a functional structure tend to perform better than those with other structures. There can also be drawbacks with this type of organizational structure. Functional structures tend to de-emphasize interdepartmental cooperation and care has to be taken to ensure that this does not occur.

Executive/Administration Structure

The factors influencing QEC's operation should also shape the organization. Where circumstances are relatively stable and dictate a high level of specialization, functional structures are well suited to concentrating technical expertise, and such concentrations will lead to a superior organization.

Using these concepts for QEC, our view is that while the overall number of managers is reasonable, there may be more effective reporting structures. Adjustments to the organizational structure should be considered, consistent with accepted electric utility organizational practice, to increase the effectiveness of structures. To accomplish this, several organizational structures have been developed while taking into account the factors that influence QEC. The development and implementation of the optimum structure requires an intimate knowledge of the Corporation and the factors influencing its success. Based on this knowledge, QEC may wish to consider whether one of the organization structures presented below, or a combination of the structures, would be beneficial to the Corporation's operating efficiency.

Figure 3.1 shows a functional organization, which was developed by segregating the business units so that each has a specific set of duties and responsibilities, without duplication. In a utility there is usually a separation of the Finance, Engineering, Operations, Corporate Services and Legal departments. Smaller utilities (less than 30 MW) often use consultants for legal services and major engineering requirements rather than having full time staff employees. However, based on reasons noted later in the report, it appears preferable in QEC's circumstances to have in house legal counsel. This structure is consistent with structures used by Electric Cooperative and Municipal clients of United Services Group in the North Central United States.

Figure 3.2 depicts a regional organization which is also developed by dividing business units by function while taking into account regional responsibilities. In this case, the Human Resources function, located in Baker Lake reports to the CFO, who is also located in that community rather than to the VP of Corporate Services located in Iqaluit. While it makes good sense for the Energy Centre to report to Operations, the Centre could also report to the Corporate Services VP as it has a substantial community component.

Figure 3.3 shows an organization similar to the current operation except it combines all corporate services under one Vice President. It could be an intermediate step between the existing QEC organization and the ultimate organization structure selected.

QULLIQ ENERGY CORPORATION

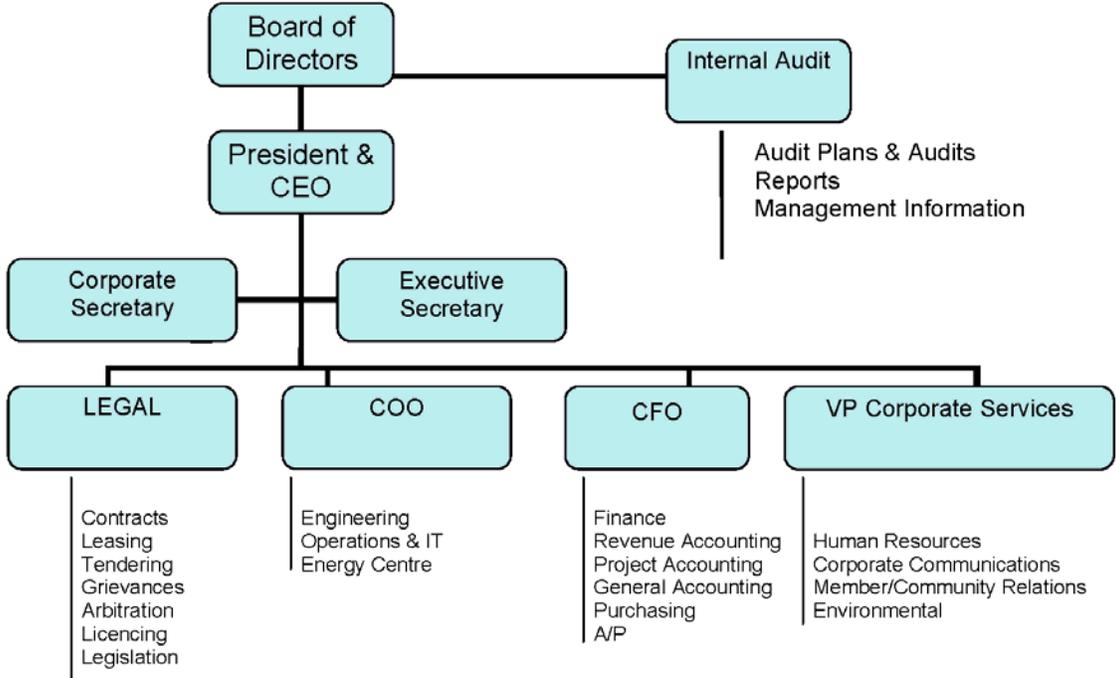


Figure 3.1 Executive/Administrative Organizational Chart

QULLIQ ENERGY CORPORATION

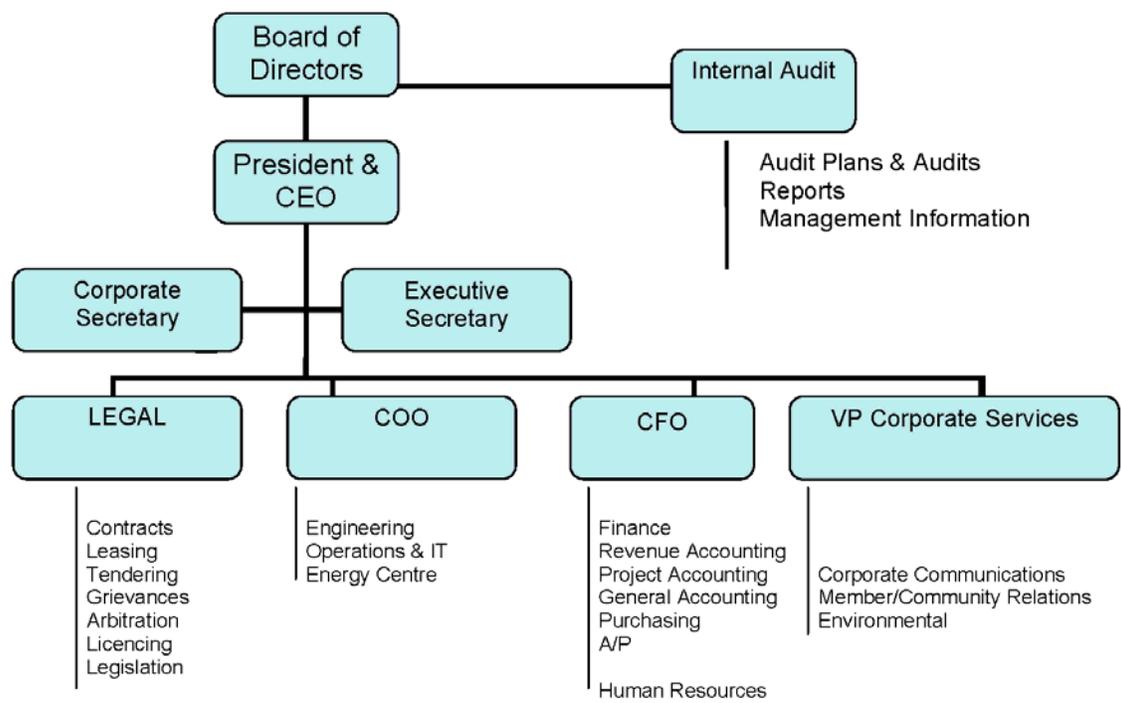


Figure 3.2 Executive/Administrative Organizational Chart

QULLIQ ENERGY CORPORATION

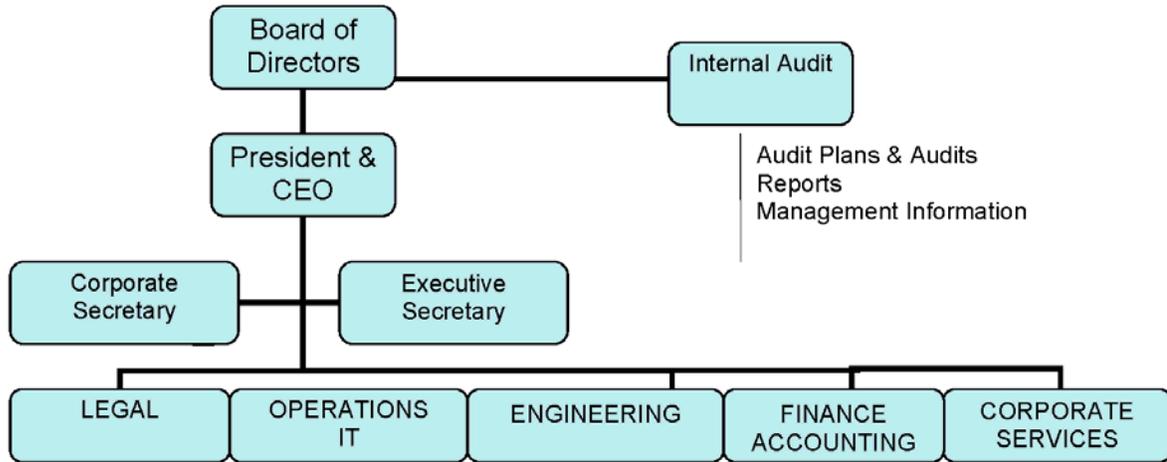


Figure 3.3 Executive/Administrative Organizational Chart

Due to the geographical diversity of QEC, the regional organization currently in place is the recommended structure for the Operations area. Care needs to be exercised so that each region does not become over staffed. This may be accomplished by methods such as cross training personnel for other essential functions, and comparing the costs of travel to additional personnel at each location.

The Engineering organization structure seems reasonable at this time.

Recommendation

Adjustments to the organizational structure should be considered, consistent with accepted electricity organizational practice and QEC's mandate to increase the effectiveness of personnel and reporting relationships.

3.5 Short and Long-Term Planning Cycles

Many stakeholders, including the GN and QEC management, recognize that future planning, particularly long-term planning is key to long-term success. This has not always taken place due to the pressure of day-to-day management activities as QEC began operations, compounded by the lack of a stable and adequate revenue stream.

QEC requires a long-term (10-20 year) Corporate plan. This should optimally be developed in conjunction with a Nunavut Energy Policy so that the plan reflects the long-term energy goals and objectives of the GN. The Corporate plan would then form the basis for long-term business decisions in the areas of finance, engineering, capital projects and operations. A long term integrated financial forecast, including capital requirements, should also be developed as part of this process.

The Company is already working towards this. The preparation of 2005-2006 and 2006-2007 Corporate plans, financial forecasts and the recent five year capital projection are all positive steps.

Short and long-term plans are also addressed within the financial and human resources sections of this report.

Recommendations

QEC should continue to develop short-term three to five year business plans and capital projections

Priority should be given to developing a long-term Corporate plan. This plan should be developed in conjunction with a Nunavut Energy Policy incorporating long-term GN goals and objectives

4.0 Regulation and Regulatory Compliance

4.1 Reporting Requirements

The Corporation is required to report to the GN on a number of matters. These include the following:

In accordance with the Qulliq Energy Corporation Act:

- The Corporation shall, within three months after the end of the fiscal year, prepare a report on the preceding fiscal year in accordance with the Financial Administration Act for submission to the Minister.
- An application to the Minister is required for an order giving permission for the undertaking of a major capital project - where a major capital project is defined as one that exceeds \$5,000,000.

Under the Utility Rates Review Council Act:

- A request to impose a rate or tariff, including an amendment to an existing rate or tariff, shall be made in writing to the appropriate Minister and referred to the URRC.

Other Reports to the Minister:

- It is anticipated that the Minister of Energy will provide the Corporation with an annual Letter of Expectation spelling out the Minister's expectations of the Corporation for the coming year. The Corporation is required to provide reports to the Minister pursuant to this annual letter.
- A three year business plan (2007-2010). This is the first time that a business plan has been required to be filed
- An annual operating budget and an annual capital budget of the Corporation – within thirty days of their approval by the Board of Directors
- A report on planning and implementation of the current year's capital program
- An annual long term energy supply plan
- All schedules and working papers prepared for use in the preparation of the annual audit
- Any observations, recommendations, or conclusions arising from the annual audit.
- Annual rates and subsidies forecast setting out the rate base, the rates, the rate structure and the revenue requirements of the Corporation.

In addition to the above, there are reporting requirements under the Financial Administration Act which are not listed in this report.

Given the Corporation's close relationship and reliance on the GN, the above reporting requirements seem reasonable. It was pointed out to the Study Team that there is no requirement for regular reports to be submitted to the URRC. This seems reasonable under the circumstances pertaining to QEC. However, there should be some mechanism within the GN to assist the Minister in following up on Ministerial directives. The mandate of the Crown Agency Council permits that body to act as a monitor, reviewing the relationship with the Minister and the GN generally. This should include an on-going informal monthly dialogue as well as discussion of key reports and documents.

Recommendation

A clear delineation of Minister/GN/URRC reporting requirements should be developed in cooperation with all parties involved.

4.2 Customer Expectations - Regulatory

Customers and stakeholders expressed a desire for a regulatory and hearing process which would include the following attributes:

- Transparency
- Accurate information
- Quicker response to information requests
- More customer consultation prior to filing rate applications
- An allowance for intervener funding
- Broader jurisdiction for URRC

4.3 URRC Expectations - Regulatory

Discussions with the consultant to the URRC indicated that the URRC's greatest concern is its perception of a lack of regulatory knowledge and experience of QEC staff. To support this they stated that:

- The 2004 GRA application was inadequate in many areas
- The request for a major rate change in terms of both the amount and equalized (postage stamp) rates had not been communicated to customers or stakeholders prior to filing the application
- Concerns related to staffing levels, overtime, travel costs and billing issues as expressed in the GRA report should be addressed by QEC management
- The onus is on QEC to provide timely and correct information

URRC Expectation:

The expectation of the URRC is that QEC will develop skills in the regulatory process and that the issues and concerns listed above will be addressed and rectified. Information provided will be accurate, timely and all actions and activities will be transparent.

