

**EXTERNAL REVIEW**  
**PRESENTED TO**  
**QULLIQ ENERGY CORPORATION**  
**IQALUIT, NU**  
**JANUARY 24, 2006**

**Prepared by**  
**CMC CONSULTANTS INC. (CMC)**

# **BACKGROUND**

- NPC began operation April 1, 2001, renamed QEC on March 31, 2003
- QEC's sales rates referred to URRC by Minister
- QEC's initial General Rate Application was made to URRC in 2004
- Following URRC's January 2005 report, the Minister requested QEC to obtain independent assessment of URRC's recommended reports
- CMC's review recommended QEC conduct seven studies with the External Review being assigned the highest priority
- CMC awarded External Review of QEC in late September, 2005

# **STUDY METHODOLOGY**

- **CMC commenced data assembly and review in September 2005**
- **Additional Information Requests (IRs) were developed throughout the study, commencing October 2005. Responses to some IRs were slow, for many reasons**
- **CMC individuals visited Iqaluit and met with Study Team, QEC Staff and some Stakeholders**
- **Interviews conducted with Stakeholders in Iqaluit, Winnipeg and Toronto and by telephone conference call**
- **Study results presented in summary form to Study Team, QEC Board of Directors, January 24, 2006**
- **Final Draft Report expected by February 1, 2006**

# **TERMS OF REFERENCE**

- Conduct multi-disciplinary external review of QEC**
- Review Operations and Management Activities with Objective of Streamlining Power Corporation 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**





## **TERMS OF REFERENCE (Continued)**

- **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**

# **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**

## **STUDY PRINCIPLES (Continued)**

- **Identified opportunity improvements must also recognize the relative size, revenue, age and maturity of 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**

A background image of a snowy outdoor scene. In the foreground, there are large, rounded rocks covered in snow. In the middle ground, several cars are parked, also covered in snow. In the background, there is a large, modern building with a brown facade and several windows. The sky is overcast and grey.

# **CORPORATE STRATEGY**

## ***Missions, Goals, Objectives***

- **Agree with Corporate Vision Statement and logic utilized in its development**
- **Include the effective and efficient management of personnel as an additional objective incorporated in the Mission Statement**

# **CORPORATE STRATEGY**

## ***Stakeholder Expectations***

- **Stakeholders represent a wide range of interest - government, institutions, employees, executive, business and individuals**
- **Customer Survey results indicate that the responses most often reflect the knowledge of the individual**
- **Majority of Stakeholders indicate QEC's operations have shown improvement over the past two years**
- **Areas that need improvement were identified with the expectation that these would be addressed over time**

# **CORPORATE STRATEGY**

## ***Stakeholder Expectations* (Continued)**

**Major issues requiring improvement:**

- **budgetary controls**
- **capital planning process**
- **organizational structure**
- **personnel retention and training**
- **openness, transparency of operations**
- **consultation with stakeholders**
- **accuracy of information and response time**
- **billing accuracy**
- **system reliability**
- **energy conservation programs**
- **cost based rates**
- **powers of URRC**
- **emergency planning**





# **CORPORATE STRATEGY**

## ***ORGANIZATIONAL STRUCTURE***

- **Recommend changes to Administrative and Executive Structure so that only 4-5 managers report to CEO, with Corporate Secretary and Executive being line positions**
- **Current Engineering Organization is reasonable**

# **CORPORATE STRATEGY**

## ***SHORT & LONG-TERM PLANNING CYCLES***

- Both short and long-term planning are deficient
- QEC should continue to develop short-term three to five year plan and a ten year long-term plan, and should give this a high priority
- Short and long-term plans must fall within the strategic plan to be developed in conjunction with a Nunavut Energy Policy incorporating long-term GN energy goals and objectives

# **REGULATION & REGULATORY COMPLIANCE *REPORTING REQUIREMENTS***

- **URRC – Only for review of new and/or proposed changes respecting rates and tariffs upon referral by minister**
- **Minister/GN Annual Report for preceding fiscal year**
- **Minister/GN approval for capital projects greater than \$5 million**
- **Minister/GN 3 year business plan, long-term energy supply plan and annual operating and capital budgets, their implementation and variances**

# **REGULATION & REGULATORY COMPLIANCE *REPORTING REQUIREMENTS* (Continued)**

- **Minister/GN annual rates and subsidies summary**
- **Details respecting annual Auditor's Report**
- **Responses to Minister's Letter of Expectation**
- **Agree with current reporting requirements, given size and revenues of QEC.**
- **Recommend a clear delineation of Minister/GN/URRC reporting requirements, with stakeholder input**

# **REGULATION & REGULATORY COMPLIANCE**

## ***CUSTOMER EXPECTATIONS***

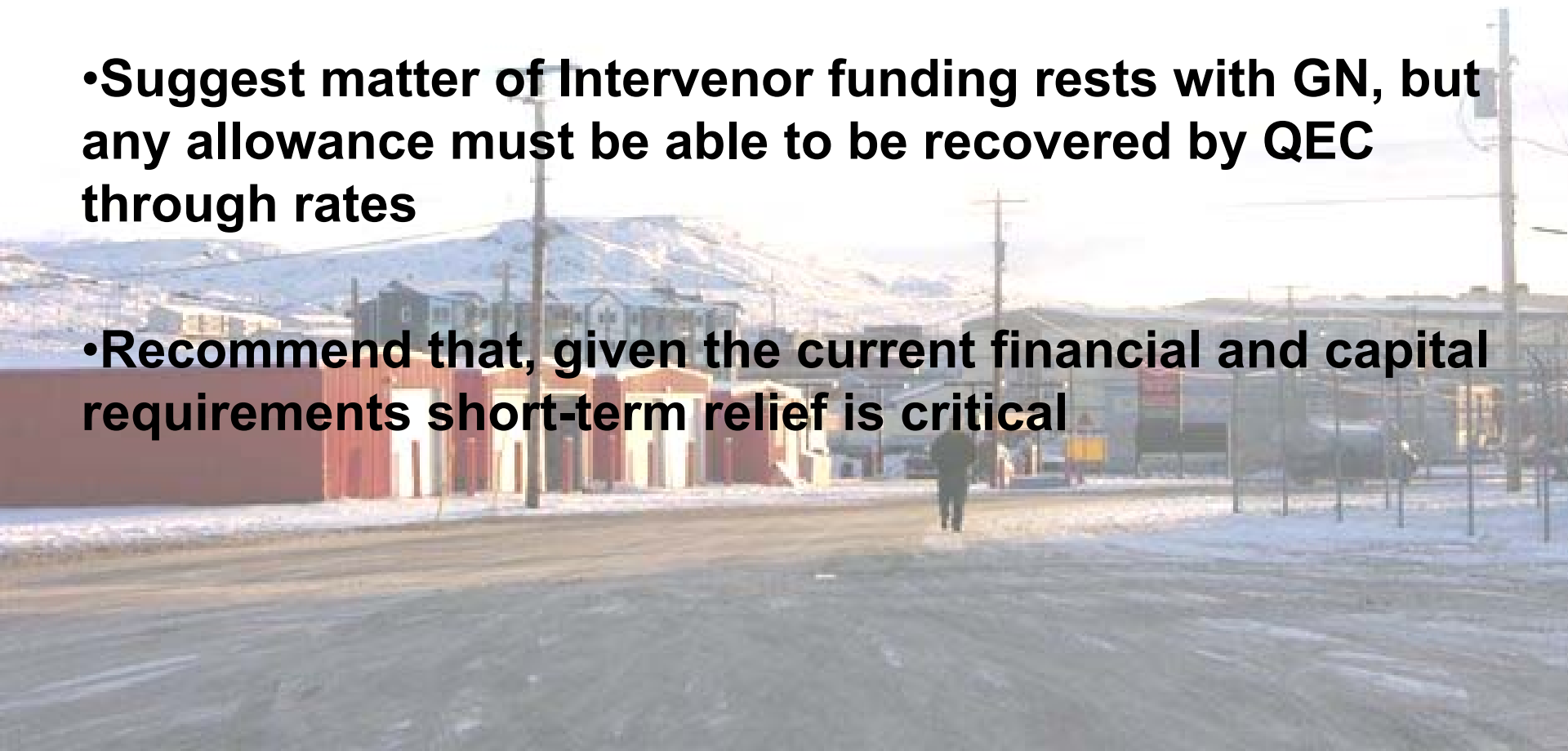
- **Greater transparency, accuracy and response time for information respecting rate applications**
- **More customer consultation prior to making rate applications**
- **Allowance for Intervenor funding**
- **Broader jurisdiction for URRC**