CMC recognizes that QEC's 2004 GRA and the subsequent hearing was the first of its kind before the URRC. While agreeing with many of the concerns expressed by stakeholders and the URRC, based on our review of the Corporation and its current management, CMC is confident that much has been learned from the experience of the previous GRA, and that future applications will be better prepared and presented.

To accomplish this, QEC should designate a senior manager to be responsible for regulatory matters and coordinate the dialogue between QEC and the URRC. This person should receive additional training in regulatory affairs through attendance at short courses and conferences.

Recommendation

QEC should designate, develop and train a senior manager with responsibility for the co-ordination of all aspects of the regulatory process.

4.4 Rate Setting Process

Some stakeholders suggested that the greatest difficulty in the rate setting process is the limited time of 90 days which the URRC has to review an application, conduct hearings and provide a report to the Minister. It should be noted that under the URRC Act, the Minister can extend the review and report time as is deemed necessary.

A concern with the 2004 GRA is that it appeared to become somewhat adversarial between the URRC, stakeholders and the Corporation. This may have resulted because the information provided with the application was not complete and/or contained inaccurate or inconsistent information. This is a risk in any regulatory process. It requires good information from the applicant, good attention to the process and good management by the regulator to avoid this becoming the dominant approach to the issues under review.

Also, for the URRC to comply with the timeframe set out in the Act, good advance consultation and planning with all parties on the processes and issues anticipated is essential for the applicant, regulator, and other participants. Timely questions and responses are facilitated by advance notice and planning, and effective information exchange processes. The fact that the process became somewhat adversarial is regrettable, particularly in the case of a new utility facing significant challenges and stakeholders operating in a northern environment under difficult conditions.

There has to be greater understanding and cooperation between all the parties involved. It is suggested that this could best be accomplished by the URRC developing, in conjunction with QEC management, Minimum Filing Requirements (MFR's) for major rate applications. The MFR's should be detailed and should address Phase I (Revenue Requirement) and Phase II (Cost Allocation and Rate Design) issues. The adoption of MFR's should reduce the number of additional information requests necessary and thus the time required for the rate setting process.

Additional efficiencies can be achieved by adopting a series of procedures and processes. In the first instance, prior to or in conjunction with filing an application, the content and distribution of a public notice as well as a tentative schedule for various elements of the process should be suggested by QEC and adopted by the URRC. The schedule should allow for a pre-hearing conference, confirming schedules and approving a list of interveners and participants. Appropriate time frames for information requests and responses, hearing schedule and timing of the report to the Minister would be formalized among these parties. Additionally, depending upon the complexity of an application, a technical conference should be considered where QEC staff would explain the details to identified participants and URRC consultants.

Pre-hearing negotiations that may be used to reach agreement on issues that traditionally would be examined at a public hearing should be considered. The settlement of issues can significantly

reduce hearing time and costs. The effectiveness of this approach depends on the participation of representatives of all significant customer interests.

Finally, it is imperative that a revenue requirement, which captures all of the reasonable costs of the utility, as well as a return, be determined and rates established to generate this revenue. This is critical to the development of long-term planning for the Corporation. It is also critical to develop an understanding among stakeholders and customers of the true cost of operating the utility. The current practice of permitting deficits and equity losses to develop due to low revenue, and then attempting to remedy those losses with cash injections, is not financially sound and does not promote accountability.

Accountability and effective planning require adequate rates to recover approved costs. Concerns over consumer ability to pay need to be addressed through effective subsidy decisions.

Recommendations

The 90 day limit from filing of applications to issuance of a report to the Minister should be reviewed for each application and be extended as circumstances dictate or the parties are able to jointly recommend.

Consideration should be given to refining the regulatory process through jointly developed practices and procedures to include a pre-hearing conference, minimum filing requirements, a technical conference, as appropriate, and a form of negotiated settlement option.

Rate design must ensure that the rate structure and the individual rates recover an approved revenue requirement based on a reasonable customer cost allocation prior to any customer subsidies

Given current operational and future capital requirements, immediate financial relief is critical

4.5 Subsidy Setting Process

The subsidy setting process is managed by the GN Department of Finance, in accordance with Government policy and in consultation with QEC. Subsidies are provided for the following classes of customers:

- For all individual residential customers responsible for paying their own bills, a subsidy equal to 50% of the Iqaluit Power Base Rate, payable by GN to QEC up to fixed seasonal limits.
- Support to small businesses generating less than \$2 million in annual gross revenue
- A subsidy to Public Housing customers to reduce their rate to \$0.06 per Kwh.

It is important that the subsidies be transparent i.e. all parties understand the basis for and calculation of the various subsidies. In our opinion, the subsidy program should be determined once the revenue requirement has been established as described above. This revenue requirement would be recovered by applying rates to customer classes based on a cost of service study. The true cost of providing electrical service must be clear to all customers.

Only through gaining this understanding, will customers appreciate the full cost of providing electricity and become more amenable to conserving energy through demand side management conservation and education programs.

If the full cost of service is recovered through rates there will be no continuing long-term need for the GN to make ad hoc payments to QEC to cover operating losses. This practice obscures the true cost of operating the utility. Financing of major projects such as a small hydro facility will required innovative solutions and stakeholders should be involved in this type of consideration in addition to QEC and the GN.

Recommendations

In establishing customer subsidies, the GN should ensure that the subsidies address the gap between the approved revenue requirement and the customers' ability to pay.

Please note that the subsidy process is not part of the URRC mandate.

5.0 Government and QEC Policies and Procedures

5.1 QEC Participation and Impact – Energy Policy

The Letter of Expectation from the Minister refers to the development of a comprehensive GN energy strategy. As QEC is the major player in the energy sector in Nunavut, it is important that the Corporation have a strong voice in its development. Although the Ikuma report refers to an Energy Directorate within the GN, this is still in the formative stage and it is understood that there is no body within the GN dealing with energy issues.

CMC agrees that an energy strategy for Nunavut should be developed on a priority basis and that QEC is in the best position to lead the drafting of such a strategy. This being the case, QEC should take the lead role. However, this will be an onerous undertaking, going far beyond the role of a simple Energy Strategy Committee member. In the interest of fairness to QEC and its customers, the Corporation should be reimbursed for its time and expenses incurred in leading this exercise.

5.2 Government Energy Policy

As described above, it is understood that the GN currently has no formal comprehensive energy policy.

Recommendation

QEC should take the lead in the development of a Nunavut Energy Policy and be reimbursed for the cost of developing this policy. The policy should be funded by the GN and developed in 2006-2007 leading to a complementary QEC long-term Corporate plan.

5.3 QEC Policies and Procedures

A set of policies and procedures was developed by Nunavut Power Corporation (NPC), however these were suspended by the QEC Board pending a review. As a result, QEC has very few formalized policies and procedures in place. A review of a list of policies and procedures under development, as provided to CMC by QEC, indicates a wide range of documents which need to be put in place. A review of the policies and procedures of another electrical utility confirmed the very wide range of documents required by an operating utility.

Recommendation

QEC needs to accelerate the development, review and approval of operational policies to ensure consistency across functional areas and regions

5.4 GN as Customer

The GN should be considered as being a customer in exactly the same manner as all other customers. The GN should pay the full cost of service to QEC, with a subsidy being paid to the GN as a customer in an identical manner to all other customers. No distinction should be made between the GN and other customers of the same customer class.

5.5 GN as Shareholder

The GN, as the sole shareholder, should establish the framework for the long-term operation of QEC. QEC should then be given the autonomy to implement the corporate goals and objectives and take responsibility for the success or failure of their implementation. The GN should continue to guarantee the capital borrowing of QEC and at some future time a reasonable fee could be charged this service. The GN should continue to work with QEC, stakeholders and the Federal government to explore ways to finance major capital projects which are in the long-term interest of the Corporation.

The GN should expect QEC to earn an approved revenue requirement, including a rate of return, which would service debt and provide funding for future capital projects. The Corporation should finance capital projects using conventional short and long-term borrowing over a period of years.

The Letter of Expectation from the Minister directs the QEC to lead the development of an energy strategy for Nunavut. It is agreed that QEC is the logical organization to develop this strategy. This strategy should be developed in 2006 - 2007 as it will provide guidance to QEC in developing a long-term Corporate plan.

It is noted that the transfer of information from QEC to the working level of the GN follows a complex and time consuming route, with information often being outdated by the time it is received. This procedure for transferring information should be simplified.

Recommendations

The process for transferring information from QEC to the working level of the GN should be streamlined

QEC should continue to work with the GN, the Federal Government and stakeholders to explore means of financing major capital projects

6.0 Performance Measurement and Benchmarking

Performance measurement is generally related to five major categories, financial, operational safety, operational reliability, operational plant efficiency and customer service. The level of performance in these areas leads to the degree of customer satisfaction with a utility.

Benchmarking refers to the establishment of long-term targets for performance, by type and numerical measure and creates a base in the existing operation, against which to measure actual future performance and to analyze year-to-year performance trends. A specific utility's performance measures can be compared to other like utilities. However, it is imperative that such comparisons recognize that each utility's operating circumstances and geographic location, in addition to corporate goals and objectives are unique. This is especially relevant for QEC because of its relatively short history, and because other comparable "like" utilities are extremely limited in Canada and North America.

QEC formally commenced operations as a separate entity on April 1, 2001. Since that time, QEC has continued to grow and evolve as a utility. QEC underwent a significant transition and unstable period after its division from NTPC. This transition included acquisition of personnel, division of assets, establishment of head office, legislative changes and developing objectives. To its credit, QEC has survived the "growing pains", and in the last few years has made progress in many areas, including the measurement of performance.

6.1 Peer Group Definition

QEC relies almost totally on diesel generation and power distribution for each of 25 communities, and each community is remote and isolated from others. QEC's customer base in the communities ranges from very small communities to the larger municipalities such as Rankin Inlet and Iqaluit, but each community requires and receives an acceptable level of service. These unique factors make it difficult to identify Peer Group companies that QEC can use for comparative purposes with respect to performance measurement and benchmarking.

In October of 2005, the Canadian Off Grid Utilities Association ("COGUA") was formed. QEC is one of seven founding member utilities. The other members are Hydro One Remote Communities, Manitoba Hydro, Hydro Quebec, Newfoundland and Labrador Hydro, NTPC and BC Hydro (non integrated areas). A subcommittee is currently reviewing issues surrounding performance and benchmarking. At present it seems logical that QEC utilize the COGUA members as the peer group. We caution however, that there will still be significant operating and policy differences which must be factored into any conclusions to be drawn from such comparisons. Examples of these are the limited window that exists for shipping materials to the

various communities, and the short construction season as well as the requirements of the Nunavut Land Claim.

6.2 Preliminary Performance Comparisons

Currently, QEC has statistical data regarding operations for system reliability, system safety and operational plant efficiency. The comparisons to industry wide standards, and recommendations related to benchmarking and future activities are contained in the relevant sections of this report. Data is either not currently available or requires reformatting with respect to the Financial and Customer Service performance measures. Financial key performance indicators should include percent return on equity, debt to capital ratio, and interest covenants.

As discussed under the Customer Service Section of this report, QEC does not currently track customer complaints nor are processes for handling and disposing of complaints tracked or documented. Some of the respondents to the Customer Survey, as well as parties interviewed, indicated that lack of timely responses to complaints or any follow-up was a concern. Because of the scarcity of information, no preliminary measures are available for this area.

The Corporation has a system for tracking customer concerns and complaints territory-wide which it plans to make operational April 1, 2006. While this is a valuable advance, a data-base or tracking system alone will not respond to customer concerns. Procedures need to be developed and documented to track the number of all types of complaints, recurring complaints, as well as procedures for investigation and resolution of customer concerns. Key indicators can be developed to arrive at a Customer Satisfaction Index that measures the customers overall perception of the management and operation of the utility.

6.3 Establishing Performance Targets

Initial key indicators will serve as benchmarks for measuring performance improvement internally and for comparison against the Peer Groups. Benchmarks currently are available in the three operational areas. As mentioned above, the COGUA subcommittee is reviewing the establishment of key indicators and benchmarks for all aspects of off grid utility functional areas including customer satisfaction indices. As well, key indicators will have to be developed to measure customer satisfaction. Types of data that should be tracked and used for indicators include billing errors. Other data that should be tracked include elapsed time from customer billing to payment, number and type of complaints, frequency of like complaints, response time to complaints, frequency of subsequent calls for initial complaints, customer requests for service, number of disconnections, level of bad debt, and number of delinquent accounts.

Once key indicators have been identified, targets, based on industry norms, must be established as well as a time frame in which those targets are to be achieved. While targets should reflect industry norms, QEC's targets must recognize QEC's uniqueness in all areas of its operation. Targets will likely evolve over time as the nature of the operation is changed and as the utility gains more experience.

6.4 Reporting Performance Measures

Performance measures should be reported in the Annual Report. The reports should include actual results for the year, relative to the existing benchmark and established targets. Historical data should be included, as it becomes available, to establish trends favourable or otherwise, in the Corporation's performance.