# **REGULATION & REGULATORY COMPLIANCE**

## ***CUSTOMER EXPECTATIONS* (Continued)**

- **Disallowance of Capital Funding Rate Rider**
- **Suggest matter of Intervenor funding rests with GN, but any allowance must be able to be recovered by QEC through rates**
- **Recommend that, given the current financial and capital requirements short-term relief is critical**





# **REGULATION AND REGULATORY COMPLIANCE**

## ***URRC EXPECTATIONS***

- **Future GRAs will be more accurate, timely and detailed than the 2004 GRA**
- **Prior to future rate application better communication will be held with customers, for both general rate increases and any proposed rate rebalancing**
- **Make public more aware of requirement for a public hearing**
- **Improvement in overall management of QEC**

# **REGULATION & REGULATORY COMPLIANCE**

## ***URRC EXPECTATIONS* (Continued)**

- Responses to URRC required reports pursuant to 2005 URRC Report to Minister
- QEC will fully discharge its onus of providing timely and accurate information
- QEC will develop or obtain necessary skills in regulatory process

# **REGULATION AND REGULATORY COMPLIANCE *RATE SETTING PROCESS***

- **Most significant barrier to meaningful process, for QEC, URRC and stakeholders is the 90 day limit from filing of applications to issuance of report to Minister**
- **Accuracy, transparency, consistency in information, and response time are also vital to the success of the process**
- **Process should become less adversarial and should include a Negotiated Settlement Option**

# **REGULATION AND REGULATORY COMPLIANCE**

## ***RATE SETTING PROCESS*** (Continued)

- Rate design must insure that the structure and the individual rates recover an approved revenue requirement and reasonable customer cost allocation, prior to any customer or other subsidies
- All subsidies should be clearly identified and should show the savings per kwh per customer class



# **GOVERNMENT AND QEC POLICIES & PROCEDURES - QEC PARTICIPATION AND IMPACT *ENERGY POLICY***

- **Ministerial letter of Expectations references a GN Energy Strategy**
- **As the major player with the necessary skills in the energy field, QEC to assume lead role in the development of the strategy**
- **As the leader it is only fair to QEC and its customers that QEC be reimbursed for its time and expenses incurred on this strategy development**

# **GOVERNMENT AND QEC POLICIES & PROCEDURES**

## ***GOVERNMENT ENERGY POLICY***

- GN currently does not have a formal energy policy
- QEC directed to develop a Nunavut Formal Energy policy, encompassing GN broad guidelines
- This should be completed during the next fiscal period 2006/07



# **GOVERNMENT AND QEC POLICIES & PROCEDURES**

## **GOVERNMENT INFRASTRUCTURE POLICY**

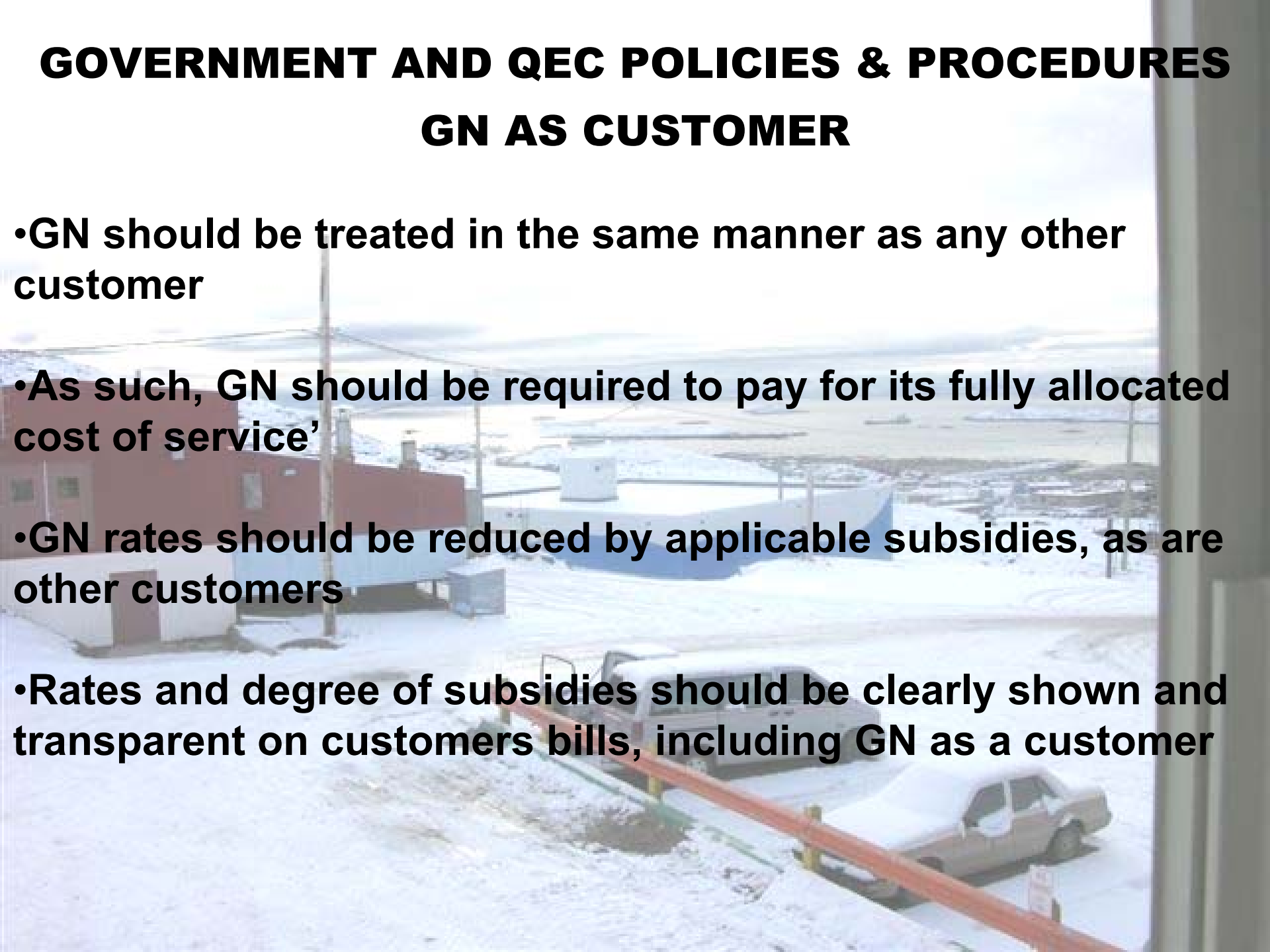
- GN currently does not have an overall infrastructure policy
- GN does have a five year capital planning document with respect to Nunavut Public Housing

# **GOVERNMENT AND QEC POLICIES & PROCEDURES**

## **QEC POLICIES AND PROCEDURES**

- QEC has very few formal policies and procedures in place**
- Formal policies and procedures that are in place are outdated**
- Formal policies and procedures are necessary to ensure that similar issues are handled in a similar fashion across all QEC functional areas**
- Require policies and procedures to be developed and formalized**

# **GOVERNMENT AND QEC POLICIES & PROCEDURES GN AS CUSTOMER**

- GN should be treated in the same manner as any other customer**
  - As such, GN should be required to pay for its fully allocated cost of service'**
  - GN rates should be reduced by applicable subsidies, as are other customers**
  - Rates and degree of subsidies should be clearly shown and transparent on customers bills, including GN as a customer**
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- A photograph of a snowy landscape. In the foreground, there is a white car and a white truck parked on a snow-covered ground. A red metal railing runs across the middle ground. In the background, there is a red building and a white structure. The sky is overcast and grey.

# **GOVERNMENT AND QEC POLICIES & PROCEDURES**

## **GN AS A SHAREHOLDER**

- GN is QEC's sole shareholder**
- GN should continue to develop policies and QEC should be granted the authority and autonomy to implement the policies**
- QEC must bear the responsibility for the success or failure of their implementation**
- GN should continue to borrow funds on behalf of QEC, and QEC should be required to pay a "guarantee fee" to recognize the more favourable rates due to the borrowing power of GN**

# **GOVERNMENT AND QEC POLICIES & PROCEDURES**

## **GN AS A SHAREHOLDER (Continued)**

- GN should continue to work with the Federal Government to explore means of financing major capital projects that may be beyond GN's borrowing limits in the short term
- Over the long-term, QEC should be allowed to implement a rate structure that recovers a revenue requirement that would include a return on Rate Base, or Net Income, over and above direct cost of service to be used to fund a portion of a capital program

# **PERFORMANCE MEASUREMENT & BENCHMARKING**

## ***PEER GROUP DEFINITION* (Continued)**

- Peer Groups for comparative purposes are limited, as QEC is the only utility in a similar environment that currently relies entirely on diesel generation
- QEC's service area covers a large and harsh geographic area
- Customer density has a wide range over the 25 communities and each community is independent of others respecting generation and distribution
- GN mandated policies impact cost of service



# **PERFORMANCE MEASUREMENT & BENCHMARKING**

## ***PEER GROUP DEFINITION* (Continued)**

- **Limited window for relatively inexpensive supply/delivery and construction activity**
- **Conclusion, after reviewing similar utilities – Yukon, Northwest Territories, Alaska, Newfoundland and Labrador, is that NTPC and NF & L should be defined as the two peer groups**
- **Recognize that there are nonetheless, significant operational and policy differences between QEC and the two identified peer groups**

# **PERFORMANCE MEASUREMENT & BENCHMARKING**

## ***PRELIMINARY PERFORMANCE COMPARISONS***

- Performance measures should be used in five major areas- Finance, Operations System Safety, Operations System Reliability, Operational Plant Efficiency and Customer Service
- Data is either not available or not available in required format to properly compare QEC's performance in all five areas at this time
- Financial Key Performance Measures should include Return on Equity (%), Debt to Capital Ratio, Interest Coverage Ratio, and Controllable Cost (\$/Kwh)

# **PERFORMANCE MEASUREMENT & BENCHMARKING**

## ***PRELIMINARY PERFORMANCE COMPARISONS***

***(Continued)***

- **Operational System Safety Key Performance Measures should include Accident Frequency Rate, Accident Severity Rate, and Number of High-Risk Accidents**
- **Operational System Reliability Key Performance Measures should include number and cause of planned and unplanned Outages, related outage hours and duration of each outage**

# **PERFORMANCE MEASUREMENT & BENCHMARKING**

## ***PRELIMINARY PERFORMANCE COMPARISONS***

***(Continued)***

- **Operational Plant Efficiency Key Performance Measures should include Cost of fuel/Kwh generated, and Cost of fuel/Kwh sold, Controllable cost per Kwh generated, and Controllable Distribution cost per kilometer of Distribution line**



# **PERFORMANCE MEASUREMENT & BENCHMARKING**

## ***ESTABLISHING PERFORMANCE TARGETS***

- **Initial Key indicators will serve as the Benchmarks for QEC performance measures**
- **Targets for each of the key indicators should be developed for the short-term (5 years) beyond**
- **Targets should be developed, based on industry norms, but must recognize the unique operating circumstances of QEC, and must also isolate costs that are beyond the control of QEC**
- **Targets may change as circumstance dictates**

# **PERFORMANCE MEASUREMENT & BENCHMARKING**

## ***REPORTING PERFORMANCE MEASUREMENT***

- **Performance Measurements should be included in the annual report**
- **Performance Measurement Report should include changes from prior fiscal periods to illustrate trends**
- **Performance Measures Report should include updated comparative data for Peer Groups**
- **Performance Measure Reports should highlight any special or unique circumstances, from year to year, that have influenced any measurements for a particular period**



# **PERFORMANCE MEASUREMENT & BENCHMARKING**

## ***CONTINUOUS IMPROVEMENT***

- **Operations will improve as measurements approach and then meet the targets originally established**
- **Targets may be revised from year to year to ensure they are achievable, as the utility evolves or as circumstances change**
- **The ultimate is to achieve all targets and then to maintain that level of performance, at worst**

# **PERFORMANCE MEASUREMENT & BENCHMARKING**

## ***CONTINUOUS IMPROVEMENT (Continued)***

- **Benchmark results should be used to identify, quantify and prioritize improvement opportunities offering the greatest potential return**
  - **Benchmark results will highlight areas at risk due to under-spending**
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- The background of the slide is a photograph of a construction or industrial site. In the foreground, there is a dirt and gravel area with some sparse vegetation. In the middle ground, several utility poles with cross-arms are visible. In the background, there are large, multi-story buildings, possibly part of a power plant or industrial facility, situated near a body of water. The sky is overcast and grey.

# **EXECUTIVE FUNCTIONS**

## ***PRESIDENT AND CHIEF EXECUTIVE OFFICER***

- **Currently has a large number of Directors/Managers in a direct reporting relationship**
- **This may be reasonable in the very short-term given QEC's age and the recent appointment of the CEO**
- **In the long-term, we have recommended (See Human Resources Section) an organizational structure with fewer Directors reporting to the CEO, allowing the CEO to concentrate on long-term planning, establishing, achieving and monitoring goals and objectives**

# **EXECUTIVE FUNCTIONS**

## ***SENIOR MANAGEMENT FUNCTIONS***

- **Meetings were held with senior personnel in the IT, Finance, and Human Resources functional areas**
- **Senior managers in the above functional area appear competent and are performing well.**
- **Specific recommendations to assist in carrying out necessary activities and providing an improved level of service in the above functional areas are included in the relevant sections of this report**

# **EXECUTIVE FUNCTIONS**

## ***BOARD FUNCTION & SUPPORT***

- **Personal interviews were held with the CEO, a Board Member and a telephone conversation with Board Chair Merkosak**
- **The 9 members currently on the Board have varied backgrounds and provide a high degree and wide variety of experience directly related to QEC functions, goals and objectives**
- **QEC has shown significant improvement and attained a reasonable measure of stability over pst year or two**

# **EXECUTIVE FUNCTIONS**

## ***BOARD FUNCTION & SUPPORT (Continued)***

- Board members are given appropriate and comprehensive orientation sessions
- We recommend that the GN establish staggered terms for Directors at the earliest opportunity to ensure a degree of continuity
- We also recommend that , given recent developments and concerns in respect of Corporate Governance, a Director's Manual outlining duties and responsibilities be developed