With respect to Peer Groups, reports should include up to date data, including current year results and comparative trend analysis for QEC's divisions, relative to the Peer Groups. Any special or unique circumstances that may have influenced any measurement in any given year should also be included in the reports

6.5 Continuous Improvement

Once key indicators are finalized and benchmarks established, a continuous improvement process to achieve the targets should result. This can only occur if the targets are realistic, and the anticipated time frame for achieving these targets is reasonable. It will not be unusual to see certain areas that show no improvement in any given year for a number of reasons. Key performance indicators as well as targets may have to be reviewed and revised as the Corporation gains more experience. Once realistic targets are achieved, the challenge will be to maintain that level of efficiency and to ensure that complacency does not occur.

Performance measurement and benchmarking should be used to identify, quantify and prioritize improvement opportunities offering the greatest potential return, and the results will highlight those areas at risk because of inadequate resource availability.

Recommendations

QEC should use the membership in COGUA as the Peer group while recognizing the uniqueness of QEC's operations

QEC should continue to contribute as a member of COGUA in the development and documentation of appropriate financial performance measures.

QEC should develop, track and monitor various customer-related statistics to formulate and document key indicators, performance measures and targets related to overall customer satisfaction with QEC's operations

Internal performance measures as well as results of comparisons with Peer Groups should be included in the Annual Report

Key indicators, benchmarks and targets should be periodically reviewed and updated internally and in conjunction with COGUA to reflect all changes in operating or other circumstances

7.0 Executive Functions

7.1 President and Chief Executive Officer

The President and Chief Executive Officer (CEO) is responsible for the overall operation of the Corporation. Recommended by the QEC Board and appointed by the Minister, the CEO initiates and advances management activities, coordinating work to further corporate goals and GN mandates.

The current CEO has been in place for a period of fifteen months during which time QEC and its senior management have made significant progress in the development of a well run, financially stable utility.

The CEO currently has a large number of department Directors and other senior staff reporting to her. This is understandable in the case of QEC where a relatively new CEO is attempting to gain an understanding of all operations of the Corporation.

Given the improvement in the management and operation of the QEC over the past year, it is recommended that the Executive Organization be modified to reflect a more normal utility operation. This will give the President and CEO more time to concentrate on long-term planning and the goals and objectives of the organization.

7.2 Senior Management Functions

This review involved meetings with each of the Directors in the areas of Engineering, Operations and IT, Finance and Human Resources. Based on these meetings, it is the opinion of the study team that each of these managers is capable and doing a credible job. Recommendations have been made elsewhere in this report, pertaining to each of the above areas, which should assist Managers in carrying out their responsibilities and providing an enhanced service to the Company and its customers.

As noted in Section 3, recommendations have been made with respect to the organizational structure which should assist Directors and managers in their day to day operations.

7.3 Board Function and Support

In reviewing the Board Function and support, CMC met with Anne Crawford, President and CEO, Colin Low A Chee, Board Member and Chair of the External Review Team and by telephone with Board Chair, Simon Merkosak. The QEC Act allows for a Board of up to ten members with staggered terms. Currently there are eight members with varied backgrounds, including previous experience with electrical utility Boards, utility management and operations, accounting, business, engineering and construction. There is also a member retired from a stakeholder company. The GN deserves credit for establishing a Board with a high degree of pertinent talent.

We reviewed the orientation material that is provided to new Board members and found it to be comprehensive. We understand that members also receive documentation with regard to the role and responsibilities of Directors. This material should be used to develop a permanent manual.

The Board meets quarterly and has established three Committees which meet on a regular basis as required.

We note that the terms of the Directors are not staggered. We recommend that the GN establish staggered terms at their earliest opportunity.

Recommendations

The GN should establish staggered terms for Directors at the earliest opportunity to ensure a degree of continuity

A comprehensive Director's manual should be developed based on existing orientation materials.

7.4 Legal Services

The Corporation employs a full time legal counsel, seconded from the GN. CMC's utility organization experts have noted elsewhere in this report that often in a company of this size consulting legal services are retained on an as required basis rather than having a full time lawyer on staff. However, it is noted that QEC's legal counsel's responsibilities range beyond the scope of the usual utility related legal advisory services. These responsibilities include contract drafting and interpretation, leasing and tendering issues, grievances and arbitrations, billing disputes, collections from customers, land claims obligations, licencing processes, electrical code and GN legislative initiatives. These duties require the services of a lawyer to an extent that in-house counsel is likely more responsive and cost effective than legal consulting services.

In any event, aside from the high quality of legal advice currently received, there is limited availability of private legal services in Nunavut.

7.5 Internal Audit

This position reports to the QEC Audit Committee. The internal auditor develops a relationship with the Office of the Auditor General and the GN audit section. The incumbent proposes and develops audit plans in conjunction with the Board, conducts audits, prepares reports and reviews these with managers and committee members with the objective of advancing corporate goals through effective access to management information and analysis.

Given the concerns raised in the annual audit by the Auditor's General department as well as by stakeholders, the internal audit function is extremely important to QEC. The organization charts provided for QEC's consideration show the internal auditor continuing to report directly to the Board of Directors. This should assist in mitigating some stakeholder concerns.

7.6 Communications

Communication is an extremely important function in any utility, but particularly so with QEC which has two principal offices, three regional centres and serves 25 widespread communities. Communication covers both internal communications with management and employees and external communication with customers and other stakeholders.

The one communications staff person identifies and responds to corporate issues or activities with the media, identifies and plans public information responses related to outages, new programs, appointments, financial and other items of interest. This position is also responsible for developing and distributing safety, conservation and demand side management materials as well as preparing presentations.

Concerns were raised by stakeholders with respect to internal as well as external communication. Externally, stakeholders have expressed concern with regard to consultation. They noted however, that communication has improved over the past year subsequent to a series of meetings with the CEO. They are hopeful that this improved communication will continue into the future.

Internal communication with the staff and management is equally as important. Senior managers noted the positive effects of management meetings which are held every week and the evolving roll out to regional managers and staff. It is also noted that the President communicates electronically with employees regarding all major issues and events.

Recommendations

QEC should continue with and enhance its external and internal communication programs targeting customers, stakeholders, management, staff, the URRC and the GN. This is especially important given QEC's structure of two regional offices, three regional centres and twenty five widespread service areas.

8.0 Customer Service Function

8.1 Customer Relations Management

Previously customer complaints were routed to an area officer located in each of the three regions. Recently a 1 – 800 number has been put in place and all calls are now received in Baker Lake. This number has been advertised on each customer bill and on the web site so that almost all complaints are now received or routed via this 1– 800 number. Most complaints involve customer billing and these are routed to the billing clerk responsible for the customer's community. Calls which are beyond the scope of the billing clerk or which cannot be easily resolved are forwarded to the manager for handling and resolution.

While billing errors have been raised as a concern by several customers and stakeholders, QEC management stated that most complaints simply require an explanation and in most cases the complaint can be amicably resolved. QEC has recently installed new billing software and management indicates that billing problems and customer concerns are decreasing.

It is noted that some stakeholders expressed concern with system reliability and the timely overhaul or replacement of generation plant. Other customers complained about system reliability in response to the survey. In terms of frequency, most customer service complaints are filed simply by a call to the local operator, while some customers will call the regional office. A lesser number of customers will call the Baker Lake 1– 800 number.

QEC is in the process of implementing a customer complaints handling system to keep track of the number and type of complaints received by community and their resolution. This system is planned to begin use April 1, 2006 and will enable QEC to develop a data base indicating where the complaint came from, the reason for the complaint and the timeliness of resolution, thus providing an accurate overall picture of the nature and location of customer complaints. CMC understands that a temporary system was recently put in place using Excel spreadsheets.

Recommendation

QEC should ensure that a permanent customer complaint handling system is in place by the fall of 2006.

8.2 Terms and Conditions of Service Delivery

The terms and conditions of service delivery have been reviewed and found to be consistent with other utilities. It is noted that electricity is not cut off to delinquent customers in winter but load limiters are placed on the system. This is a fair way to deal with these customers.

8.3 Billing Process

The billing process begins with Customer Service preparing a meter read sheet for each customer. This is a more onerous function than is usual for most utilities because of the impact of transient customers. These meter sheets are then sent to the Operator in each community. The Operator and/or Assistant Operator read the meters and fax the readings back to Baker Lake. The readings are entered into a computer that identifies readings which appear to be unreasonable. These questionable reading records are returned to the Community for rereading and resubmission. The revenue manager then posts all meter readings into the computer system

Bills are then printed and sent in bulk to communities where they are mailed to the customers in each community.

As mentioned above, a number of real or perceived billing errors were raised by customers and stakeholders as a serious concern. QEC management stated that in most cases the bills, after further examination, can be shown to be correct and that the question or issue can typically be explained to the customer and the situation resolved. While billing errors appear to be reducing, largely as a result of the new billing system now in place and the work of the staff in Baker Lake, billing remains a consistent customer concern.

The customer complaint system currently being implemented will enable QEC to identify and catalogue the type, location by community and the resolution of billing concerns brought to their attention thus reducing billing complaints over time. QEC should also engage in its own quality control survey, sampling and testing billing at quarterly intervals.

Recommendations

QEC should conduct further reviews to ensure that the new billing system as well as the customer complaint system currently being installed are operating effectively.

8.5 Collections Process

Collections are the responsibility of the Baker Lake office with the assistance of three individuals, one in Iqaluit responsible for the Baffin Region, one in Cambridge Bay responsible for the Kitikmeot Region and one in Baker Lake responsible for the Kivalliq region.

Payment of accounts can be made in the following ways:

- At the regional or community office by cash, cheque or credit card
- At most Northwest Company or Arctic Coop Stores by cash or debit card
- Phone 1 – 800 number with credit card information
- Those with internet access can pay online through a financial institution
- Outstanding amounts can be automatically deducted by QEC from a credit card

There are no banks or other financial institutions in Baker Lake and cheques usually are forwarded to Yellowknife or Calgary to be cleared. This takes at least a month before the deduction is posted to the customers account.

In discussion with stakeholders and from the customer survey it is clear that some concerns with timely processing of payments remain. This is compounded by the fact that Baker Lake, where QEC personnel process 16,000 transactions per month does not have banking services, such that even after payment of the bill, the amount paid takes a long time to clear the customer's account.

While no statistics were provided with regard to the magnitude of uncollected accounts, QEC indicated that generally all customers in Nunavut ultimately pay their bills. A problem exists with regard to the number of transient people who move out of Nunavut each year leaving unpaid electricity bills. QEC estimates that this may be as high as 20-30% of all customers. Currently, QEC does not use a collection agency to collect these accounts, thus for the most part, they remain uncollected.

Recommendations

QEC should reinforce its efforts to ensure that bills are issued on a timely basis. If bills are issued on a cyclical basis, this should be explained from time to time in bill stuffers. A bill stuffer explaining the complete billing and collection process should be considered.

QEC should commence a dialogue with its customers to encourage bill payments by means other than cheques using one of the payment options listed above.

QEC should consider retaining a collection agency to collect the accounts of transient customers

9.0 Human Resources Function

Following is a summary of the Human Resources Function report which highlights the recommendations for enhancing the performance of the Human Resources department at QEC from the perspective of eight functional areas.

In addition to these eight functional areas, Section 9.9 identifies general recommendations with respect to other issues with Human Resource implications.

9.1 Staffing Levels and Requirements Across the Company

Assessment:

Increase in staff is justified, as the new company was established and the corresponding need for autonomous operations was created. It was a GN decision to decentralize QEC operations to Baker Lake. Comparing the staffing levels at QEC to other electric utilities operating in different environments is difficult because of the geographic isolation of the various communities. The most appropriate comparators will be other off-grid utilities. NTPC and Yukon Energy operate under similar conditions but with fewer communities and customers served by diesel fired generation.

Staffing levels in the HR department are adequate for a well established company, but QEC is a new company with many developmental requirements and a mandate to develop a representative work force.

Many programs, practices and procedures have not been documented because work in this Division tends to focus on day to day human resource management issues requiring immediate attention.

The number and cost of staff is also a function of the operating environment. Government policy dictates hiring practice. Experienced staff are required to mentor new or developing employees, which can detract from their focus on higher level activities such as policy and strategy development.

Recommendations:

QEC should:

- *Continue to work with COGUA in establishing benchmarks for staffing off grid utilities.*
- *Document and standardize processes to confirm that staff additions are fully scrutinized with justification and cost/benefit information.*
- *Track changes in EFT's from year to year and analyze result. Track and measure turnover from year to year and review causes.*

- *Hire for vacant Payroll and Compensation Administrator position to allow HR Director to work on policy development and strategy issues.*
- *Consider hiring a labour relations specialist (two year term) to establish labour relations practices and procedures, administer collective agreement provisions and address grievance and arbitration matters.*

9.2 Skill Levels and Requirements Across the Company

Assessment:

Changes and turnover in senior leadership positions since the company formation has made strategy and policy setting difficult. More recently stability at the most senior levels of the company will contribute to clearer long term direction as well as more direct communication of short term company and employee performance priorities.

Existing training and mentoring approaches in both the Line Trade and Plant Superintendent occupations appear sound.

As stated earlier in this section, challenges exist with respect to the beneficiary hiring commitments. Although mentoring relationships are in place, specific and measurable outcomes of each relationship are not apparent.