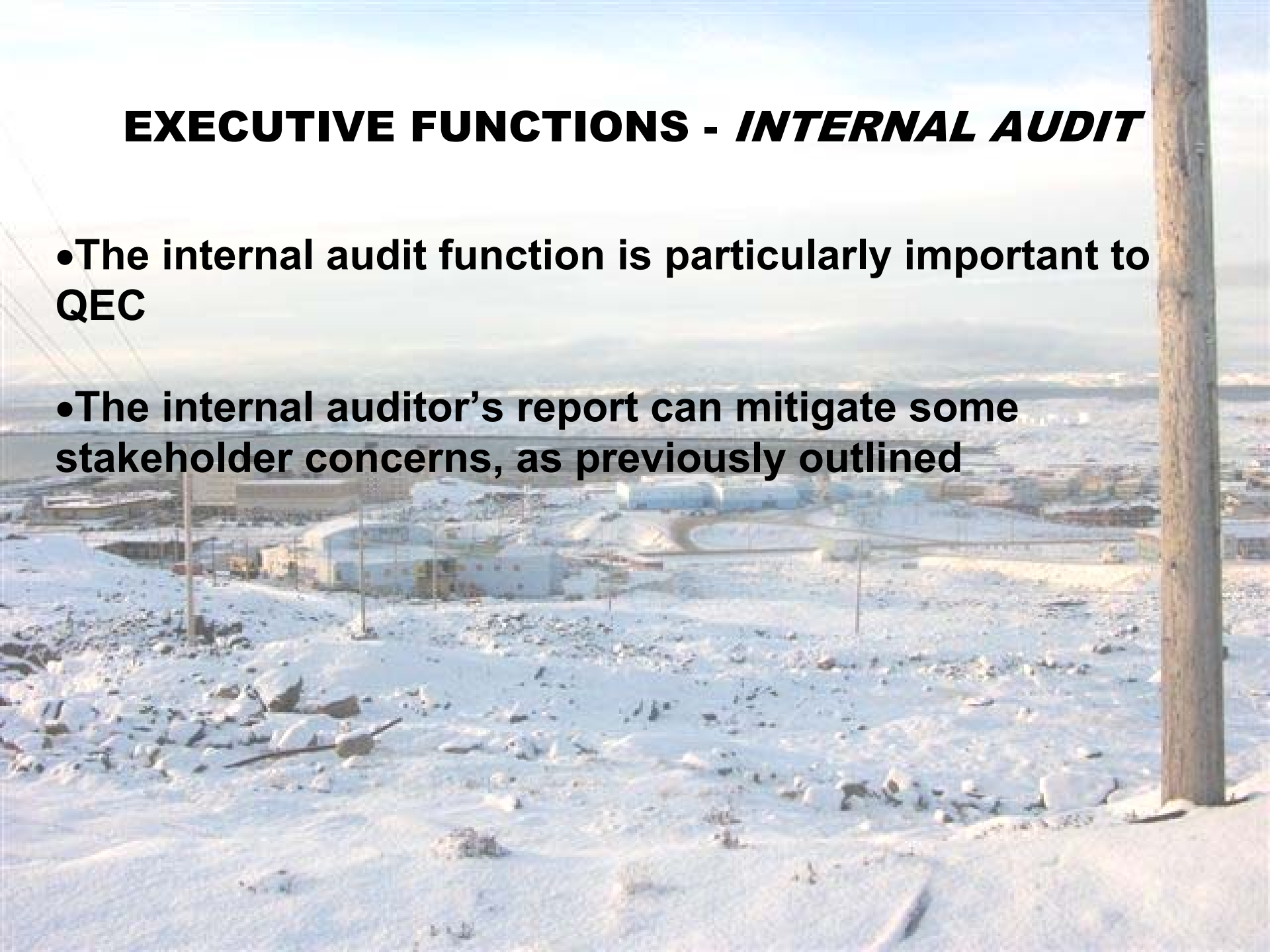


## **EXECUTIVE FUNCTIONS - *LEGAL SERVICES***

- **It is the normal practice for utilities of a size comparable to QEC to retain legal counsel on a retainer/fee for service basis rather than having legal counsel on staff**
- **While we would recommend that QEC assess this option, we recognize that issues peculiar to QEC, such as benefit carrier negotiation, employee grievances, labor negotiations, land rights and other matters may dictate that in-house counsel is appropriate for QEC**

# **EXECUTIVE FUNCTIONS - *INTERNAL AUDIT***

- The internal audit function is particularly important to QEC
- The internal auditor's report can mitigate some stakeholder concerns, as previously outlined



# **EXECUTIVE FUNCTIONS**

## ***COMMUNICATION***

- **Effective internal communication within QEC and external communication with stakeholders is especially important, given the unique structure: - 2 principal offices, 3 regional centres, and 25 wide spread service areas**
- **There is a lack of corporate policies and procedures which makes effective communication with communities critical if like situations are to be dealt with in a similar fashion across the company**

# **EXECUTIVE FUNCTIONS**

## ***COMMUNICATION (Continued)***

**•While stakeholders, including customers, have expressed concerns with regard to consultation, accuracy and timeliness of information assembly and delivery in the past, most recently at the 2004 GRA, cautious optimism that a recent noticeable improvement in this area will continue into the future**

# **CUSTOMER SERVICES FUNCTION**

## ***CUSTOMER RELATIONS MANAGEMENT***

- QEC has recently put into place a 1 - 800 number publicized on its bills and web site to encourage centralized collection of customer complaints
- Most customer complaints are related to billing, and these calls are still usually made to the local manager
- QEC has no formal data base for logging complaints and compiling statistical data
- We recommend that QEC design and implement a customer complaint handling system to track complaints and the resolution of complaints by community

# **Customer Services Function**

## ***Terms and Conditions of Service***

- **QEC's Terms and Conditions of Service Delivery are consistent with those in common use for other utilities**
- **Use of load limiters is a fair manner of dealing with delinquent customers in winter**





# **Customer Service Function**

## ***Billing Process***

- **Meter Read Sheets Prepared for each Customer**
- **Operator/Assistant Read Meters – Fax to Baker**
- **Computer identifies Unreasonable Readings - Rereads**
- **Bills Mailed to Customers**
- **Most Complaints from Stakeholders and Customers – Billing Errors and Timeliness**

# **Customer Service Function**

## ***Billing Process (Continued)***

- **Concerns Usually Unfounded – Explained and Resolved**
- **Complaints Reduced - New Billing Software**
- **Further Efforts Required to Bill on Timely Basis and Reduce Errors/Complaints**
- **Review should Catalogue Error Type and Cause by Community**



## **Customer Services Function** ***Collection Process***

- **Collection Responsibility Rests with 3 Regional Offices**
- **Customers Make Payments One of Five Ways**
- **Cheques Cleared - Yellowknife or Calgary, Lengthy Process**
- **Experience Collection Problems with Transient Customers**
- **Consider Collection Agency for Transient Customers**

# **HUMAN RESOURCES FUNCTION STAFFING LEVELS & REQUIREMENTS**

## ***Recruitment Process And Inuit Employment***

- **QEC should benchmark staffing levels with similar Companies**
- **Develop an employment strategy document**
- **Increase labour relations staff**
- **Customize and document recruitment process, establish job descriptions for all positions, and use additional behavior based interview questions**

# **HUMAN RESOURCES FUNCTION STAFFING LEVELS & REQUIREMENTS**

## ***Recruitment Process And Inuit Employment (Continued)***

- **Annually track EFT changes and staff turnover**
- **Complete the 2005-2010 Inuit Employment Plan including specific annual initiatives with goals, measures and targets that are delegated to each Director level**

# **HUMAN RESOURCES FUNCTION SKILL LEVELS & REQUIREMENTS**

## ***Training Requirements***

- **Develop a specific annual agreement with each mentor and mentee that encompasses current and required skill level or knowledge, specific activities, experience or learning outcomes**
- **Ensure total compliance in completion of Performance Appraisals including specific individual development plans**
- **Ensure that each Director is responsible for developing an annual Training Plan with financial forecasts**



# **HUMAN RESOURCES FUNCTION SKILL LEVELS & REQUIREMENTS**

## ***Training Requirements (Continued)***

- **Develop or purchase a Corporate Training Record Keeping system to centralize tracking of training activity and correlate with current financial system training expenditures**
  - **Maximize distance learning and computer-based instruction to compensate for high travel and accommodation costs**
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# **HUMAN RESOURCES FUNCTION**

## ***COMPENSATION AND CLASSIFICATION***

- **Develop and document a corporate compensation philosophy and a corporate benefit strategy**
- **Establish a job evaluation system**
- **Reinstate an incentive compensation scheme for senior positions - review overtime policy**
- **Track year to year benefit cost changes**
- **Benchmark total compensation levels with similar companies**
- **Continue to use third party to negotiate premiums/charges with benefit carriers**

# **HUMAN RESOURCES FUNCTION**

## ***EMPLOYEE HOUSING***

- **Maintain current employee housing policy and review annually**



# **HUMAN RESOURCES FUNCTION**

## ***STRATEGIC ALIGNMENT***

- **Senior management team should participate in a goal setting exercise to set specific goals, measures, targets and strategic actions into current Corporate Plan**
- **Each Director should be responsible for the development of a Business Plan that will comply with and contribute to the Company 2005/06 Corporate Plan.**

# **HUMAN RESOURCES FUNCTION**

## ***OTHER MATTERS***

- QEC should establish a payroll continuity plan
- QEC should complete documentation of all HR policies and Procedures
- QEC should implement activities to build better relationships with the union
- QEC should develop an employee communication plan
- QEC should investigate the viability of electronic meeting technology
- QEC should identify any opportunities for sharing resources and/or competencies with NTPC

# **FINANCIAL FUNCTION OPERATIONS AND MAINTENANCE BUDGETING**

- **Evaluation and Stakeholder survey responses indicate that there is a problem with the current financial system and process with respect to budgets**
- **QEC should enhance the budget system to provide timely and accurate information**
- **Necessary information should be readily available to personnel within a reasonable amount of time and effort**



# **FINANCIAL FUNCTION**

## **CAPITAL EXPENDITURE BUDGETING**

- QEC should develop an integrated forecast that combines the details of its operating forecasts with the results of its capital spending estimates**
- This forecast must include the underlying financial strategies of QEC that should be formally agreed to by the Board of QEC and Stakeholders**
- QEC should enhance the current budgetary and financial system to accommodate the informational needs of all stakeholders**

# **FINANCIAL FUNCTION**

## **CAPITAL EXPENDITURE BUDGETING *(Continued)***

- **As a standard procedure, QEC should document actual and budget variances for all completed capital projects**
- **QEC should develop a future capital resource plan to address the significant dollars required for major capital projects**
- **QEC must address the lack of timely information provided to its stakeholders**

# **FINANCIAL FUNCTION – REVENUE AND EXPENDITURE MANAGEMENT, PURCHASING, PAYABLES AND RECEIVABLES**

- GN should assess whether there could be cost savings by reading meters every two months, with estimates for the other month
- QEC should track billing error rates and include the results in its annual report, which should mitigate the negative perception of billing errors held by some customers

## **FINANCIAL FUNCTION – REVENUE AND EXPENDITURE MANAGEMENT, PURCHASING, PAYABLES AND RECEIVABLES *(Continued)***

- QEC should incorporate options in future network expansion plans for printing and distributing meter read sheets, reports and bills
- QEC should assess, as part of the proposed Risk Management Review, and in conjunction with PPD whether financial instruments may be useful on reducing short-term risk related to diesel fuel

# **FINANCIAL FUNCTION – CURRENT AND FUTURE BORROWING, MANAGEMENT OF REAL PROPERTY AND LEASES**

- QEC must continue to pursue its strategy of obtaining approval for rates that are justifiable and support operational needs and contribute towards capital requirements
- QEC must document and obtain formal Board approval for strategic decisions relating to ownership or leasing of properties

# **FINANCIAL FUNCTION – CURRENT AND FUTURE BORROWING, MANAGEMENT OF REAL PROPERTY AND LEASES *(Continued)***

- All future acquisition of property through ownership or leasing must adhere to the Board approved criteria
- Consideration should be given to consolidating office space in Iqaluit







## **FINANCIAL FUNCTION STRATEGIC ALIGNMENT**

- **QEC should develop a concise and meaningful Finance Division business plan that:**
  - **Links to the Corporate Plan**
  - **Establishes associated measures to evaluate success**
  - **Supports Senior Management**

# **FINANCIAL FUNCTION –CASH FLOW FORECASTING, FINANCIAL REPORTING AND VARIANCE REPORTING**

- GN must assess whether its continued involvement with the financial needs of QEC is prudent, as this makes it difficult for GN to manage its true requirements effectively and causes a rate structure that is not transparent
- QEC should review the cash receipt process to assess where improvements are possible

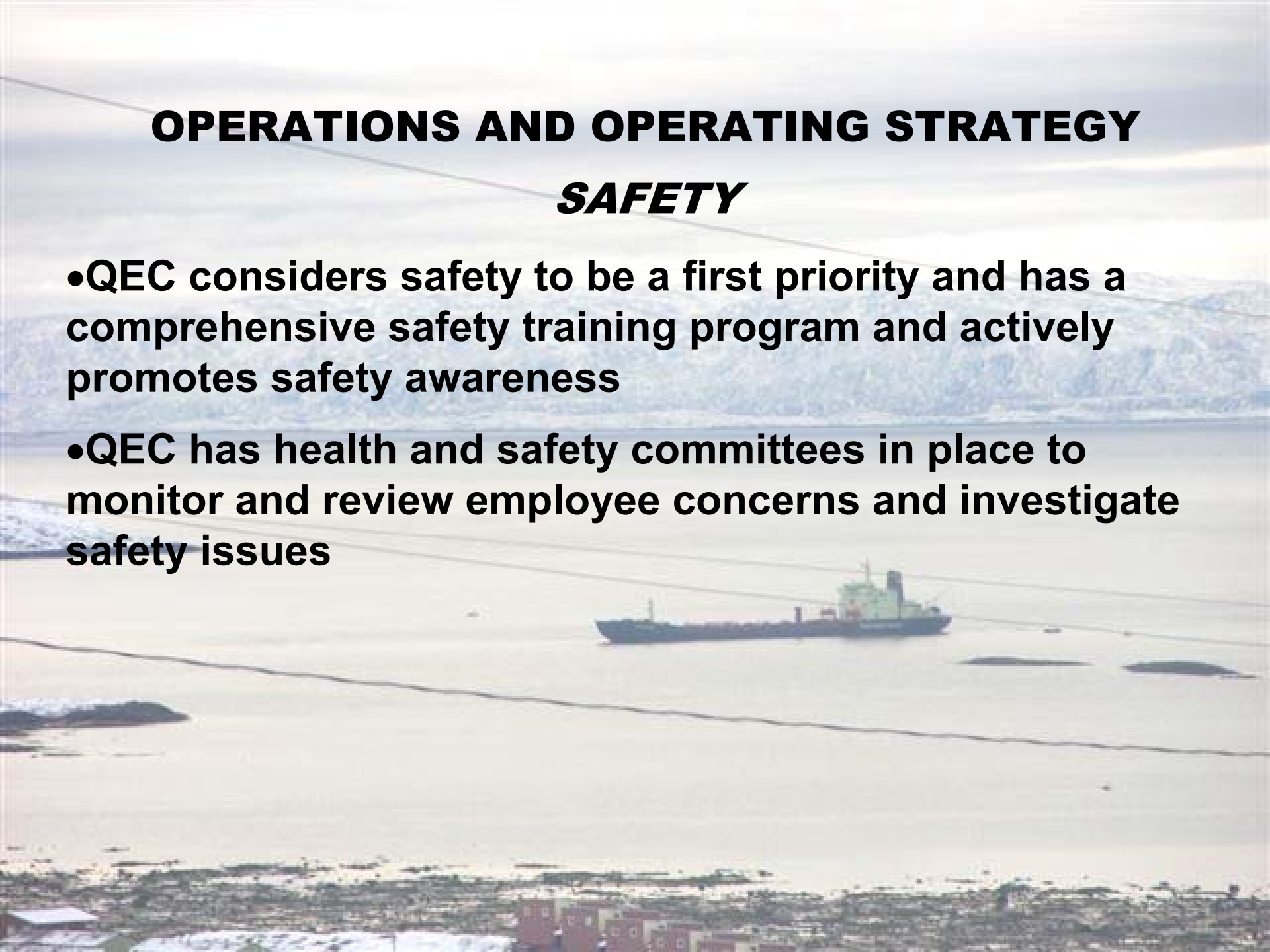
# **FINANCIAL FUNCTION –CASH FLOW FORECASTING, FINANCIAL REPORTING AND VARIANCE REPORTING *(Continued)***

- QEC must improve its current systems and processes to ensure that financial information can be delivered in a timely and accurate manner, including adherence to the Financial Administration Act
- QEC should review and improve its current variance and analysis systems so s to report variances at all levels and between fiscal periods