Clearly articulated job descriptions which should identify required knowledge, skill, and experience levels are lacking on a consistent basis. To date approximately 30% of positions have accompanying job descriptions, and this is increasing as current practice does not permit a position to be filled unless a Job Description is provided to Human Resources.

No structured skill inventory is in place to gauge the existing bench strength of key positions.

Recommendations:

QEC should develop a specific annual agreement with each mentor and mentee that articulates current skill or knowledge level, required skill or knowledge level, and specific activities, experience, or learning outcomes.

Directors should be responsible for ensuring 100% compliance in completion of Performance Appraisal. Appraisals should include a specific annual development plan that identifies current skill, knowledge or performance gaps and plans to address those gaps.

The Directors should be responsible for completion of the documentation of all job descriptions to clearly articulate the education, skill, and experience requirements of all company positions.

Each Director should conduct an occupational skills audit which would identify the current and desired state with respect to workforce skill levels required today and into the future. This audit would then be an input into the annual training requirements addressed in the following Section 9.3

9.3 Training Requirements

Assessment:

Other than the apprenticeship and plant superintendent training programs it is not clear how individual training requirements are identified or planned. Commitment to the Performance Appraisal system for both union and Management positions and its use in Developmental Planning is inconsistent at best.

The decentralized accountability and responsibility for training and related expenditures makes it difficult to set and manage corporate priorities.

The total budget of \$919,415 or approximate \$6,000/employee or 5.8% of payroll is certainly high when compared to Canadian or international benchmarks where best in class companies are reporting \$1500-\$2000/employee and 2% of payroll. Actuals are significantly below QEC budgeted levels. Certainly the uniqueness of QEC in terms of additional travel and accommodation requirements needs to be considered. However, it is not clear that those additional costs contribute to this difference. This should be compared with other northern employers in the public and private sectors.

The leadership and management skill requirements of any new venture are critical in defining the strategy, responsibility, and accountability models to be deployed. Although senior management has access to training opportunities, no formal leadership development program seems to be in place to assess and/or build the required leadership talent.

Recommendations:

As stated earlier, Directors should be responsible for ensuring 100% compliance in completion of Performance Appraisals. Appraisals should include a specific annual development plan that identifies current skill, knowledge or performance gaps and training plans to address those gaps.

Directors should be responsible for developing an Annual Training Plan with financial forecasts to be submitted to the President and CEO and to be reviewed by the senior management team for priority setting.

All training requiring travel outside of Nunavut should continue to be approved by the President.

QEC should:

- Develop and/or purchase a Corporate Training Record Keeping system to centralize the tracking of training activity and correlate with the training expenditures captured in the current financial system.*
- Develop an annual individual Leadership Development Plan for each member of the senior management team to be approved by the President and CEO.*
- Maximize distance learning and computer-based instruction to compensate for high travel and accommodation costs.*

9.4 Recruiting Processes

Assessment:

The recruitment process currently being applied is derived from the NTPC policy on Recruitment and Appointment. This policy is available to all hiring supervisors as a guideline for internal and external competitions. This is a very sound policy document. Formal policies and procedures customized for QEC have yet to be developed. Most interviews are conducted over the telephone, as personal contact usually involves significant travel expense. The HR Director is involved when senior positions are being recruited. Interviews are normally conducted by a panel of two or three employees. An HR representative is typically involved in all hiring activities except for assistant operators.

The procedure for establishing interview questions is well established and an excellent format exists to facilitate this process. Questions include a good variety of technical, interpersonal and practical.

The corporation has not experienced difficulty in attracting employees in occupations such as operators, engineers, accountants, electrical trades and technicians.

There have been difficulties attracting employees in the line trades and diesel mechanics. QEC is developing these trades internally through apprenticeships but this must occur over a number of years.

Recommendations:

QEC should:

- *Customize and document the recruitment process for the needs of QEC, and communicate to line management. Conduct training sessions or workshops, if required, or educate staff via computer based training (CBT's).*
- *Develop an employment strategy for the recruitment of external candidates. For example, target markets could be established as locals, empty nesters, immigrants (from northern European countries) and candidates from eastern Canada where unemployment rates tends to be higher and communities are smaller and more isolated.*

Current job descriptions are required as a basis for recruitment activities. Selection criteria are derived from information on the job descriptions. QEC should continue to require current job descriptions to be supplied prior to initiating the recruitment process.

QEC should include additional behaviour based interview questions to assess performance based on actual past demonstrated behaviours versus hypothetical future: what would you do if "questions".

QEC should track retention rates, the number of external hires and the number of employees promoted from within the corporation annually.

9.5 Compensation and Classification

Assessment:

Payroll increased during the first years of the corporation because of the hiring of employees in billings, accounting and managerial functions, and because of the early use of contractors and consultants who were subsequently replaced by employees. This trend levelled off and salaries have actually declined in the most recent financial statements years.

Payroll has also been impacted due to the quality of employees recruited to the organization. The need for increased skill levels requires competitive compensation levels.

Salaries identified in the salary grid are not significantly higher than salaries paid at other electric utilities in Canada and in fact, for senior positions, are somewhat lower. This is likely due to the size and scope of other utility companies, which tend to be much larger. The planned job evaluation project will likely address these issues, including market factors.

Recommendations:

QEC should:

- *Document a corporate compensation philosophy. This should establish what the corporate goals are related to paying employees, describe what compensation is, establish desired competitive positioning in the marketplace, address cash and non cash items and establish appropriate comparator groups for benchmarking purposes.*
- *Track aggregated year to year benefit cost changes and the benefit costs per employee. If required, implement appropriate measures to contain employee benefit costs.*
- *Document a corporate benefit strategy. This would include identifying objectives related to design, cost (for example, as a percentage of payroll), administration and communication. The scope of what is considered an employee benefit should also be defined.*
- *Continue pursuing the goal of establishing a job evaluation system. Establish job descriptions for all jobs at QEC, starting with the senior jobs.*
- *Reinstate an incentive compensation scheme for senior positions. This program should be carefully linked to desired behaviours/results and should be designed to include components for individual and corporate performance. Performance objectives should be SMART (specific, measurable, attainable, relevant and trackable).*
- *Continue to use an employee benefit consultant to negotiate cost changes with carriers. Require this company or the benefit carriers themselves to provide an annual presentation to review relevant benefit information and information on future trends and cost implications.*
- *Benchmark total compensation levels for senior positions with the member utilities of COGUA, most notably NTPC.*

9.6 Employee Housing

Assessment:

The corporation provides housing in accordance with its Employee Housing Policy and the Revenue Canada guidelines for Northern Benefits. Some units are owned by QEC and some are leased. The cost of housing an employee represents a significant investment.

It appears that available and reasonably priced housing is crucial to the attraction and retention of staff in Nunavut. Nunavut currently does not have a market environment with affordable housing options. The average per employee cost of \$11,300 is significant.

There are no guidelines in place for employees who elect to own their homes, and the corporation has not taken active step to support this cost saving option.

Recommendations:

QEC retain the current employee housing policy in place at QEC, while closely monitoring financial impacts.

QEC develop positive approaches to support employees who elect home ownership.

9.7 Inuit Employment

Assessment:

At current levels of beneficiary employment (53% at June 2005) Qulliq Energy ranks among the most successful government institutions in supporting and retaining beneficiary employees, but it is still significantly below the target participation levels, and below the levels demonstrated in some well run business and service organizations across the territory.

The majority of the beneficiaries employed by the Corporation work in the Baker Lake head office and the community plants outside the regional centres. Of the beneficiaries employed in Baker Lake, none are in excluded or management positions. The Corporation uses mentoring and training positions to provide the opportunity for beneficiaries to move into management positions in the future. Mentoring programs result in a significant duplication of costs early in the program and at least a partial duplication of costs on an on-going basis.

QEC does have Inuit electricians and since 2001 have been very active with 4 linesmen apprentices, 4 diesel mechanic apprentices, 1 electrician who is now a journeyman, 1 warehousing (part) apprentice and accounting interns. QEC also has 4 new apprentice linesmen approved for April 2006 start ups.

The proposed beneficiary employment rate was supported by an Apprentice Budget included in the GRA and the response to URRC IR #3. The Corporation consistently promotes Inuit employment through a variety of measures consistent with the financial benefits of local hiring and its responsibilities as a progressive employer.

Despite the recent efforts however, the long-term ability to achieve the staffing levels mandated in Article 23 of the Nunavut Land Claims Agreement will depend upon Qulliq Energy establishing specific and measurable action plans with respect to recruiting and training skilled staff. The GN initially required a 2004-2009 IEP plan be submitted, however that has been changed to the requirement for a 2005-2010 plan. This plan has not yet been submitted by QEC.

Recommendations:

QEC should contact successful business and service organizations across the territory to identify relevant practices that have been successful, and implement those practices into the IEP as is possible.

Development of the 2005-2010 IEP plan should be given priority.

The IEP plan should identify specific annual targets, measures, and actions to:

- increase beneficiary employment in excluded or management positions*
- increase beneficiaries employed in trades and management positions*
- implement structured mentoring programs in the professional accounting, management, and engineering functions*

Each Division Director should be responsible for contributing to the goals and objectives of the Corporate plan. Specific annual initiatives with goals, measures, and targets should then be cascaded down to each department.

9.8 Strategic Alignment

Assessment:

The 2003 Goal Setting Exercise does not appear to have been sustained. Many objectives articulated in 2003 at the department levels are yet to be realized.

The 2005-06 Corporate Plan identifies financial targets but does not include a balanced scorecard approach with specific measures focused on customer satisfaction, internal process improvement, or employee engagement.

It is not apparent that each department has specific annual accountabilities that articulate the contribution it will make to company goals and targets.

Recommendations:

The Senior Management Team, led by the President and CEO should participate in a goal setting exercise to incorporate specific goals, measures, targets and strategic actions into the current Corporate Plan.

Each Director should be responsible for contributing to the Corporate plan that articulates department goals, measures, targets, and strategic actions.

9.9 General Recommendations

In addition to the specific areas requested in this audit, additional opportunities with Human Resource implications have been identified. QEC should:

- *Establish a documented business continuity plan for paying employees at QEC.*
- *Complete the documentation of all policies and procedures to ensure consistent application.*
- *Implement activities to build the relationship with the union, for example climate surveys, regular meetings with senior officers, etc.*
- *Develop an Employee Communication Plan to increase understanding and commitment to company direction, policies, and priorities. This might include company intranet, monthly newsletter, and quarterly performance review meetings.*
- *Investigate electronic meeting technology to facilitate meetings via the web or company intranet to reduce travel costs and increase communication.*
- *Identify opportunities for sharing resource, training and/or competencies with other similar utilities.*

10.0 Financial Function

The Financial function under the guidance of the Director of Finance with a staff of 23 oversees the areas of budgeting, accounting, financial reporting, billing, accounts receivable, collections, purchasing, payables, cash receipts and warehousing. Personnel are located throughout Nunavut in Baker Lake (17), Cambridge Bay (2), Rankin Inlet (3) and Iqaluit (2). Six senior staff members manage the activities of the division, whom on average have been with the Corporation for a term of slightly more than three years. They operate in a complex environment, encompassing such challenges as the operational support of remote localities, staff recruitment and retention, high degree of organizational change with systems and processes and are subjected to considerable financial and operational scrutiny imposed by its stakeholders.

10.1 Operations and Maintenance Budgeting

The Corporation must enhance the budgeting system to provide timely and accurate information across all functions of the Corporation and not just at the corporate level. Information should be readily available to managers within a reasonable amount of time and effort. Our experience and that of other stakeholders has suggested that this has been a problem with the current financial system and process.

The Corporation has implemented regular monthly reporting and is now providing reasonable financial projections.

10.2 Capital Expenditure Budgeting

The Corporation should develop an integrated forecast that combines the details of its operating forecast with the results of its capital spending estimates. This forecast should be for a period of at least ten years. The forecast must include the underlying financial strategies of the Corporation that are formally agreed too by the Board and stakeholders while addressing revenue deficiency.

The Corporation should enhance the current budgetary and financial systems to accommodate the informational needs of diverse users.. The current system appears cumbersome and does not meet the time requirements of some users. The corporate decision to implement actual-to-budget Board Committee review for all capital projects completed is a valuable advance. This should be a standard procedure before any capital item is closed out.

The Corporation should begin to develop a future capital resource plan to address the structures and significant dollars necessary for various capital-intensive projects such as the hydro-electric projects currently being studied. These plans should include the possibility of federal government assistance and its availability.

10.3 Cash Flow Forecasting (Current, Future Borrowing and Banking Arrangements)

The government must assess whether this continued deficit financing is prudent as it makes it difficult for the Corporation to manage its requirements effectively and it causes a rate structure that is truly less than transparent.

The Corporation must review, and where possible improve, their cash receipts processes. Current work in this regard should be monitored for impacts.

A review of current processes must be undertaken to identify, compile and respond to all the requirements of the governing acts.

10.4 Financial Reporting

The Corporation must review its current systems and processes to ensure that its financial information can be delivered in a timely and accurate manner. The Annual report for the year ended March 31, 2005 was tabled in March 2006, although financial statements were released to the public on October 21, 2005. The prior year the Annual report was tabled in February. These time frames are not acceptable.

The Corporation needs to address the lack of information provided to its stakeholders. As an example, there is a perception that outages are three to four times that of the Northwest Territories Power Corporation. An analysis of the available data does not appear to support that perception. By understanding stakeholder concerns, an annual report can become an effective means of reducing misunderstanding surrounding QEC's performance compared to that of similar organizations.