# **OPERATIONS AND OPERATING STRATEGY**

## ***SAFETY***

- QEC considers safety to be a first priority and has a comprehensive safety training program and actively promotes safety awareness
- QEC has health and safety committees in place to monitor and review employee concerns and investigate safety issues



# **OPERATIONS AND OPERATING STRATEGY**

## ***SAFETY (Continued)***

- **QEC safety record indicate a high standard of industrial safety**
- **QEC should formally adopt, and compare with peer groups, key safety indicators common to the industry, namely Accident frequency rate, Accident severity rate and Number of high-risk accidents**



# **OPERATIONS AND OPERATING STRATEGY**

## ***RELIABILITY***

- **System reliability is of paramount importance, particularly during severe winter weather when communities are totally dependent of a supply of power**
- **Most recent statistics indicate that for the 2 year period to March 31, 2005 reliability was 99.86%**
- **Expenditures to achieve 100% reliability are subject to diminishing returns, but operating circumstances dictate that QEC strive to achieve the greatest possible reliability**
- **QEC should record reliability statistics on a seasonal basis and compare results to similar utilities**



# **OPERATIONS AND OPERATING STRATEGY**

## ***EFFICIENCY***

- **QEC recognizes the need to improve the efficiency of diesel generator facilities, due to the high landed cost of fuel, prioritizing efficiency only second to safety**
- **QEC should continue with its program of installing Programmable Logic Controllers to achieve most economic fuel consumption**



# **OPERATIONS AND OPERATING STRATEGY**

## ***EFFICIENCY (Continued)***

- **QEC should continue, where practical, to recover the heat dissipated by diesel generators and to use it for heating offices and other buildings**
- **Future diesel generator designs should incorporate heat recovery systems**
- **Location of new diesel generators should be optimized by considering heat recovery for heating buildings**

# **OPERATIONS AND OPERATING STRATEGY**

## ***GENERATION ASSET MANAGEMENT***

- **Generator size and capacity at each location is designed for the engines to operate at 90% of rated load, enabling peak efficiency operation**
- **Generators are sized to enable plant to maintain 110% peak load capability with the largest unit out of service**
- **A rigorous maintenance schedule is in place to achieve this**
- **Engines are scheduled to be changed after 20 years or 100,000 hours of service.**

# **OPERATIONS AND OPERATING STRATEGY**

## ***GENERATION ASSET MANAGEMENT (Continued)***

- **Use of PLC's enabling remote switching of engines enables generators to operate as close as possible to peak fuel efficiency**
- **Budgets are prioritized by Safety, Reliability and Efficiency categories**
- **Projects outside of these three categories should have independent business case analysis for justification**

# **OPERATIONS AND OPERATING STRATEGY**

## ***DISTRIBUTION ASSET MANAGEMENT***

- **Distribution systems are most vulnerable during extreme winter conditions**
- **Availability of distribution parts – transformers, wood poles, conductors, switching devices, etc. is of paramount importance and should be stored locally to enable a quick repair of any damage**
- **In emergency situation spare parts can and are flown in if not in local stores, but this is expensive and should be kept to a minimum**



# **OPERATIONS AND OPERATING STRATEGY *RISK MANAGEMENT***

- QEC views operational risk management as the proper scheduling and maintenance for all sites, as circumstances and manpower availability dictate
- QEC should continue the periodic review of scheduled maintenance and inspection procedures to minimize operational risk
- QEC should consider the assessment of risk from a financial and consequences to communities perspective



# **OPERATIONS AND OPERATING STRATEGY – FUEL SUPPLY AND STORAGE**

- GN, through PPD, is responsible for fuel purchase and supply
- QEC provides PPD with estimate of fuel requirements based on load forecasts including allowances for growth and purchases fuel from PPD either in bulk for storage or on a re-supply basis, as needed
- QEC, in conjunction with PPD, should assess if financial instruments could reduce short-term risk related to diesel pricing
- Fuel purchasing process should be periodically reviewed to ensure most economic fuel costs are achieved



## **OPERATIONS AND OPERATING STRATEGY *EMERGENCY PLANNING AND CAPABILITY***

- QEC has developed a detailed set of “Power Plant Emergency Plans” for each of the Communities in a similar format
- Plans list and define the roles and responsibilities of individuals in the event of power supply emergency

# **OPERATIONS AND OPERATING STRATEGY**

## ***EMERGENCY PLANNING AND CAPABILITY***

***(Continued)***

- Plans also outline procedures for updating on a monthly basis
- Plans appear to be deficient in that they do not contain any guidelines for response to particular emergencies, nor for procedures for coordination with the Hamlet's Emergency Services Control Group
- QEC should formally establish these guidelines and procedures

# **INFORMATION SYSTEMS FUNCTION**

## ***CURRENT STATUS***

- **QEC has fundamental systems in place to support utility operations**
- **Operations covered include billing, financial, human resources support system, satellite network infrastructure and supporting productivity software, e-mail and external website**
- **Integration between systems is limited**

# **INFORMATION SYSTEMS FUNCTION**

## ***CURRENT STATUS (Continued)***

- **Systems are in place and almost operations for management of Information Technology**
- **QEC has developed a draft Disaster Recovery Plan**
- **QEC manages priorities and the strategic alignment of its IT Systems Department in conjunction with Director of Operations and Information Technology and business stakeholders**



# **INFORMATION SYSTEMS FUNCTION ASSESSMENT**

- **QEC has demonstrated excellence in implementing key information systems and supporting infrastructure in a short time especially given its limited resources and significant geographic considerations**
- **It is only because of the advanced state of existing Information Technology systems and infrastructure that many recommendations listed herein are feasible**
- **QEC has properly focused its resources on correct areas since its inception**  
**QEC is now well poised to begin finer-point enhancements that are reflective of the department's growth in operational maturity**