10.5 Variance Reporting and Analysis

The Corporation must continue the process of providing timely financial information by initiating a review of its current variance and analysis systems so that it accommodates varied managerial and governance access and a broader range of report break-outs. An effective variance and reporting system must be able to report variances at all levels throughout the Corporation and between fiscal periods.

10.6 Revenue Management (Metering, Billing and Collection)

i) Metering

The Corporation should initiate a study to determine if there are any potential cost savings by implementing a process when meters would be read every second month with estimated consumption being determined every other month.

ii) Billing

The Corporation should track billing error rates and include this information in its annual report. The Corporation should sample and monitor its billings. This information should address the negative perception that appears to exist with some of its stakeholders that remain as the result of errors that occurred some time ago.

The Corporation's future network expansion plans should present several new options in regards to how meter read sheets, reports and bills are printed and distributed. The Corporation needs to accommodate these potential impacts in its future plans.

10.7 Current and Future Borrowings

The Corporation must continue to pursue its strategy of obtaining rates that are justifiable and support its operational needs.

10.8 Expenditure Management (Purchasing, Payables)

As part of the proposed Risk Management review, the Corporation should assess with the PPD whether financial instruments are of use in reducing short-term price risk for diesel fuel.

10.9 Management of Real Property and Leases

As a long-term economic participant in the Nunavut economy, QEC should own or lease property based on economic factors and financial analysis. The recently approved Property Management position may well be able to repay its own costs through effective management and development of owned and leased properties.

Where QEC reasonably anticipates long-term uses of residential and commercial space the lease vs. own analysis should be conducted and should guide board decision making and direction.

Recommendations:

QEC should develop an integrated forecast that combines the details of its operating forecast with the results of its capital spending estimates.

11.0 Operations and Operating Strategy

11.1 Safety

Current State

QEC considers safety to be its first priority and has in place a comprehensive safety training program and actively promotes safety awareness amongst its employees and the general public.

Health and safety committees are in place to monitor and review employee safety concerns and investigate safety issues.

Assessment

The QEC safety records indicate a very high standard of industrial safety.

Recommendation

In future QEC should use benchmarks provided by COGUA and adjusted if necessary for the QEC service territory, to provide a comparison of key safety statistics with others in the industry.

Target measures commonly used in the industry include:

The accident frequency rate

The accident severity rate

The number of high-risk accidents

11.2 Reliability

Current State

The reliability of the electrical power system is of paramount importance to Nunavut, particularly during the extremely severe winter weather conditions, when the communities are totally dependent on the reliable supply of electrical power.

Recent reliability statistics indicate that for the two year period, from 1st April 2003 to 31st March 2005, reliability was close to 99.9%, (99.86%). Given QEC's service area this compares well with the Canadian Electricity Association Canadian utility composite for 2001 of 99.96%.

The following indicators for the whole system are for the same time period.

Total number of power outages	619	100%
Number of planned Outages	205	33%
Number of unplanned outages	414	67%
No. of weather related outages	45	10%
No. of other unplanned outages	372	90%
Accumulated time of outages		
Total outage hours	598.5	100%
Planned outage hours	145.2	24%
Unplanned outage hours	453.3	76%
Duration of outages		
Outages under 2 hours	580	93.7%
Outages under 30 minutes	437	70.6%
Longest outage	101 hours	

It is noted that some customers in Coral Harbour experienced the longest total time of unplanned outages, 197 hours (equivalent to over 8 full days) over the period of one year.

Assessment

QEC has a record of reliability close to 99.9%. It is recognized that expenditures to achieve 100% reliability are subject to diminishing returns, however, because of the absolute reliability of communities on electric power, particularly during the winter months, it is of major importance for QEC to strive for achieving the greatest possible reliability.

Recommendations

It is important that QEC, operating in such extreme winter weather conditions, record reliability statistics on a seasonal basis.

While reliability problems tend to stem from the reliance on single generation sources, rather than from the limited transmission/distribution systems, the calculation of typical industry performance indicators would allow comparisons to be made with similar utility diesel generator systems.

Such indicators would include the following:

IOR: Index of Reliability

$IOR = (8760 - SAIDI) / 8760$ [where 8760 is the number of hours in a year]

SAIFI: System Average Interruption Frequency Index

$SAIFI = (\text{No. of customers interrupted}) \times (\text{No. of interruptions}) / \text{Total No. of customers}$

SAIDI: System Average Interruption Duration Index

$SAIDI = \text{Total customer hours of interruptions} / \text{Total No. of customers}$

CAIDI: Customer Average Interruption Duration

$CAIDI = \Sigma \text{Customer interruption durations} / \text{Total No. of customer interruption.}$

11.3 Efficiency

Current state

QEC is very aware of the need to make every effort to improve the efficiency of the diesel generator facilities. This is because of the high reliance on diesel fuel imported from other regions of Canada for the generation of electricity, together with the increasing high cost of purchasing, shipping and storage of sufficient quantities of fuel, which must be delivered during the short summer shipping season.

Technology improvements to increase the operating efficiency of existing generation equipment are somewhat limited, but are a significant factor in the purchase of new equipment.

An ongoing program of installing Programmable Logic Controllers (PLCs) almost completed, is helping to improve efficiency by optimizing the operation of the diesel generators to their most economic fuel consumption.

QEC has installed equipment to monitor individual engine fuel consumption. While this will increasingly enable better decisions on engine overhaul intervals, a more comprehensive preventative maintenance schedule may be required to maximize the major maintenance work during the summer months.

Diesel generators have a relatively low thermal efficiency, as only about 35% of the thermal energy of the diesel fuel is converted into electricity, while most of the rest is dissipated as heat. QEC has established a program to recover, where practical, some of this heat and use it to provide heating to offices and other buildings.

It is however, often difficult to retrofit existing installations to take advantage of this heat recovery because of their inherent design or location with respect to facilities that could make use of the captured thermal energy.

It is intended that specifications for future diesel generators would require the incorporation of heat recovery systems in their design. These new installations would be located so as take into

account the best use of the heat recovered from engine cooling and exhaust to provide heating to offices and community buildings.

Assessment

QEC has made the improvement of efficiency second only in importance to safety, in the allocation of funds for engineering priorities.

Recommendation

QEC should continue designing and updating the PLC program to improve efficiency by optimizing the operation of the diesel generators to their most economic fuel consumption.

QEC should continue to look to residual heat recovery installations to improve the efficiency of the diesel generation operations.

11.4 Generation Asset Management

Current State

The engine size and capacity at each location is designed to provide for the engines to operate at 90% of rated load, which enables them to run at peak efficiency. In addition the units are sized to enable the plant to maintain 110% peak load capability with the largest unit out of service.

To achieve this, a rigorous maintenance planning schedule is in place. Engines are scheduled to be changed out after 20 years of service or 100,000 operating hours. This is co-ordinated with the plan for major overhauls. If an engine is due to be replaced shortly after a scheduled major overhaul, it will be replaced at the scheduled time of the overhaul.

In addition a PLC (Programmable Logic Controller) system has been installed to enable remote switching of generators from Iqaluit to enable generators to operate as close as possible to their peak fuel efficiency.

Operational and Maintenance budgets are divided into four categories:

Safety and Environmental Responsibility is absolutely of paramount importance and QEC has maintained a very good safety record.

Reliability is a major priority, and it links with safety, particularly during the winter months and requires that adequate spares are available in inventory. Some used diesel generators that have been retained are mothballed on site for emergency use.

Efficiency is a significant consideration, particularly with the current increasing cost of fuel, and expenditures to increase the operational efficiency of the plants is also a major priority.

This leaves “nice to have” O & M projects, which may be difficult to justify, however there should be some ‘return on investment’ assessment of other identified projects to determine their reliability and acceptability.

With all of these plans and projects, a great deal of planning effort is required to ensure that specifications, tendering and award of contracts are made in good time to ensure that goods and materials can be transported during the annual shipping season. It is understood, that in this respect some difficulties are experienced due to the competing requirements of other demanding situations in the more southerly regions. This makes it even more important for forward planning and the securing of significant contracts at an early stage.

11.5 Distribution Asset Management

Current State

The relatively limited distribution systems make this particular asset management, although crucial to the operation of the system, somewhat easier to manage, than the diesel generator plants. However, if a significant fault occurs on the distribution system, it may not be possible to deliver power to the customers, even though generation plants are fully operable.

Inventory supplies must be ordered in advance for the following year to ensure that they can be delivered during summer shipping season.

Emergency contingency plans are also in place, so that in an emergency situation replacement parts can be flown in, but this is obviously an expensive undertaking and particularly under arctic winter conditions may take some time to implement.

Some stakeholders expressed concern with the manner in which power is restored after an outage, indicating that this had caused problems with their equipment.

Assessment

The distribution system is a key link in the supply of power to QEC customers and is most vulnerable to extreme weather conditions.

QEC’s distributions systems are not sectionalized. This is common to this type of utility. While power is restored after an outage one feeder at a time, this could still cause problems with 3 phase motors which do not have a “soft start” component. Stakeholders with this type of motor should meet with the QEC Director of Operations to discuss this situation.

The distribution system is the most vulnerable part of the system in the harsh winter weather conditions. Local stored spares, such as transformers, wood poles, conductors and switching devices are of paramount importance and must be readily available to ensure a quick repair to any damage to the distribution system.

Recommendation

QEC should continue to monitor its inventory in order to be in a position to perform quick and effective repairs.

11.6 Fuel Supply and Storage

Current State

In the past, both Nunavut Power and Petroleum Products Division (PPD) purchased and stored bulk fuel. The Ikuma II report recommended that the purchase, supply, storage and distribution be amalgamated into one organization under QEC.

This recommendation was not implemented and the GN is at present fully responsible for the purchase supply, storage and distribution of fuel. QEC provides the GN with an annual estimate of fuel requirements based on load forecasts plus allowance for load growth as well as monthly estimates during the course of the year. QEC purchases diesel prices set or negotiated by GN PPD.

11.7 Emergency Planning and Capability

Current State

Nunavut is almost totally dependent on diesel generation for the provision of electricity and the supply of heating and services. Therefore, particularly with the harsh winter climate, it is imperative that there be in place a comprehensive “Power Plant Emergency Plan”, to ensure that every effort is made to maintain practical emergency procedures to ensure the minimum disruption and maximum safety of citizens.

QEC has developed a set of “POWER PLANT EMERGENCY PLAN” procedures for each of the Communities. These plans are all based on a similar format and are quite detailed in determining the role and responsibility of the individuals in an emergency with the power supply system. They also outline the procedures for updating the plans with a time line of one month to integrate changes into the plan.

Page 15 of the NPC 2002-03 Annual Report under *Reliability* states:

- *Major emergencies and catastrophic failures.* Contingency plans for major emergencies such as the complete destruction of a generating station are in place and are regularly reviewed and updated.

Appendix A of the Emergency Plans provides for “*Procedures to Record Changes to Emergency Plan Document*” and a “*Control Page Fax*” has been developed to provide a procedure and record of requests for updating the emergency plans.

The documentation recently presented to CMC on power plant emergency plans indicates that they are in operational use but may be somewhat different to the plans referred to in the NPC 2002-03 Annual Report.

Section 1.6 Plan Maintenance and Control requires that:

Emergency plans will be updated:

- 1) Monthly, taking into account changes in law, environmental factors, staffing, facility characteristics...*

Section 3.1 NPC Emergency Services Control Group.

3.1.1 Composition lists the personnel and alternates that will form the NPC Emergency Services Control group. Paragraph h) states ...this group will coordinate emergency efforts closely with the Hamlet's Emergency Services Control group.

3.1.2 Responsibilities lists the responsibilities of the Emergency Services Control Group, such as ...Advise any necessary agencies within the community of any necessary actions that should be taken to minimize the effects of the emergency..., ...expenditure of company funds required for the preservation of life health and property...and...Take such action a necessary to minimise the effects of an emergency on the community and its inhabitants.

Assessment

The recently submitted emergency plan covers the duties and contacts to be made by the NPC Emergency Services Control Group and appears to a good document.

12.0 Information Systems Function

Following is a summary of the Information Systems Function. This section of the report examines QEC's Information Systems Function across eight areas defined in the Request For Proposal, including:

- Asset management – hardware
- Asset management – software
- Front office capability – customer processes
- Mid office capability – finance, HR, engineering, operations
- Back office capability – business enabling
- Office integration – front, mid, back office
- Disaster recovery planning and capability
- Strategic alignment

The format of the report presents the current state, assessment, and recommendations (grouped by priority) for each specific area listed above. A detailed listing of recommendations grouped by priority and presented by the areas defined in the Request for Proposal may be found in the full Information Systems Function Report.

12.1 Current State

Information utilized in the preparation of this report was obtained from supporting documentation from QEC's General Rate Application, QEC's Corporate Plan, documentation on interviews held with stakeholders and QEC's Chief Operating Officer, and telephone and e-mail correspondence with QEC's Director of Operations and Information Technology.