# **INFORMATION SYSTEMS FUNCTION**

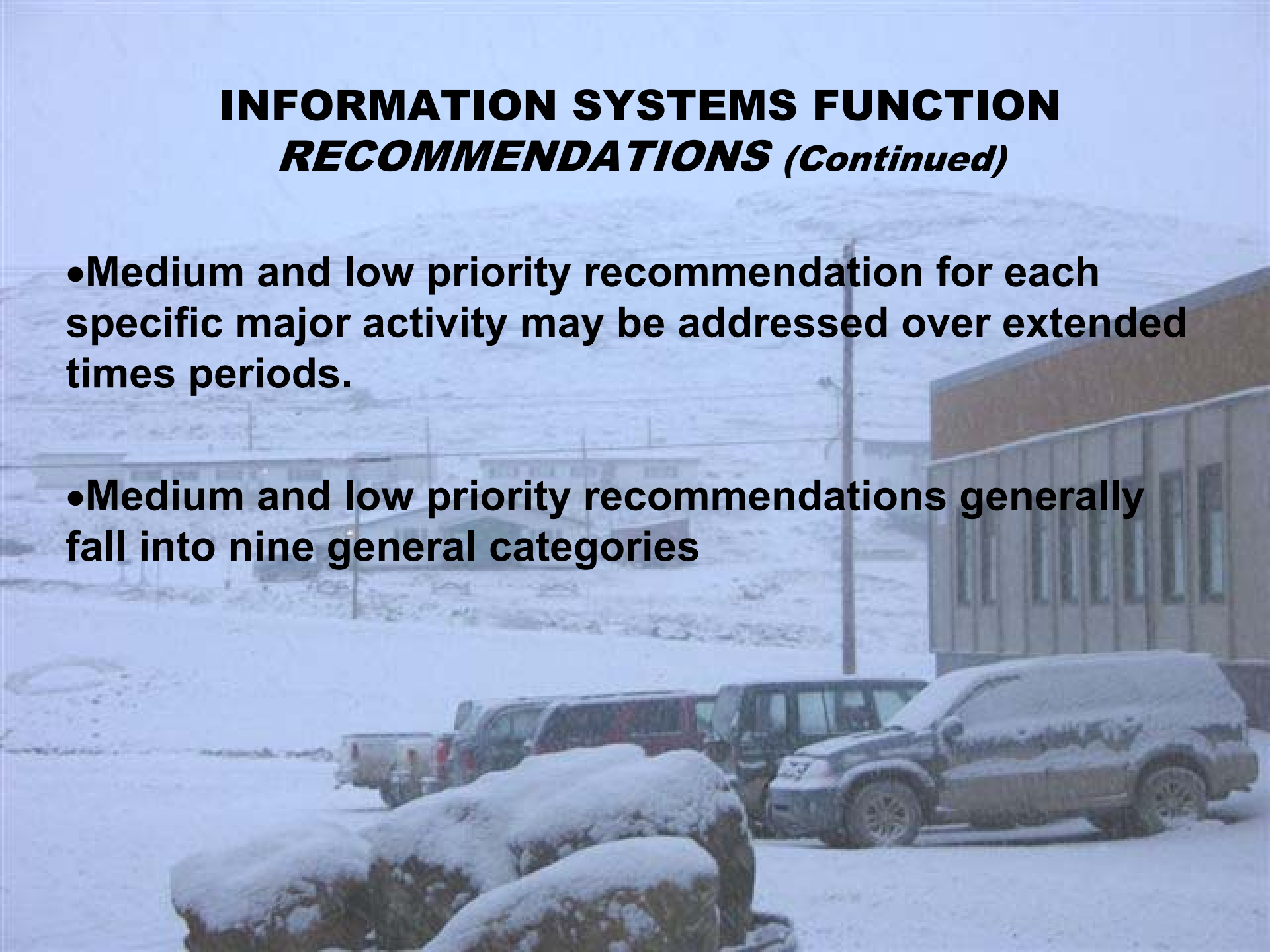
## ***RECOMMENDATIONS***

- **The two high priority recommendations focus on ensuring concerns expressed by stakeholders are immediately addressed**
- **Increased business involvement in the IT Department's strategic, quality assurance and priority-setting process**
- **Finalization of the Disaster Recovery Plan**

# **INFORMATION SYSTEMS FUNCTION**

## ***RECOMMENDATIONS (Continued)***

- **Medium and low priority recommendation for each specific major activity may be addressed over extended times periods.**
- **Medium and low priority recommendations generally fall into nine general categories**



# **ENGINEERING FUNCTION**

## ***CAPITAL PLANNING PROCESS***

- **Capital projects are prioritized as to Health and Safety, Capacity an Reliability, Efficiency, and Other (Nice to have)**
- **QEC has recently developed a 2005/06 to 2009/10 Capital Plan**
- **QEC is compiling a capital asset inventory and exploring asset management software**
- **QEC is refining its criteria for generator additions and replacements**

# **ENGINEERING FUNCTION**

## ***CAPITAL PLANNING PROCESS (Continued)***

- QEC has made excellent progress in providing for long-term planning
- QEC should continue with and extend its planning cycle, and continue with its asset management inventory and software acquisition
- QEC should ensure that generation criteria, and applicable codes and standards are met for each community
- QEC should consult with stakeholders prior to embarking on major capital projects

# **ENGINEERING FUNCTION**

## ***TENDER MANAGEMENT***

- **Because of QEC's relatively small engineering staff, most new larger capital projects are assigned to outside consultants**
- **QEC has a Contract and Tendering Document to assist staff in the management of the tendering including tender and contractor evaluation, contract award process and change order authorization**
- **QEC has a limited window for shipping materials and carrying out contract work, and qualified contractors are not plentiful**

# **ENGINEERING FUNCTION**

## ***TENDER MANAGEMENT (Continued)***

- **Consequently Project Planning, including design, preparation of tender documents, tendering and award of contract are critical to the success of a project**
- **QEC should provide greater detail respecting authorities, responsibilities and procedures in its Contract and Tendering Document**
- **QEC should develop a generic set of “General Conditions of Contract”**



# **ENGINEERING FUNCTION**

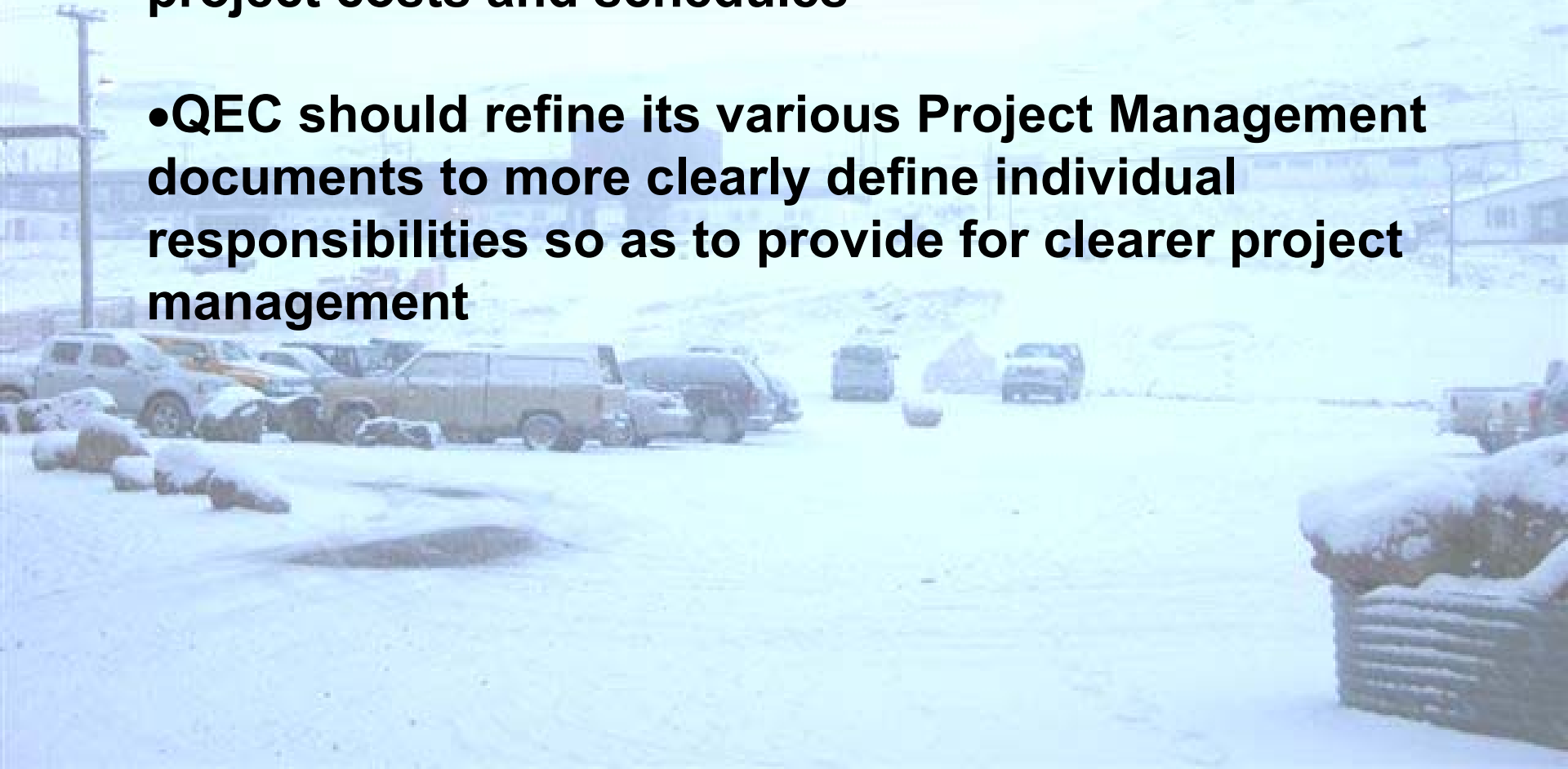
## ***PROJECT MANAGEMENT***

- QEC utilizes an in-house designed management system to track projects, but is considering using Project 2000 software
- QEC's Administration of Contract document defines procedures for administration of construction projects
- QEC's General Project Information document is used to provide and track all project information and issuance change orders

# **ENGINEERING FUNCTION**

## ***PROJECT MANAGEMENT (Continued)***

- QEC has procedures in place to monitor and control project costs and schedules
- QEC should refine its various Project Management documents to more clearly define individual responsibilities so as to provide for clearer project management