Examining its current state, QEC's Information Systems Department has the fundamental systems in place to support utility operations, including billing, financial and human resource systems, an underlying satellite network infrastructure, along with supporting office productivity software, e-mail, and an external website. While billings and financial modules are fully integrated, HR and payroll modules have not been integrated to date. Aside from a Supervisory Control And Data Acquisition (SCADA) system, no in-production engineering or operations software was identified. QEC has current hardware and software in place (including the recent implementation of new billing and financial systems), and appropriate software in place to manage its Information Technology assets (although it was not functional at the time of this assessment, pending the completion of a network domain migration and subsequent software re-installation). QEC has a draft Disaster Recovery Plan in place, and manages its priorities and the strategic alignment of its Information Systems Department with the corporation through discussions between the Director of Operations and Information Technology and business stakeholders.

12.2 Assessment

In terms of an overall assessment of QEC's Information Systems Function, the department has done an excellent job of demonstrating competence in implementing key information systems and supporting infrastructure in a very short period of time, with limited resources and significant geographic considerations. It is not reasonable for one to expect best-in-class performance in all areas of technology operations as examined by this review for such a new organization. Indeed, many of the recommendations listed in this review are feasible only after an information systems organization has been established for a period of time sufficient to have implemented a fundamental system landscape.

As such, it is important to realize that QEC has focused its information systems resources upon the correct areas since its inception, namely, the efficient provision and maintenance of core supporting business functionality, which, to its credit, it has done exceptionally well. With enhancements related to increasing its capacity to address stakeholder concerns by strengthening formal business involvement in Information Systems decision making processes and fine-tuning its Disaster Recovery Plan, QEC's Information Systems Function is well-poised to begin implementing finer-point enhancements that are reflective of the department's growth in operational maturity.

12.3 Recommendations

Although this section of the report lists 38 recommendations, it is worth noting that the vast majority (81%) are classified as either medium or low in priority, and represent improvements to take an already functional organizational unit to a best-in-class status.

High priority recommendations focus upon ensuring that concerns expressed by QEC's stakeholders are addressed immediately, and may be grouped into the following categories:

- Increase inter-divisional involvement in the Information Systems Department's strategic, quality assurance, and priority-setting processes
- Finalize the Information Systems Disaster Recovery Plan, ensuring the inclusion of complete and concise information

Medium and low priority recommendations may be addressed over extended timeframes, and can be classified into the following themes:

- Ensure system documentation (including standards, policies, and procedures, and system and network support material) is current and complete, and reviewed on appropriate bases
- Increase formal business involvement in system testing, training, change management, and strategic planning
- Re-visit the Corporation's external website and make changes as required
- Perform regular system performance monitoring to identify issues, establish trends and develop actions as required.
- Expand the Disaster Recovery Plan for additional considerations and review and rehearse it on a regular basis
- Pursue opportunities to integrate QEC's information systems where a sound business case exists
- Continue planned expansion of Information Technology landscape (including evaluation and implementation of new systems and/or functionality) as required by stakeholders
- Evaluate enterprise-level software (Enterprise Resource Planning, collaboration, document management) and integration (Enterprise Application Integration) platforms
- Examine technology purchasing methodology

13.0 Engineering Function

13.1 Capital Planning Process

Current State

A five year capital projection covering the period 2005-06 to 2009-10 has recently been developed by senior management and provided to the Board of Directors for their use in

assessing and approving annual capital plans. Criteria for determining the priority of projects in order of importance are as follows:

- Safety and Environment - ensuring the safety of workers, children playing in the area, passers by etc., meeting environmental standards
- Capacity and reliability - the ability to serve the forecasted load
- Efficiency and Return on Investment – ensuring the maximum amount of electricity is produced per litre of fuel burned thus ensuring that the economic value of investment is maximized
- Projects that are “nice to have”

Using the five year capital projection as a tool, the Board approved a the Capital Plan for 2005-06. The capital plan is typically approved in November or December.

An inventory of engineering capital assets is currently being compiled and suitable asset management software is being explored. This will assist in the establishment of a life cycle renewal program for existing equipment and also provide a framework for assessment of new asset alternatives, taking into account plant efficiency, life expectancy, operating flexibility and ongoing operating and maintenance requirements.

A complementary accounting inventory of plant and assets is maintained in Baker Lake to support the calculation of an equity base for regulatory purposes..

Additional and replacement diesel generator programs take into account load forecasting using municipal and territorial population and load growth predictions, current generation service reports, emergency procedure and operational and flexibility requirements as well as long-term climatic forecasts. A 10 year load projection is now in place and is adjusted annually.

Assessment

QEC has recently begun the development of a long-term capital planning process. Such a process is critical to the long term financial planning for the Corporation. It is also critical to ensure that loads can be met in accordance with QEC criteria, i.e. 10% spare capacity with the failure of the largest engine in the Community at peak load. This requires the close cooperation of the engineering, operations and financial departments of the utility. The Board has approved the 2006-07 program on a timely basis such that tenders can be received before contractors are fully engaged on other projects, thus increasing the possibility of receiving competitive bids and ensuring that proper planning can take place before the annual sea lift of materials and equipment.

QEC management has made significant progress in the development of long term capital planning and has provided the Board with a projection for the period 2006-07 to 2009-10. This projection assisted the Board immeasurably in finalizing and approving the 2006-07 capital plan at an early date. The early approval of capital projects is vital to optimize the tendering process.

Reliable operation in winter is crucial for the safety and welfare of inhabitants of the various communities served by QEC and the utility should ensure that its generation capacity criteria is met for each community. Adequate capital and a return on investment is crucial to allowing QEC to meet these standards.

Recommendations

The engineering department should continue with the inventory of capital assets and set a reasonable deadline for its completion. Asset management software should be acquired to assist in the management of existing generation and distribution assets

The development of a 5-year capital projection should be continued on an annual basis with the projections being extended to a 10-year at some point

QEC should continue to ensure that its generation capacity criteria is met for each community

QEC should continue to ensure that all applicable codes and technical standards are met in each Community

Consultation with affected communities and stakeholders needs to continue as an integral part of major capital projects.

13.2 Tender Management

Current State

QEC has a relatively small engineering section with only twelve personnel, including the Director, administrator, engineers and technologists. They consequently employ outside consultants for the design of many larger projects. Most of their in-house engineering is associated with engine replacement, distribution and residual heat systems.

A document titled Contract and Tendering, is used to assist in the management of tenders. This document deals with the Government of Nunavut Legislation and contract regulations which set out policies and govern contracting for the Government of Nunavut. The document includes information regarding contract documents, tender advertising, pre-tender meetings, tender opening and contract award.

Tenders are reviewed by Engineers who have the authority to recommend acceptance for entering into a contract. The review of bids includes, as well as price, company experience, ability to meet schedules and proven past projects.

The CEO has authority to approve budget changes up to \$50,000. Amounts over this figure require Board approval.

Assessment

Because of the weather conditions, there is a limited time span for shipping materials and carrying out construction work. There is also a limited number of qualified contractors prepared to tender and work in the region. It is therefore extremely important that tenders are prepared and bid in adequate time to receive competitive bids and enable contractors to work within their time periods. Project planning is extremely important to ensure that all aspects of the work are

considered in advance to reduce the number of change orders received and to ensure that projects are completed on time. Contract administration, including on site administration, is vitally important to ensure the completion of a project that meets the specifications in all respects and functions as intended. The Contract and Tendering falls short of laying out the authority, responsibility and detailed procedures for achieving a contract.

QEC recognizes that comprehensive project planning is extremely important in order to tender projects while contractors are available to bid on a competitive basis, to minimize the number of change orders and to ensure that projects are completed on time.

13.3 Project Management

Current State

QEC has in place an Administration of Contracts document which deals with issues such as change orders, time extensions and delays, Inuit Employment content, performance and payment, disputed requests, release of holdbacks and final completion. QEC has also produced a document “General Project Information” which records project contract information for both QEC and the contractor, together with a record of Change Order Information and Contract Payment Information.

In order to avoid contract overruns QEC provides a complete understanding of the project by conducting site meetings with bidders, convening a pre-construction meeting, carrying out site inspections during construction and operating a formal change order system.

Project Management software is available to QEC staff. Under the new Director of Engineering there has been an increasing emphasis on the use of this software.

Assessment

The Director of Engineering has developed a number of sound documents for project control. It is noted that The Administration of Contracts document does not get into specific detail of individual responsibilities. The document does not include provision for any dates, signatures of responsibility or who requested payments. All internal documents should be reviewed to ensure that individual responsibilities are clearly enunciated. While a change order approval document does exist, it would be advisable to amend the Administration of Contract document to include the signature of the responsible officer requesting a change order and the date.

There should also be a documentation control list established to ensure that all changes to contracts are properly described, justified and authorized.

Recommendations

QEC Engineering should continue to implement relevant project software

QEC internal project contracting documents should be reviewed to ensure that all relevant details appear on the document including clear management and control of projects

QEC should establish a document control list to ensure that all changes to contracts are properly described, justified and authorized

13.4 Generation Alternatives and Approaches.

Current State

It is impractical to build an integrated Nunavut electrical power grid because of the vast area of the territory, the long distances between communities and the relatively low electrical power requirements of the load centres. Consequently, the present generation facilities consist, almost entirely, of relatively small isolated diesel generator facilities with local distribution networks.

The cost of diesel generation is high in Nunavut, taking into account the increasing cost of fuel, the high cost of transportation, the restricted shipping season and the relatively low efficiency of generation of reciprocating diesel engines. This has led QEC, in addition to investigating ways to improve the efficiency of the existing and future diesel generating facilities, to seek alternative sources of electrical generation.

The main focus of the investigations, at this time, is the development of hydro power sites close to the larger centres, such as Iqaluit; a transmission link to the Manitoba Hydro system; and the development of community based wind power.

Wind power has been pursued and some low power units have been installed and are operating. These have proved to be difficult to maintain. As well, due to the fluctuating availability of power from the wind generators because of the intermittent nature of wind, they have proved to be difficult to effectively operate in conjunction with the diesel generators while maintaining the diesel generators most efficient level of operation. There is also the well recognized problem of operating wind generators in very cold weather (in some cases below -30°C) which may require protective heating, even when not in operation. QEC has, however, pursued a program of wind generation in order to gain experience in operation and maintenance of small wind farms. Thus in the event that future development of wind generation proves to be more effective for operation in the sometimes harsh environment of Nunavut, QEC will have the necessary experience.

Recent experience with existing wind generators has not been very encouraging. The Cambridge Bay unit, went into service in 1994, sold power to QEC for 10 years. It suffered from operating problems which, at low temperatures and is no longer in operation. The two 80kW units in Kugluktuk had problems, one collapsed and has not been repaired, the other was hit by lightning that damaged the control system, but was repaired and is back in service. The Rankin Inlet 66kW unit was installed in 1998 at a capital cost of \$355,000 and has operated for only limited periods due to a high incidence of maintenance requirements. The unit has however provided an annual diesel fuel displacement of 20,000 litres.

A feasibility study was made of a power line from the Manitoba Hydro system at Churchill to Arviat, Rankin Inlet and Whale Cove. However, because of the limited load in Kivalliq, the length of the line and the current prediction of load growth, the economics of the project do not justify implementation at this time. The prospect of an interconnection should be reviewed periodically, particularly if the cost of supplying diesel fuel continues to rise or there is an increase in potential resource development in the area.

The potential application of other renewable energy alternatives such as fuel cells, biomass, passive solar technology and photovoltaic systems could have specific applications but would not likely make a significant impact on the overall diesel generator requirements.

A current major initiative is the investigation into the development of small hydro generation (up to 15MW) in the Iqaluit region. A pre feasibility study has been completed and an environmental study is scheduled for the summer of 2006.

Assessment

Nunavut is rich in natural resources, but these are not easily developed and the economic viability of significant alternative energy developments will depend on various factors, such as the cost of supplying, storing and distributing diesel fuel and the pace of natural resource development.

Of the generation alternatives currently available, the exploration of potential hydropower resources seems to be the most promising. Exploration of other forms of renewable energy, with the present level of development and cost, do not indicate that they could make a significant contribution to reducing the overall energy costs, but may have some limited applications in specific areas.

Recommendation

The possible development of hydro sites near Iqaluit offers the best immediate opportunity for reducing the almost total dependency on diesel fuel. QEC should continue to investigate alternative developments that could reduce their dependence on diesel generation.

13.5 Engineering Information and Access

Current State

QEC collects and maintains information on load forecasts, peak demand forecasts, and records of capacities in each station. It also keeps up to date records of applicable codes and regulations as well as design standards and equipment developments. QEC maintains as-built drawings of their projects and updates other drawings as required.

Assessment

One additional AutoCad technician is required to keep as built drawings up to date and QEC is in the process of hiring such an individual.

Recommendation

QEC should proceed with the hiring of an AutoCad technician.

13.6 Professional Certification

Current State

The Association of Professional Engineers, Geologists and Geophysicists of the N.W.T. and Nunavut (NAPEGG) requires that the QEC Engineering Division employ a registered Professional Engineer, for it to be certified for Engineering work and such engineer must be knowledgeable enough to take responsibility for approving and stamping engineering drawings, reports etc. For a time the QEC Engineering Dept. did not have a qualified engineer in house and consequently were under risk of losing their certification. A suitably qualified engineer is now on staff and the Department is in full compliance with the requirements

Assessment

QEC Engineering Dept is in compliance with the certification requirements and now has several qualified Professional Engineers on staff.

Recommendation

QEC should continue to employ qualified Professional Engineers to ensure that the Engineering Division is operating in compliance with the requirements of NAPEGG.

14.0 Demand Side Management

To date, with the exception of street light replacement, QEC has not implemented any Demand Side Management (“DSM”) plan nor has it designed any specific programs. This is understandable, given the nature of the electric system, and the relatively recent formation of QEC following separation from NTPC. As a new Corporation there were other obvious priorities, in addition to carrying out the normal activities necessary to continue the provision of electric energy.

The Nunavut Energy Centre (“NEC”) was created in 2005 to facilitate energy and environmental management initiatives in Nunavut. NEC is a trade name of QEC and now has some staff in place and is developing programs. Funding is provided by Federal programs and QEC contributions. The Centre has the capacity to develop program revenues and to implement cost recovery projects.

It is our understanding that DSM programs and initiatives related to QEC are researched, analyzed, conceptualized, designed and implemented by NEC.

A business plan was recently finalized for the NEC. The plans major initiatives are:

1. Statistics and data management to support energy and environmental research and development activities in Nunavut
2. Public education and technical training focused on building science, utility management and alternative energy technologies
3. Communication respecting climate change mitigation and energy sustainability issues

4. Applied energy and environmental research and project development such as feasibility studies, resource assessment and technology investigations
5. Program and service delivery on behalf of stakeholders that may include energy audits for buildings, policy development and third party program delivery

14.1 Opportunity Identification

QEC's electric system consists of separate generation and distribution systems for each of the 25 communities. Therefore, any DSM plans or programs will be community specific, although most programs can be applied in each community. DSM plans should involve both short-term and long-term programs. As NEC gets fully operational and data has been assembled and analysed, specific programs can be developed.

DSM Plans and programs should be developed considering practicality and cost effectiveness. Programs will necessitate up front funding, with the economic and environmental benefits being realized as energy is conserved by virtue of program implementation. Funding sources must be identified, and to the extent that QEC funds programs, costs should be recovered through rates from those customers that benefit from the programs.

QEC is currently converting community street lighting from mercury vapour to high-pressure sodium. New programs could include efficient household lights and appliances, and energy conserving showerheads. Household retrofits could also be considered.

14.2 Customer Acceptance and Participation

Perhaps the most challenging element of a DSM program is customer education related to the long-term benefits of DSM, and that initial incremental costs are necessary to achieve these benefits. It is only through a well-conceived education program that customers will accept these programs. GN may have to consider funding initial programs, rather than QEC. If QEC funds DSM, it should recover costs through rates. This could result in a backlash for consumers and work against customer acceptance. As well, in order to replace existing lights or appliances, with more efficient versions, these must be available in the communities. If the demand is such that the private sector will not stock these, the GN should consider providing the necessary items to the consumers, at cost or absorb the cost, recognizing that the reduced energy consumption will ultimately benefit to GN.

14.3 Monitoring

We assume the NEC will develop and implement monitoring programs for DSM programs. QEC should expect to be heavily involved in DSM program developments, and therefore in the monitoring of these programs to assess the success rates and amounts of energy consumption reduction

Recommendations

QEC should continue with its street lighting replacement program.

In the area of DSM, QEC should take the lead in developing and documenting the policies and respective operating roles of GN, QEC, and other governments and stakeholders.

QEC should develop and implement an accurate, interesting and understandable education program for its consumers and all other stakeholders.

To serve as a leader in DSM implementation, QEC should ensure that all of its facilities are audited, and all applicable energy efficient measures are implemented.

QEC, through NEC, should consider developing the following DSM initiatives:

- conversion of household lights and showerheads to higher efficiency units*

- cooperate with the private sector to ensure that higher efficiency lights and other units are made locally available.*

QEC should recommend to the GN that a review of existing housing be conducted to determine the level of insulation and identify buildings where upgrading would be cost effective.

APPENDICES

Appendix 1

Study Terms of Reference

- Conduct multi-disciplinary external review of QEC further to Independent Analysis
- Review Operations and Management Activities with objective of streamlining QEC into well run utility, regaining confidence of its customers and stakeholders
- Identify and recommend potential proven business policies and practices to improvement and enhance safe, reliable and efficient operations.
- Review and identify obstacles and potential improvements opportunities for 12 specific Corporate functions
- Present finding and recommendations in draft form to Study Team
- Prepare and present Final Draft Report
- Incorporate agreed to changes in a Final Report to Study Team

Appendix 2

Study Principles

- All reviews, assessments and recommendations must be independent
- Opportunities for improvement must be based on sound and proven industry practices and policies
- Identified opportunity improvements must identify business related decisions that are beyond the control of QEC
- Identified opportunity improvements must also recognize the relative size, revenue, age and maturity of the QEC
- Identified opportunity improvements must also recognize the complexity of QEC – business structure, geographic structure, corporate and employee culture, regulatory environment and issues of volatility

Appendix 3

Stakeholder Expectations

CMC personnel met with about a dozen stakeholders/customers over the course of the review. Most of these meetings were in person with two of them being via telephone. Following is a list of expectations derived from concerns expressed by stakeholders. Whether all the concerns expressed are true or not, they represent the perception of stakeholders.

General

Concern was expressed in the ability of QEC to operate a successful utility providing safe and reliable energy to Nunavummiut. Confidence has lessened as a result of managerial turnover and perceived excessive operating costs, primarily salaries and travel. Much of this loss of confidence seems to have developed from information provided at the 2004 GRA and annual reports filed by the Auditor General of Canada.

Shareholders expressed concern about the timeliness and accuracy of information provided at the GRA. They also complained about a lack of consultation both with respect to the requested rate increase and in general.

Stakeholder Expectations:

- *QEC will develop a least cost organizational model capable of managing and operating the utility without the need for large rate increases in the future*
- *Turnover of management personnel will be reduced to an acceptable level*
- *QEC will continue to develop a consultation program acceptable to stakeholders*

It is important to note that a number of stakeholders indicated to the Study Team that they believed that the operations of QEC has improved since the GRA. There appears to have been a start in restoring stakeholder confidence as a result of consultation put in place by the new CEO. There is an expectation that this consultation will continue and grow over time. CMC study personnel were informed by several stakeholders that the “People of the North” have always relied on working closely with each other to survive and succeed.

Financial Planning

Stakeholders expressed concern with regard to forecasting and the lack of a long-term business plan including long-term financial and capital planning. They stated that, as a result of a lack of management continuity there is a lack of institutional memory and therefore reliable data. Information provided at the GRA contained errors and therefore lacked credibility. It was also very slow to be produced.

Stakeholder Expectations:

- *QEC will develop a long-term business plan which will include both financial and capital planning*
- *Information provided at future hearings will be timely and accurate.*

Capital Planning

QEC has not kept up with diesel engine replacement necessary to meet increased load requirements and to ensure safe and reliable service. The Corporation cannot afford to implement the necessary long-term capital plan including the development of alternative energy sites and new and innovative ways to finance capital additions including the identification of new funding sources must be identified.

Stakeholder Expectation:

QEC will work the GN, Federal Governments and stakeholders to find ways to finance large capital projects such as potential hydro sites and these very significant costs will not be reflected in rates as customers and the Nunavut economy, cannot afford ongoing large rate increases.

Energy Conservation

Some stakeholders commented on the lack of any QEC or government programs to encourage energy conservation and suggested that benchmarks be set through legislation. Concern was also expressed with the growing gap between the cost of electricity in Nunavut versus southern Canada and the resulting loss of competitiveness.

Stakeholder Expectation:

- *Demand side management programs will be developed through the proposed Nunavut Energy Centre including programs to educate existing customers and students.*

Utility Operations

A lack of confidence was expressed in the ability of QEC to provide the necessary system capacity and reliability in each community to “keep the lights on in the north”. There were concerns regarding power quality i.e. voltage stability, the number and extent of outages compared to NTPC, and the method by which power is restored to the system after a failure which some stakeholders believe damaged their equipment. They indicated that the poor quality of power delivered caused premature equipment failure which in the north is very expensive to fix.

Stakeholders suggested that more joint use and sharing of systems and equipment between similar northern electricity utilities should be explored.

Stakeholder Expectations:

- *More attention will be paid to timely engine overhaul and replacement*
- *QEC will take steps to ensure that voltage stability is maintained and take greater care in restoring power after an outage*
- *QEC will explore the possibility of greater cooperation with other northern utilities for sharing resources*

Emergency Planning

Stakeholders expressed concern with respect to what they perceived to be a lack of emergency planning, particularly for catastrophic failures. They felt that QEC should do more to ensure that spare engines and other parts are available and arrangements are in place to deliver parts and replacement engines and have them up and running on short notice. They felt that more consideration should be given to bilateral arrangements with other utilities with diesel operations e.g. NTPC, Manitoba Hydro, and Newfoundland and Labrador Hydro.

Stakeholder Expectation:

- *QEC will review and update their emergency planning and develop relationships with other utilities for sharing resources and equipment during emergencies*

Regulatory Matters

Stakeholders pointed to the experience of the GRA in 2004 as a concern. They felt that the request for such a large rate increase was unreasonable and negatively affected QEC's relationship with their customers and stakeholders. Stakeholders were also concerned with the accuracy of evidence prepared in support of the Application and the lack of capacity of the Corporation to respond to information requests. They questioned the cost of the proceedings to stakeholders and asked who would pay the cost of intervenor funding. The request for a capital rider was also a concern given the lack of reliable information provided at the hearing and there was a feeling that this was just another "cash grab".

Stakeholders suggested that QEC financial data is unreliable and there is a lack of faith that these sorts of problems are being resolved.

Stakeholders questioned the lack of consultation with stakeholders in each community prior to the GRA being filed.

The URRC hearing as well as recent Auditor General reports had created negative feelings towards QEC in the eyes of Stakeholders.

Stakeholders were of the view that the URRC had done credible work despite being under manned and under funded. They felt that the URRC should be given the authority to call for a rate review and that it should report to the legislature as a whole.

Stakeholder Expectations:

- *Financial information provided by QEC will be accurate and timely*
- *Intervenor funding should be considered for future applications*
- *Stakeholders in each community will be consulted prior to filing future rate related applications*
- *The URRC should be given broader powers*

Government Policy

Several stakeholders commented on the close relationship of QEC to the GN. Some stakeholders felt that this was not a concern as long as the utility customer only paid for the production and distribution of electricity and not for any additional costs created by government policies such as locating the Head Office in Baker Lake and Inuit hiring preferences.

Other stakeholders felt that the utility is basically a government department and has no flexibility to act on its own.

Stakeholder Expectation:

- *Government policies and directives to QEC should not unfairly result in increased electricity costs to customers*

Appendix 4

Customer Survey

CMC CONSULTANTS INC.
EXTERNAL REVIEW
OF
QULLIQ ENERGY CORPORATION
(NUNAVUT POWER)

Survey Request

CMC Consultants Inc has been retained to conduct an external review of the management and operations of Qulliq Energy Corporation (QEC) and to make recommendations for improvements that will enhance the safe, reliable and efficient operations of the utility. This review is being carried out in response to a recommendation of the Utility Rates Review Council that the services of a qualified consultant be retained to conduct an external review of QEC with the objectives of:

- Streamlining the power corporation into a well run utility, and
- Regaining the confidence of its customers and stakeholders.

It would be appreciated if you, as a customer and/or stakeholder would assist CMC in our assignment by taking the time to complete the following survey. Your specific responses will be kept confidential, however a summary of the responses to the survey will be prepared and distributed to those who wish to receive a copy.

Name of Customer, Stakeholder, Other:

Address:

Email Address:

Do you wish to receive a summary copy of the survey results Yes No

Information Requested

1) Please circle the word(s) which best describes you:

Customer Stakeholder Other

2) If a customer, which type of customer are you? Please circle one or more

Domestic - Government Non Government

Commercial - Government Non Government

If Commercial, are you a demand customer? Yes No

3) What is your annual consumption of electricity? _____ kWh. Don't know

4) Approximately how much is your annual cost of electricity? \$ _____ Don't know

5) Do you receive a subsidy towards your electricity bill from the Government of Nunavut?
Yes No If yes:

Do you know how much this subsidy is? Yes No

Do you consider the subsidy to be adequate? Yes No

Billing

6) Is your electricity bill clearly understandable? Yes No

Does the bill package contain the information you require, such as notices of rate or service condition changes, payment delinquency notices etc?

Yes No

7) Are the late payment conditions reasonable? Yes No

8) Does QEC resolve billing and/or service complaints in a fair and timely manner

Yes No

9) Who do you complain to/seek information from:

Local Office Head office Other

Rate Hearings and Public Relations

- 10) Did you attend or otherwise participate in the public meetings and/or hearings regarding the 2004 general rate increase application of QEC?
Yes No
- 11) Do you believe that QEC should do more to make their current financial situation and plans for the future available to the public such as by holding community consultations at least annually in each community served?
Yes No
- 12) Do you believe that QEC should do more to inform customers of changes in rates, terms and conditions of service and changes in operations through the use of bill stuffers?
Yes No

Costs and Rates

- 13) Are you aware that all electricity in Nunavut is generated using diesel as a fuel source and that the cost of diesel fuel to the utility has increased by over 40% since 2000/01?
Yes No
- 14) Should rates be automatically adjusted for increases or decreases in fuel costs on an annual basis by use of a fuel rider?
Yes No
- 15) Are you aware that despite the increase in rates granted QEC in April 2005 that QEC still faces a significant shortfall in revenue?
Yes No
- 16) Should QEC file for rate adjustments on a more frequent basis rather than filing periodically for very large increases?
Yes No

Management and Operations

- 17) Are you confident that management of QEC is taking the necessary steps to make QEC a well managed and viable operation?
Yes No
- 18) Have you noticed an improvement in the Management and Operations of QEC over the past 2 years?
Yes No

19) Given today's economic climate and the location in which you live where virtually all electricity is generated by diesel fuel, do you believe that you receive good value for service from QEC?