# **ENGINEERING FUNCTION**

## ***GENERATION ALTERNATIVES & APPROACH***

- It is impractical to consider an electric power grid for Nunavut, and generation must be community specific
- QEC is now seeking alternative forms for generation, with focus on hydro project near large communities, a link to Manitoba Hydro, and wind, and results of experience in wind generation, as well as feasibility of the MH link and Iqaluit Hydro generation are available

# **ENGINEERING FUNCTION**

## ***GENERATION ALTERNATIVES & APPROACH***

***(Continued)***

- **Although rich in natural resources, significant alternative energy developments will depend on economics and the pace of natural resource development**
- **QEC should continue to investigate the potential for hydro power development for large communities, and to further explore other alternative to decrease reliance on diesel generation**

# **ENGINEERING FUNCTION**

## ***ENGINEERING INFORMATION & ACCESS***

- QEC maintains record of load forecast, peak loads, and capacity for each generation station
- QEC also maintains records of all applicable codes and standards, and maintain and update as-built drawings
- Recommend that, given the importance of accurate and current as-built drawings, as well as other record, QEC hire one individual for this purpose

# **ENGINEERING FUNCTION**

## ***PROFESSIONAL CERTIFICATION***

- QEC should consider the merits of retaining one additional fully qualified Engineer to ensure continuity of certification**
- QEC now has a fully qualified Engineer on stall and the Engineering Department is in full compliance with the requirements of the Nunavut Professional Engineering Association**



# **DEMAND SIDE MANAGEMENT**

## ***CURRENT STATUS***

- **Very little effort spent to date on this issue**
- **No dedicated QEC Staff**
- **Nunavut Energy Centre (“NEC”) recently established**
- **NEC is to be operational very shortly**
- **NEC is responsible to VP of QEC**
- **Funded by QEC and Federal Government**
- **NEC is to be responsible for QEC DSM**

# **DEMAND SIDE MANAGEMENT *ASSESSMENT***

- **DSM must be site specific, as there is no distribution grid**
- **DSM opportunities are limited, due to customer type**
- **Street lighting, as well as household lighting and efficient shower heads can be part of DSM program**
- **Energy efficient furnace motors may be of limited value for DSM**

# **DEMAND SIDE MANAGEMENT *RECOMMENDATIONS***

- **Develop clear understanding and generate policies respecting operating roles and resource responsibilities of QEC, NEC, GN and other parties**
- **Inventory street lights and develop program to convert to HP Sodium and housing stock and conduct energy audits**
- **Convert all household lighting to energy efficient florescent and shower heads to low use, energy efficient**

## **DEMAND SIDE MANAGEMENT *RECOMMENDATIONS (Continued)***

- **Review housing standards related to insulation levels**
- **Develop and publicize policies and programs to educate consumers**
- **Develop and implement monitoring program to determine success of DSM Program – Lighting, efficient motors, showerheads, and retrofit**

# ***SUMMARY OF KEY RECOMMENDATIONS***

## **Corporate Strategy**

- **Develop more comprehensive liaison with URRC so that QEC's needs are better understood**
- **Consider more frequent GRA Applications to ensure financial sustainability will be maintained**
- **Revise Mission Statement to include effective management of personnel as an additional objective**
- **Create and implement a stakeholder consultation forum in order to effectively transfer operations, financial and capital information and policy**



# ***SUMMARY OF KEY RECOMMENDATIONS***

## **Corporate Strategy (Continued)**

- **Amend Organization Structure so that only 4 to 5 managers report to CEO, with Corporate Secretary and Executive Secretary being line positions**
- **Recommend refinement to Operations, Maintenance and Operations I/T organizations reflecting geographic diversity**
- **QEC should continue to develop short-term 3 to 5 year plan and a ten year long-term plan, and should give this a high priority**



# ***SUMMARY OF KEY RECOMMENDATIONS***

## **Corporate Strategy *(Continued)***

- **Short and long-term plans must fall within the strategic plan to be developed in conjunction with a Nunavut Energy Policy incorporating long-term GN energy goals and objectives**

# ***SUMMARY OF KEY RECOMMENDATIONS***

## **Regulation & Regulatory Compliance**

- **Recommend a clear delineation of URRC/Minister/GN reporting requirement, with stakeholder input**
- **Greater transparency, accuracy and response time for information respecting rate applications**
- **More community consultation prior to making rate applications**
- **Given the current financial status, combined with the capital requirements of QEC, rate relief is critical**



# ***SUMMARY OF KEY RECOMMENDATIONS***

## **Regulation & Regulatory Compliance *(Continued)***

- **Accuracy, transparency, consistency in information and response time are also vital to the success of the process**
- **Process should become less adversarial and should include a Negotiated Settlement Option**

# ***SUMMARY OF KEY RECOMMENDATIONS***

## **GN and QEC Policies & Procedures *(Continued)***

- **Require policies and procedures to be developed and formalized**
- **Rates and degree of subsidies should be clearly shown and transparent on customer bills**
- **GN should continue to develop policies and QEC should be granted the authority and autonomy to implement the policies**
- **QEC must bear the responsibility for the success or failure of their implementation**



# ***SUMMARY OF KEY RECOMMENDATIONS***

## **GN and QEC Policies & Procedures *(Continued)***

- GN should continue to borrow funds on behalf of QEC, and QEC should be required to pay a 'guarantee fee' to recognize the more favourable rates due to the borrowing power of GN
- GN should continue to work with the Federal Government to explore means of financing major capital projects that may be beyond GN's borrowing capacity in the short term

# ***SUMMARY OF KEY RECOMMENDATIONS***

## **GN and QEC Policies & Procedures *(Continued)***

- **Over the long-term, QEC should be allowed to implement a rate structure that recovers a revenue requirement that would include a return on Rate Base, or Net Income, over and above direct cost of service to be used to fund a portion of a capital program**



# ***SUMMARY OF KEY RECOMMENDATIONS***

## **Performance Measurement & Benchmarking**

- **Targets for key indicators should be developed for the short-term (5 years) and beyond**
- **Targets should be developed, based on industry norms, but must recognize the unique operating circumstances of QEC, and must also isolate costs that are beyond the control of QEC**

# ***SUMMARY OF KEY RECOMMENDATIONS***

## **Customer Service Function**

- QEC design and implement a customer complaint handling system to track complaints and their resolution
- QEC increase its efforts to ensure timely issuance of accurate bills



# ***SUMMARY OF KEY RECOMMENDATIONS***

## **Human Resources Function**

- **QEC should complete documentation of all HR policies and Procedures**
- **QEC should implement activities to build better relationships with the union**
- **QEC should develop an employee communication plan**
- **Maximize distance learning and computer-based instruction to compensate for high travel and accommodation costs**
- **Reinstate an incentive compensation scheme for senior positions - review over time policy**

# ***SUMMARY OF KEY RECOMMENDATIONS***

## **Financial Function**

- QEC should enhance the budget system to provide timely and accurate information across all functions of the Corporation rather than just at the corporate level**
- QEC should develop an integrated forecast that combines the details of its operation forecasts with the results of its capital spending estimates**
- QEC must improve its current systems and processes to ensure that financial information can be delivered in a timely and accurate manner, including adherence to the Financial Administration Act**



# ***SUMMARY OF KEY RECOMMENDATIONS***

## **Financial Function *(Continued)***

- **QEC 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 has not yet been issued. This time delay is unacceptable**

# ***SUMMARY OF KEY RECOMMENDATIONS***

## **Information Systems Function**

- **The two high priority recommendations focus on ensuring concerns expressed by stakeholders should be immediately addressed**
- **Increased business involvement in the IT Department's strategic, quality assurance and priority-setting process**
- **Finalization of the Disaster Recovery Plan**



# ***SUMMARY OF KEY RECOMMENDATIONS***

## **Engineering Function**

- QEC should refine its various Project Management documents to more clearly define individual responsibilities so as to provide for clearer project management
- QEC should consider the merits of retaining one additional fully qualified Engineer to ensure continuity of certification