Yes No

20) If you have concerns with the operations of QEC, please indicate in which area(s) your concerns fall. Please use a scale of 1 - 10 where 1 indicates a serious concern and 10 indicates you are fully satisfied.

Reliability of service: _____
Management of the Utility: _____
Financial Administration of the Utility: _____
Operation of the Utility: _____
Justification for and implementation of Capital Projects: _____
Size of staff: _____
Rate Structure _____
Level of Rates _____
Other _____

21) Do you believe that the Government of Nunavut should provide:

More direction to QEC? Less direction to QEC?

(Tick one)

22) Please provide any other comments you consider to be appropriate:

Appendix 5

Customer Survey Response Matrix

BASIC INFORMATION:

Respondent Code:	Would Like a copy of Survey Results:	Q-1 Customer/Stakeholder/Other:	Q-2 Domestic -Govt/Non-Gov't Commercial-Gov't/Non-Gov't Demand customer? If Commercial; are you a Demand customer?	Q-3 Annual Consumption	Q-4 Annual Cost	Q-5 Subsidy/Amount/Adequate
Respondent 1	yes	Customer	Domestic	n/a	\$ 1,500	yes/yes/yes at present rates
Respondent 2	yes	Customer	Municipality	don't know	n/a	no
Respondent 3	yes	Customer	Government	don't know	\$ 280,000	yes/yes/no
Respondent 4	yes	Customer/Advoc	Non-Government	don't know	don't know	no/no
Respondent 5	yes	Customer	Government	don't know	\$ 500,000	no
Respondent 6	yes	Customer	Dom/Non, Comm/nonGov/demand	don't know	\$ 250,000	n/a
Respondent 7	yes	Customer	Commercial/demand	don't know	\$ 350,000	don't know
Respondent 8	yes	Customer	Comm/Government/demand	don't know	don't know	no
Respondent 9	yes	Customer	Dom/Comm/demand	371303 kw	\$ 123,636	no
Respondent 10	yes	Customer	Comm/Government/demand	don't know	\$ 215,000	no
Respondent 11	yes	Customer	Comm/Government/demand	don't know	don't know	no
Respondent 12	yes	Customer	Commercial/demand	don't know	240-246 k	no
Respondent 13	yes	Stakeholder	Dom/Gov't & Comm/Gov't	3,784,500	\$ 474,624	yes/no/no
Respondent 14	yes	Customer	Comm/Non-Gov't	30627/mo.	\$ 24,613	per month: no subsidy
Respondent 15	no	Customer	Commercial/demand	don't know	\$ 27,000	no
Respondent 16	yes	Customer	Commercial/demand	don't know	\$ 170,000	yes, small rebate I think, yrly
Respondent 17	no	Customer	Commercial	don't know	don't know	no
Respondent 18	yes	Customer	Commercial	n/a	\$ 1,000,000	no

BILLING

Customer	Q-6 Is your electricity bill clearly understandable? Does bill pkg contain the info req'd; notices of changes, pymnt delinquency notices, etc.?	Q-7 Are Late Pymnt conditions reasonable?	Q-8 Does QEC resolve billing and/or service complaints in a fair and timely manner?	Q-9 Who do you complain to/seek information from?
Respondent 1	yes	?	?	local office
Respondent 2	yes	yes	n/a	regional office (other)
Respondent 3	yes/yes/yes	yes	no	head office
Respondent 4	n/a	n/a	n/a	n/a
Respondent 5	yes/yes	no	no	head office
Respondent 6	yes/yes	no	yes	head office
Respondent 7	yes/yes	no	no	head office
Respondent 8	yes/yes	yes	yes	local office
Respondent 9	no	yes	yes	local office
Respondent 10	yes/yes	yes	no	head office
Respondent 11	yes/yes	yes	no	head office
Respondent 12	no/no	no	no	head office
Respondent 13	yes/yes	yes	no	local & head office
Respondent 14	yes/yes	yes	yes?	?
Respondent 15	yes/yes	yes	yes	head office
Respondent 16	yes/yes	yes	no	head office/other
Respondent 17	yes/yes	not answered	not answered	not answered
Respondent 18	maybe	maybe	maybe	local office

RATE HEARINGS & PUBLIC RELATIONS

Customer	Q-10 Did you attend or otherwise participate in the public mtgs and/or hearings regarding the 2004 general rate increase application of QEC?	Q-11 Do you believe that QEC should do more to make their current financial situation and plans for the future available to the public such as by holding community consultations at least annually in each community served?	Q-12 Do you believe that QEC should do more to inform customers of changes in rates, terms and conditions of service and changes in operations through the use of bill stuffers?
Respondent 1	yes	yes	yes
Respondent 2	yes	yes	yes
Respondent 3	no	yes	yes
Respondent 4	yes by letter	yes	yes
Respondent 5	no	yes	yes
Respondent 6	yes	yes	yes
Respondent 7	yes	yes	no
Respondent 8	yes	yes	yes
Respondent 9	yes	yes	yes
Respondent 10	no	no	yes
Respondent 11	no	yes	yes
Respondent 12	yes	yes	yes
Respondent 13	yes	yes	yes
Respondent 14	no	yes	yes
Respondent 15	no	yes	no
Respondent 16	no	no	yes
Respondent 17	no	yes	yes
Respondent 18	no	maybe	maybe

COST & RATES

Customer	Q-13 Are you aware that all electricity in Nunavut is generated using diesel as a fuel source and that the cost of diesel fuel to the utility has increased by over 40% since 2000/01?	Q-14 Should rates be automatically adjusted for increases or decreases in fuel costs on an annual basis by use of a fuel rider?	Q-15 Are you aware that despite the increase in rates granted QEC in April 2005 that QEC still faces a significant shortfall in revenue?	Q-16 Should QEC file for rate adjustments on a more frequent basis rather than filing periodically for very large increases?
Respondent 1	yes	yes	yes	yes
Respondent 2	no	no	no	no
Respondent 3	yes	yes	yes	yes
Respondent 4	yes	no	yes	yes
Respondent 5	yes	yes	no	yes
Respondent 6	yes	no	yes	yes
Respondent 7	yes	no	yes	no
Respondent 8	yes	no	no	yes
Respondent 9	yes	yes	yes	undecided
Respondent 10	yes	yes	yes	yes
Respondent 11	no	no	no	yes
Respondent 12	yes	no	yes?	yes
Respondent 13	yes	no	no	yes
Respondent 14	no	yes	no	yes
Respondent 15	yes	no	no	yes
Respondent 16	yes	no	yes	do what they do in the east with gas prices, regulate them
Respondent 17	yes	?	no	no
Respondent 18	yes	no	yes	yes

MANAGEMENT & OPERATIONS

Customer	Q-17 Are you confident that management of QEC is taking the necessary steps to make QEC a well managed and viable operation?	Q-18 Have you noticed an improvement in the Management & Operations of QEC over the past 2 years?	Q-19 Given today's economic climate and the location in which you live, where virtually all electricity is generated by diesel fuel, do you believe that you receive good value for service from QEC?	Q-21 Do you believe that the Gov't of Nunavut should provide more or less direction to QEC?
Respondent 1	no	yes	not enough info to comment	? more
Respondent 2	no	no	yes	more
Respondent 3	no	no	no	less
Respondent 4	yes	no	yes	more
Respondent 5	yes	yes	yes	more
Respondent 6	no	no	no	more
Respondent 7	no	no	yes	less
Respondent 8	no	not answered	yes	more
Respondent 9	no	no	no	less
Respondent 10	yes	no	yes	more
Respondent 11	yes	yes	yes	more
Respondent 12	no	no	no	less
Respondent 13	no	no	yes	more
Respondent 14	no	no	no	more
Respondent 15	yes	yes	yes	less
Respondent 16	no	no	service is not the ? Why so high of a rate	more
Respondent 17	no	no	no	more
Respondent 18	no	only dealt with 1 year	yes-residential, no-commercial	less

QUESTION 20 (Scale from 1 - 10)

Customer	Reliability of Service:	Management of the Utility:	Financial Admin of the Utility:	Operation of Utility:	Justification for/and implementation of Capital Projects:	Size of: staff	Rate Structure	Level of Rates	Other
Respondent 1	5	5	3	3	3	5	4	5	
Respondent 2	3	4	4	6	3	5	3	3	
Respondent 3	5 (too many outages)	6	6	5	5	3	3	3	
Respondent 4	10	1	1	5	5	5	5	5	Consultation: 1
Respondent 5	9	6	5	9	8	2	5	2	
Respondent 6	7	5	5	7	3	5	5	4	Decentralize Admin Functions see Comments page
Respondent 7	10 amazing work by staff	1	3	3	1	1			
Respondent 8	7	7	7	6	4	4	4	6	
Respondent 9	10	3	3	8	5	5	4	4	
Respondent 10	5	4	6	6	5	5	5	2	
Respondent 11	9	7	7	7	7	7	7	7	
Respondent 12	8	3	1	8	1	5	5	5	
Respondent 13	9	8	1	3	1	5	2	2	
Respondent 14	8	7	6	7	5	4	5	6	8
Respondent 15	8	8	8	8	7	7	6	6	
Respondent 16	9	5	5	5	7	5	1	1	
Respondent 17	blank	blank	blank	blank	blank	blank	blank	blank	far too many outages in our community
Respondent 18	10	blank	blank	blank	blank	10	3	3	not much is being paid by residential customers. Meanwhile businesses have to pay <u>blues amount</u>

Q-22	Please provide any other comments you consider to be appropriate:
Respondent 1	Given the level of Gov subsidies, GN must have input. Both QEC and GN need clear guidelines & must act in an open/transparent forum.
Respondent 2	Since we are in harsh climate and everything up North uses either Heating Fuel or Diesel, the Gov't of NU and QEC should start looking at other means of providing power. Example is wind powered generators feasible up here north or is there is anything else could work? For example, has anyone ever try using Wind Generator on a community with 260 houses/buildings? Other questions are: is Nunavut Power Corp/QEC have adequate staff or too many staff? People should be given more education on how to use electricity, on how to conserve electricity in Nunavut communities.
Respondent 3	They must review their staff levels in the main offices. Train their local employees better. Cut administration - cheaper rates
Respondent 4	Gov't of NU should provide more subsidies for users. Gov't of NU should make highest priority of changing technology to more environmentally-friendly mediums; do this in consultation with municipalities.
Respondent 5	We live in the high Arctic and are fully dependent on your cost and profits required to keep the operation going. We can only hope that you are doing it right. Our community is one of the disadvantaged ones with very little work and high costs. Fuel, water and hydro is one of the main expenses for our families.
Respondent 6	None
Respondent 7	Q-20: Fin Admin of Utility is getting better recently. Justification of Cap Projects needs long term plan shared with public. Size of staff is bare bones now and soon this will be service impacting. Any shortfall resulting from missed opportunities of failed management in the past will have to be quantified and dealt with as a separate issue by owner, the GN. The consumer cannot bare this burden! As I understand, the President of QEC as a deputy minister, reports to the Premier. What role does the Board of QEC play? What role does the Minister of Energy play? Who does the URRC really report to, the Premier or the Minister of Energy? Is this effective? Shouldn't business (QEC) be run by business people and not politicians or government former staff members? In the QEC, who are the experienced business people? Who are the experienced Utility senior management?
Respondent 8	Concerns of amount of real technicians available in town.
Respondent 9	Must get managerial levels of competence up to industry/private sector standards. They must be held accountable for mismanagement. This is a crown corporation & should be run like one and not a gov't department.
Respondent 10	None
Respondent 11	The timeliness of your billings leaves much to be desired. Why does it take so long to prepare the monthly invoices? In section 20 above I really did not have adequate info to make judgements regarding many of these areas and I was unable to make comments in the spaces provided.
Respondent 12	Nunastar has had to challenge billing errors for a considerable amount of time. We are currently challenging QEC for a serious billing error made by NPC some 2 to 3 yrs ago. Anywhere else in North America, an error such as this would be absorbed by the utility company. This error is in excess of 150'16 and dates back 2 years.
Respondent 13	The invoices are received too sporadically. Sometimes 4-6 weeks and 2 weeks later we'll get the next one. The billing should be consistently sent out once a month. The past QEC was too top heavy with too many bonuses and high salaries being paid out.
Respondent 14	More increases to fuel and electricity means increase in products in everything and this is the kind of thing people want to see less of.
Respondent 15	None
Respondent 16	For a small locally owned business, this co-op is successful because of the support of the people, but the profit that the member receives back could be larger if it wasn't for the cost of electricity and the amount that we pay. Regulate the rates and even out all over, same price for everyone.
Respondent 17	Q-11: waste of money, who will absorb the cost of these meetings, us? Q-13: so has food, wate, gas, flights. Q-14: Costs should be equal all over the north, if it's .50 kw it should be the same everywhere. Q-15: Learn to manage with increases, we have to.
Respondent 18	None The subsidies for residential users is out of hand. Few of the residents of Qik seem to pay more than \$25 out of their pockets. This is not tied to income, just usage. I'd have loved to have the \$10 power bills I get at home here while living in the south. Meanwhile, the Northern store here is paying \$10000+/month. Not really fair.